

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549
FORM 10-K

Annual Report Pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934 for the fiscal year ended
December 31, 2022

Commission file number: 1-7945

deluxe

DELUXE CORPORATION

(Exact name of registrant as specified in its charter)

MN
(State or other jurisdiction of incorporation or organization)

801 S. Marquette Ave. Minneapolis MN
(Address of principal executive offices)

41-0216800
(I.R.S. Employer Identification No.)

55402-2807
(Zip Code)

Registrant's telephone number, including area code: (651) 483-7111

Securities registered pursuant to Section 12(b) of the Act:

Title of each class	Trading symbol(s)	Name of each exchange on which registered
Common Stock, par value \$1.00 per share	DLX	NYSE

Securities registered pursuant to Section 12(g) of the Act: **None**

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. Yes No

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Act. Yes No

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes No

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files). Yes No

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company, or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company," and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large Accelerated Filer	<input checked="" type="checkbox"/>	Accelerated Filer	<input type="checkbox"/>
Non-accelerated Filer	<input type="checkbox"/>	Smaller Reporting Company	<input type="checkbox"/>
		Emerging Growth Company	<input type="checkbox"/>

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act.

If securities are registered pursuant to Section 12(b) of the Act, indicate by check mark whether the financial statements of the registrant included in the filing reflect the correction of an error to previously issued financial statements.

Indicate by check mark whether any of those error corrections are restatements that required a recovery analysis of incentive-based compensation received by any of the registrant's executive officers during the relevant recovery period pursuant to §240.10D-1(b).

Indicate by check mark whether the registrant has filed a report on and attestation to its management's assessment of the effectiveness of its internal control over financial reporting under Section 404(b) of the Sarbanes-Oxley Act (15 U.S.C. 7262(b)) by the registered public accounting firm that prepared or issued its audit report.

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Act). Yes No

The aggregate market value of the voting stock held by non-affiliates of the registrant is \$924,918,940 based on the last sales price of the registrant's common stock on the New York Stock Exchange on June 30, 2022. The number of outstanding shares of the registrant's common stock as of February 8, 2023 was 43,266,924.

Documents Incorporated by Reference: Portions of our definitive proxy statement to be filed within 120 days after our fiscal year-end are incorporated by reference in Part III.

DELUXE CORPORATION
FORM 10-K
FOR THE YEAR ENDED DECEMBER 31, 2022

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PART I

Please note that this Annual Report on Form 10-K contains statements that may constitute "forward-looking statements" under the Private Securities Litigation Reform Act of 1995 (the "Reform Act"). Forward-looking statements include information concerning future strategic objectives, business prospects, anticipated savings, financial results (including earnings, liquidity, cash flow and capital expenditures), industry or market conditions, demand for our products and services, acquisitions and divestitures, anticipated results of litigation, regulatory developments or general economic conditions. Because actual results may differ materially from those expressed or implied by these forward-looking statements, we caution readers not to place undue reliance on these statements. Our business, financial condition, cash flows and operating results are influenced by many factors, which are often beyond our control, that can cause actual results to differ from those expressed or implied by the forward-looking statements. Part I, Item 1A of this report outlines known material risks and important information to consider when evaluating our forward-looking statements. The Reform Act provides a "safe harbor" for forward-looking statements to encourage companies to provide prospective information. When we use the words or phrases "should result," "believe," "intend," "plan," "are expected to," "targeted," "will continue," "will approximate," "is anticipated," "estimate," "project," "outlook," "forecast" or similar expressions in this Annual Report on Form 10-K, in future filings with the Securities and Exchange Commission, in our press releases, investor presentations and in oral statements made by our representatives, they indicate forward-looking statements within the meaning of the Reform Act. Readers are cautioned that all forward-looking statements are based upon current expectations and estimates and apply only as of the date of this report. We assume no obligation to update this information.

ITEM 1. BUSINESS

OUR BUSINESS

More than 105 years ago, Deluxe Corporation began providing payment solutions. Our longevity is a testament to our innovation, our ability to evolve with our customers, and the trust they place in us. We are no longer solely a check printing company, but have transformed to a Trusted Payments and Data Company™ that champions business so communities thrive. We support millions of small businesses, thousands of financial institutions and hundreds of the world's largest consumer brands, while processing approximately \$3 trillion in annual payment volume. We operate primarily in the U.S., but we also sell our products and services in Canada and portions of Europe and South America. We operate 4 business segments that are generally organized by product type. These segments provide the following products and services:

Business Segment	Category	Percentage of 2022 consolidated revenue	Description
Payments	Merchant services and other payment solutions	19.5 %	Merchant in-store, online and mobile payment solutions; payables as a service, including eChecks, Medical Payment Exchange and Deluxe Payment Exchange; payroll and human resources services; fraud and security services
	Treasury management solutions	10.8 %	Receivables as a service, including remittance and lockbox processing, remote deposit capture, receivables management, and payment acceptance
	Total	30.3 %	
Data Solutions	Data-driven marketing solutions	7.9 %	Solutions for marketing business-to-business and business-to-consumer
	Web and hosted solutions	4.0 %	Web hosting and software-as-a-service (SaaS) solutions, including web design, logo design, financial institution profitability reporting, and business incorporation services
	Total	11.9 %	
Promotional Solutions	Forms and other products	13.0 %	Business forms and accessories, including envelopes, labels, stationery and more
	Marketing and promotional solutions	12.2 %	Advertising specialties, promotional apparel and print services
	Total	25.2 %	
Checks	Checks	32.6 %	Printed business and personal checks

We sold our Australian web hosting business during 2022 and expect to complete the sale of our North American web hosting and logo design businesses in the first quarter of 2023, after which we will have completed an intentional strategic exit from this market.

OUR STRATEGY

Our vision is to be a trusted technology partner empowering businesses to pay, get paid and grow. To realize this vision, we will continue to leverage our strengths.

- **Our customers** – Our products and services are utilized by customers of all sizes and maturities. We continue to benefit from a long heritage of offering trusted service to our customers, which in turn, fuels meaningful cash flow that is redeployed to invest in our products, infrastructure and growth opportunities.
- **World-class payments and data products and platforms** – We continue to invest in market-leading payments and data products and platforms that are proprietary to Deluxe, encouraging our customers to build their businesses on our platforms for the long-term.
- **Scale** – We believe our volumes for many of our service offerings enable us to offer per-unit costs and reliability superior to our competitors. We will continue to focus on scaling our technology and product management capabilities.
- **Sales and distribution channels** – We have extensive market reach, with millions of small business and consumer customers and thousands of financial institution clients. We will continue to maximize the deployment of these resources, including our sales force and our various strategic relationships, to cost-effectively reach customers.

Since 2019, our focus has been on our transformational strategy, moving from a traditional manufacturing “company of companies” to a more technologically focused “company of products.” We worked to integrate the numerous technology platforms we obtained over the years through our various acquisitions to achieve a connected, modern technology platform. We assembled a talented management team and built an organization focused on developing new and improved products. As a result, we are realizing the benefit of significant new client wins in all of our segments, and in 2022, we generated consolidated sales-driven revenue growth for the second consecutive year. In June 2021, we completed the acquisition of First American Payment Systems, L.P. (First American), a large-scale payments technology company that provides partners and merchants with comprehensive in-store, online and mobile payment solutions. The acquisition enables us to expand significantly in the fast-growing payments sector, a sector known for generating significant recurring revenues and cash flows, and revenue from our growing Payments segment is expected to surpass that of our Checks segment during the first half of 2023. We now have an even stronger foundation from which to pursue future acquisitions or strategic partnerships that will allow us to potentially realize significant revenue synergies, and we believe that our scaled back-end processing will readily support incremental volume.

Moving into the next stage of our transformation, we remain focused on strategic growth and scaling our operations. This includes maximizing our payments and data products, increasing recurring revenue streams, strengthening our talent and culture, and accelerating our portfolio rationalization efforts. For example, we sold our Australian web hosting business during 2022 and expect to complete the sale of our North American web hosting business in the first quarter of 2023. We also sold two smaller product lines within our Promotional Solutions segment. The sale of these businesses allows us to focus our resources on the key growth areas of payments and data. As we invest in these growth areas, we continue efforts to lower costs and simplify and eliminate duplicative processes. We continue to review our real estate footprint, and in 2022, we closed 6 facilities, in addition to the 40 facilities we closed during 2021 and 2020. We are continually refining our operating model to match expected customer needs and anticipated volumes, as well as to gain efficiencies.

UPDATE ON COVID-19 IMPACT ON OUR BUSINESS

The health and safety of our employees, our customers and their families is always our top priority. As of the date of this filing, all of our facilities are fully operational. When COVID-19 struck, we implemented a variety of new policies and procedures, including additional cleaning, social distancing, and significantly restricting on-site visitors, to minimize the risk to our employees of contracting COVID-19. While many of these precautions have been relaxed or eliminated as the health risk of COVID-19 has decreased, we may need to reinstitute and/or modify these policies and procedures as necessary should the health risk return to an unacceptable level. In such an event, our businesses or our suppliers could be impacted further by supply chain disruptions, which together with other factors such as a shortage of labor, could result in longer delivery times and restricted manufacturing capacity for certain of our products. Governmental actions in response to a resurgence of COVID-19 could also temporarily limit our business activities and those of our suppliers.

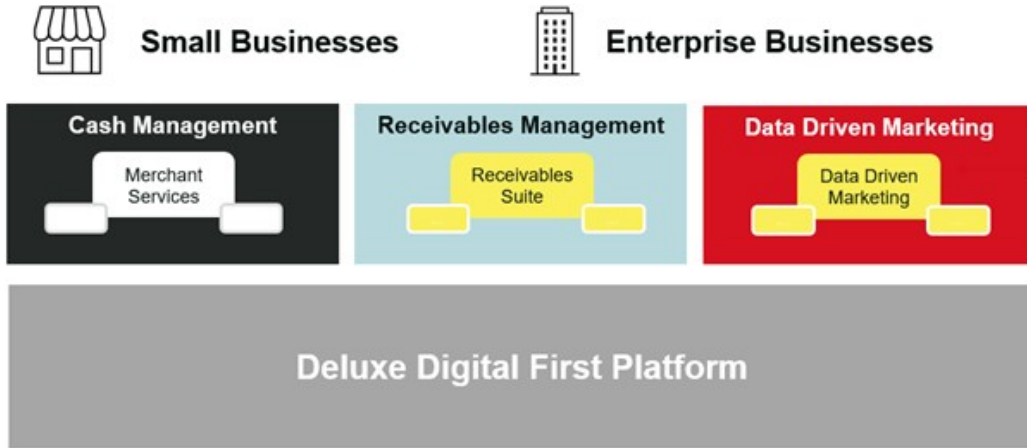
Emerging from the COVID-19 pandemic, we have experienced labor shortages, material and delivery inflation, and supply chain disruptions, including impacts on the supply of certain higher margin printed products in our Promotional Solutions segment. We experienced inflationary headwinds across all of our segments during the year ended December 31, 2022;

however, these impacts were largely mitigated, with some time lag, through price increases, when possible. We expect inflationary pressures to continue into fiscal 2023, and this trend could have a materially adverse impact if inflation rates significantly exceed our ability to continue to achieve price increases or if such price increases adversely impact demand for our products.

We will continue to actively monitor the situation and may take actions that impact our operations as may be required by federal, state or local authorities or that we determine are in the best interests of our employees, customers, suppliers and shareholders. The extent of additional adverse impacts on our financial condition and results of operations will be dictated by the currently unknowable duration and severity of COVID-19 and its variants, and individuals', companies' and governments' responses to the pandemic, inflation and other macroeconomic conditions.

SALES AND MARKETING

Everyone sells at Deluxe. We employ a customer-focused approach, deploying dedicated sales teams across our 4 business segments to ensure we leverage the expertise within each segment to meet our customer's needs. Our customers rely on our solutions and platforms to help their finance and marketing teams pay, get paid and grow their business (as illustrated below), allowing our business segments to help each other deliver greater value for our customers and enabling our customers to build their businesses on our platforms for the long-term.



We employ a multi-channel sales and marketing approach, selling directly to financial institutions and major global brands. We also sell our products and services through scalable partnerships, enabling us to cost-effectively reach customers, specifically leveraging our financial institution partnerships, our e-commerce assets and other strategic partnerships. In addition, millions of in-bound customer contacts buying or re-ordering our products and services provide extensive cross-sell opportunities.

INDUSTRY TRENDS AND OUR COMPETITION

[Payment solutions, including checks](#)

The payments industry continues to expand and evolve, with digital payment vehicles and transaction volumes growing around the world. The industry is continuously changing, highly innovative, and increasingly subject to regulatory scrutiny and oversight. The challenge for payment providers is to continually modernize their infrastructure to support new service offerings and to identify new revenue streams, as well as to invest in cloud computing and other digital technologies to more rapidly address evolving customer preferences. This pace of change puts pressure on payment providers to transform and adapt in order to remain competitive.

Competition in the payments industry is intense. We are competing against numerous financial technology (Fintech) companies, including independent payment processors, credit card processing firms and treasury management service providers, as well as financial institution in-house capabilities. Volume is the key to staying cost-competitive, as it allows us to drive scale in our operations, and breadth of services is critical to staying relevant to customers. We believe our competitive advantages are: our scalable platform, extensive distribution channels, superior end-customer experience, frictionless payments (i.e., non-disruptive for payer, and payment choices for payee), automated receivables management, a strong balance sheet and

a trusted and respected brand. We also believe there is growth potential for our Medical Payments Exchange (MPX) and Deluxe Payments Exchange (DPX) platforms, which convert paper checks to digital payments.

Our Checks business remains an important part of our strategy. We believe there will continue to be demand for personal and business checks for the foreseeable future. However, the total number of checks written in the U.S. has been in decline since the mid-1990s. The cash flow generated by our Checks business partially self-funds our growth investments. Our check programs are also an important source of lead generation for cost-effective cross-selling of other products and services.

Our Checks business faces significant competition from another large check printer in our traditional financial institution sales channel, direct mail and internet-based sellers of personal and business checks, check printing software vendors, and certain significant retailers. Pricing continues to be competitive in our financial institution sales channel, as financial institutions seek to maintain their previous levels of profitability, even as check usage declines. We believe our competitive advantages come from our design and customization options, our quality and service, the trust our customers have in us, and our strong financial position. In addition, our digital and print-on-demand technology allows us to implement new customer requirements faster and expand our premium check and overall print design options.

Data Solutions

Data-driven marketing – With increased competition among businesses to target and engage new and existing customers, the use of data-driven marketing has continued to increase and evolve. Competition in this industry is intense, with a wide variety of companies in the data solutions space, including advertising agencies, marketing technology firms, data aggregators and brokers, and source data providers. Adapting to new technology is a key challenge in this industry, along with hiring and retaining the right people. We must continually adapt to the changing needs of our customers and expand our offerings to provide a greater breadth of services.

We believe we have significant growth opportunity in this market. We continue to simplify and integrate our separate businesses operating in this market, monetize the significant amount of data we process across the company, invest in technologies, such as artificial intelligence and machine learning, and consolidate our data infrastructure to reduce costs. We also believe that our pay-for-performance offerings provide us a competitive advantage, as our customers value that they get the highest return on their marketing and advertising dollars.

Web and hosted solutions – The market for web hosting services is highly competitive and commoditized, requiring significant spending on product development and customer acquisition to effectively compete in this space. Our business was largely a white label service offered through telecom partners which did not allow for material cross-selling opportunities and did not fit within our overall portfolio. Accordingly, we have strategically moved to exit this business. We sold our Australian web hosting business during 2022 and expect to complete the sale of our North American web hosting and logo design businesses in the first quarter of 2023.

Promotional Solutions

The market for business forms and certain business accessories has been declining for several years, as continual technological improvements have provided businesses with alternative means to execute and record business transactions. Greater acceptance of electronic signatures has also contributed to the overall decline in printed products. The markets for business forms and promotional products are highly competitive and fragmented. Current and potential competitors include traditional storefront printing companies, office superstores, wholesale printers, online printing companies, small business product resellers and providers of custom apparel and gifts.

We believe that our competitive advantages include our multi-channel experience, ease of use, deep sources of supply and breadth of selection of branded apparel and promotional merchandise. We also believe that, by expanding our product set and driving integration of physical and digital solutions, we will transition this segment to a technology-driven business that can respond quickly to market opportunities and differentiate us from our competitors.

OUR OPERATIONS / SUSTAINABLE PRACTICES

We continue our focus on improving the customer experience by providing excellent service and quality, while increasing our productivity and reducing our costs. We accomplish this by embedding lean operating principles into our processes, while emphasizing a culture of continuous improvement. We utilize a shared services approach, which allows our businesses to leverage shared facilities to optimize capacity utilization and to enhance operational excellence. We continue to reduce costs by utilizing our assets and technologies more efficiently and by enabling employees to better leverage their capabilities and talents.

We have formed an Enterprise Environmental, Social and Governance ("ESG") Council that is led by our Chief Compliance Officer, with participation from our executive leadership team and senior-level staff, including our General Counsel

and Vice Presidents representing our real estate, operations, and human resources functions. This council assesses and monitors our top enterprise ESG risks, goals and strategies and provides updates to our board of directors.

We have implemented a stakeholder-focused ESG program in order to meet the needs and expectations of regulators, our customers, shareholders and employees. We devote significant resources to addressing ESG throughout the enterprise, including waste reduction and process improvement efforts, enhancing our commitments to diversity, equity and inclusion ("DEI") through our DEI Council and employee resource groups, promoting community awareness, giving back through our volunteer time off program, and continually improving our cybersecurity and privacy processes and controls to keep our data safe. We measure our ESG goals and impacts through yearly strategic assessments that keep us accountable and inform our annual and multi-year ESG strategies.

Sustainability is also embedded into our operational model. We take sustainability seriously and focus on the following areas:

- **Energy** – We implemented several energy-saving measures during last year's construction of our facilities in Atlanta and Minneapolis, including installing LED lighting, daylight harvesting strategies, optimized HVAC systems and material selections that reduce carbon input and increase recycled content.
- **Waste** – We are focused on understanding the waste stream in all of our facilities, with the goal of reducing the amount of waste we generate and recycling as much of our waste stream as practicable. We have moved from volume inventories of custom inks to onsite mixing systems. This has greatly reduced waste stream processing, with an added benefit of better response times for customers.
- **Materials** – Over 90% of our check and forms paper is purchased from Forest Stewardship Council-certified supplier mills. In addition, our vinyl checkbook covers are produced using a minimum of 45% post-industrial recycled material. We also employ recycling efforts that allow us to divert more of our waste out of landfills by being diligent in the segregation of our waste streams.
- **Carbon** – We continue to review every aspect of our business, including the materials we use, how we manage our facilities and the the role we play in communities, to ensure our growth includes sustainable practices.

Protecting the environment and our shared future is key to our business and to delivering the products our customers need.

CYBERSECURITY

We are a trusted partner to enterprises of all sizes, and this is a responsibility we take seriously. The secure and uninterrupted operation of our networks and systems, as well as the processing, maintenance and confidentiality of the sensitive information that resides on our systems, is critical to our business operations and strategy. Each year, we process hundreds of millions of records containing data related to individuals and businesses. In addition, many of our products are hosted solutions, and the amount of data we store for our customers on our servers, including personal, important business and other potentially sensitive information, has been increasing. Technology-based organizations such as ours are vulnerable to targeted attacks aimed at exploiting network and system applications or weaknesses. A successful cyberattack could result in the disclosure or misuse of sensitive business and personal information and data, cause interruptions in our operations, damage our reputation and deter clients and consumers from ordering our products and services. It could also result in litigation, the termination of client contracts, government inquiries and/or enforcement actions.

We have implemented a risk-based information/cybersecurity program dedicated to protecting our data and solutions. Our privacy policies, together with associated controls and procedures, provide a comprehensive framework to inform and guide the handling of data. These programs dovetail with our information security program in a manner designed to protect the data we handle. We employ an in-depth defensive strategy, utilizing the concept of security layers and the CIA (confidential, integrity and availability) triad model. Our information security program is led by our Chief Information Security Officer and the Information Security department, which establishes the policies, standards and strategies to manage security risk. We devote significant resources to addressing security vulnerabilities through enhancing security and reliability features in our products and services, reviewing and auditing our systems against independent security control frameworks, such as ISO 27001, and performing security maturity assessments, which inform our annual and multi-year cybersecurity strategies and our product security plans.

We have an Enterprise Risk Management Committee that is led by our Assurance and Risk Advisory Services group, our Chief Financial Officer and our Chief Administrative Officer, with participation from our executive leadership team and senior-level staff, including our Chief Compliance Officer and our Chief Information Security Officer. This committee assesses and monitors our top enterprise risks, including cybersecurity, and provides quarterly updates to our board of directors. Our Chief Information Security Officer also provides periodic updates to our board of directors, which is responsible for ensuring that we have implemented appropriate risk mitigation strategies, systems, processes and controls.

In the event a cybersecurity incident is identified, our Cybersecurity Incident Response team will act in accordance with our Incident and Crisis Management Program to communicate to our executive leadership team and to coordinate the response to any incident. Our Chief Executive Officer, Chief Financial Officer, General Counsel, Chief Information Security Officer and Chief Compliance Officer are responsible for assessing such incidents for materiality, ensuring that any required notification or communication occurs and determining, among other things, whether any prohibition on the trading of our common stock by insiders should be imposed prior to the disclosure of information about a material cybersecurity event. We maintain cybersecurity insurance coverage that insures us for costs resulting from cyberattacks, although this coverage may not reimburse us for all losses.

For more information on risks related to data security, see Item 1A, "Operational Risks – Security breaches, computer malware or other cyberattacks involving the confidential information of our customers, employees or business partners could substantially damage our reputation, subject us to litigation and enforcement actions, and substantially harm our business and results of operations."

OUR MATERIALS, SUPPLIES AND SERVICE PROVIDERS

The principal materials used in producing our main products are paper, plastics, ink, corrugated packaging and printing plate material, which we purchase from various sources. We also purchase stock business forms and promotional apparel produced by third parties. In addition, we have entered into agreements with third-party providers for delivery services and information technology services, including telecommunications, network server and transaction processing services, as well as various other services. We also rely on third parties to provide a portion of the data used to maintain our proprietary and non-proprietary databases, including credit and non-credit data from the national credit bureaus and other data brokers.

We have engaged a third-party global sourcing group to help manage our supply chain. We believe that in the event one of our vendors fails to perform, we would be able to obtain an alternative source of supply. However, with recent stresses on the global supply chain and labor market, we are taking steps to secure multiple sources of supply for certain of the materials and services we utilize, including those related to certain higher margin printed products in our Promotional Solutions segment. We can provide no assurance that we would be able to obtain an alternative source of supply, or that such supply could be obtained at current prices, in the event one of our vendors fails to perform.

OUR HUMAN CAPITAL

Our most valuable asset is our employee-owners. As of December 31, 2022, we had 5,863 employees, with 5,310 employees in the United States, 528 employees in Canada and the remainder located in Europe. Approximately 98% of our team is full-time employees, with 59% representing non-exempt roles working in production, processing or call center functions. We are proud of our strong history of positive, productive employee relations. None of our employees are currently represented by labor unions.

The foundation of our continuing success as a Trusted Payments and Data™ company is our ability to attract and retain diverse, exceptional and motivated talent. We accomplish this by providing a culture of inclusion, diversity, equity, development, opportunity and empowerment.

Results-Driven, Community-Focused, Collaborative Culture

We focus on creating an environment where our employee-owners, also known as Deluxers, feel respected and valued, and where they can contribute to their full potential. To this end, an important component of our strategy is that all North American employees are granted restricted stock unit awards. Our heritage also reflects deep-seated roots in community support and volunteerism, which is reflected in our purpose statement: "Champions for business so communities thrive." Additionally, our values focus on delivering results:

- Customers First
- Earn Trust
- Innovation
- Grit and Perseverance
- Power of One

In an effort to continue to improve our culture and engagement, we provide learning and development at all levels of the organization on a variety of topics, including, leadership development, mentoring, and diversity, equity and inclusion. We continue to focus on training and development programs and transparent communication channels through change pulse checks, surveys, senior leadership forums and employee resource groups. We also provide a tool that allows for anonymous feedback directly from employees to management on new ideas, concerns and questions.

Diversity, Equity and Inclusion

We embrace DEI in our workforce, customers and partners, valuing their unique backgrounds, experiences, thoughts and talents. Our mission is to empower all employees to bring their full authentic selves to work and to foster an environment that reflects the diverse communities we serve. We strive to cultivate a culture and vision that supports and enhances our ability to recruit, develop and retain diverse talent at every level. We provide our customers, partners, and shareholders information about our DEI program and our activities supporting social justice within the communities we serve. In addition, we are focused on furthering our DEI initiatives throughout our business and have, among other things, created a DEI council that is sponsored by our Chief Human Resources Officer. This council is comprised of employee-owners across multiple functions and business segments. Its top priorities include implementing a comprehensive DEI learning and development plan to build awareness and drive inclusive behaviors; further developing our diversity pipeline through hiring, mentoring and coaching; and establishing goals and metrics to ensure progress.

As of December 31, 2022, our total workforce was approximately 56% female and 44% male. Our team members located in the United States were comprised of approximately 55% white, 16% Black or African American, 11% Hispanic or Latino, 10% Asian American and 8% other. We continue to focus our development and DEI programs on growing the number of female and minorities represented in leadership roles.

Under the board's oversight and guidance, we have taken significant actions to enhance our diverse and inclusive culture, protect and train our employees, and maintain our reputation as a great place to work. We continually strive to improve the attraction, retention, and advancement of diverse employees to grow and retain talent that represents the communities in which we operate. Below are some recent examples of our commitment to DEI.

- 33% of our directors identify as from diverse backgrounds, including the independent chair of our board, who is a woman of color.
- In 2020, we formed our employee resource committee and established 4 employee resource groups ("ERGs") dedicated to fostering inclusion and diversity. Since 2020, we have grown our programs and now offer 9 ERGs, including African American, Pacific Islander Middle Eastern Asian, disabled, Hispanic and Latino, veteran, LGBTQ+, parent and women.
- In 2022, we earned the honor of becoming a Yellow Ribbon Company, a designation awarded by the state of Minnesota to those companies meeting the top criteria for supporting veterans and their families.
- In 2022, we earned a top score of 100 on the Disability Equality Index and were named a "Best Place to Work for Disability Inclusion" for the third year in a row.
- In 2022, The Human Rights Campaign Foundation's Corporate Equality Index recognized us as a Best Place to Work for the LGBTQ+ Equality.

Health, Wellness and Safety

Creating a culture where all employee-owners feel supported and valued is paramount to our strategy. We continue to monitor developments related to COVID-19 and its variants, and we continue to take steps to ensure the safety of our employees and business partners. We also continue to provide a competitive benefits package focused on fostering work/life integration. Well-being in our organization is about having a holistic commitment to provide resources and support for our employees so that they can deliver for customers and shareholders. We offer several programs to benefit our employees and support work environments that encourage growth, innovation, and productivity. These benefits range from standard medical, dental, life and disability insurance to programs that provide additional support for our employees' mental, physical, financial and social wellbeing. We provide paid parental leave and infertility, adoption and surrogacy assistance. We partner with Care.com® to offer services for employees to find tutors, nannies, children's daycare and eldercare, and we offer an employee assistance program that provides employees with confidential counseling. We also offer employees tuition and travel assistance, and qualified long-term employees have the opportunity to take a sabbatical. Beginning in 2023, we began offering unlimited flexible time off to our salaried employees. By enabling our employees to thrive in their personal lives, we provide tools for our employees to best deliver for customers and shareholders while at work.

Community Engagement

Our employee-owners believe in the power of connection, of activity and of giving back to the communities we serve. Our partnerships and charitable work in the communities we serve are an integral part of our core values. This spirit of community is felt throughout our organization and is fostered by our paid volunteer time off (VTO) program for employees, which provides three paid VTO days per year. It is also reflected in our partnership with the Deluxe Foundation, which enables employees to donate to not-for-profit organizations of their choosing and receive a matching donation, dollar for dollar, up to \$2,000 per year. Our commitments go beyond monetary donations. Several of our top executives serve on boards for major not-for-profit organizations and other community organizations that align with our company values of diversity initiatives, rebuilding communities and education.

We continue our commitment to enriching our communities in the following ways:

- Since 1992, we have partnered with Junior Achievement USA® chapters in our local communities to inspire and prepare young people to succeed. We support Junior Achievement's mission through foundation grants, awareness and employee volunteers.
- We have partnered with the American Red Cross® for decades, organizing blood drives at our locations and hosting fundraisers and bake sales to help fund the American Red Cross mission of preventing and alleviating human suffering in the face of emergencies.
- In 2022, in partnership with Habitat for Humanity®, we helped build new homes across the country, including inviting our technology partners to join us on a two day build in Chaska, Minnesota.
- For Black History Month in 2022, we partnered with the Minnesota Timberwolves and Minnesota Lynx to film an original YouTube™ series called "The Come Up," that focused on highlighting the significance of black excellence and the importance of uplifting the black community.
- Our employees pledged \$133,000 in donations under our 2022 employee giving campaign.
- In 2022, our employees contributed more than 22,500 hours to our local communities through our VTO program.

SEASONALITY

Historically, we have experienced seasonal trends with some of our products and services. For example, Promotional Solutions holiday card and revenues from certain marketing services in Data Solutions are typically stronger in the fourth quarter of the year due to the holiday season, while sales of Promotional Solutions tax forms are stronger in the first and fourth quarters of the year. Our customers' marketing campaign cycles may also result in some revenue fluctuations for these segments.

GOVERNMENT REGULATION

We are subject to numerous international, federal, state and local laws and regulations that affect our business activities in several areas, including, but not limited to, labor, advertising, taxation, data privacy and security, digital content, consumer reports, consumer protection, merchant processing, online payment services, real estate, e-commerce, intellectual property, health care, environmental matters, and workplace health and safety. The complexity of complying with existing and new laws and regulations is significant, and regulators may adopt new laws or regulations at any time.

For more specific information about the effects of government regulation on our business, see Item 1A, "Legal and Compliance Risks – *Governmental regulation is continuously evolving and could limit or harm our business.*" We believe that the impact on our capital expenditures and earnings of complying with government regulations will not be materially different in the upcoming year than it was in 2022.

AVAILABLE INFORMATION

We make available, without charge, through our investor relations website, www.investors.deluxe.com, our annual reports on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K and amendments to these reports filed or furnished pursuant to section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended, as soon as reasonably practicable after these items are electronically filed with or furnished to the SEC. These reports can also be accessed via the SEC website, www.sec.gov.

A printed copy of this report may be obtained without charge by calling 651-787-1068, by sending a written request to the attention of Investor Relations, Deluxe Corporation, P.O. Box 818095, Cleveland, Ohio 44181, or by sending an email request to investor.relations@deluxe.com.

Further information about Deluxe Corporation is also available at www.deluxe.com, www.facebook.com/deluxecorp, www.linkedin.com/company/deluxe and www.twitter.com/deluxe. The content of these websites is not incorporated by reference in this Annual Report on Form 10-K or in any other report or document we file with the Securities and Exchange Commission.

OUR CODE OF ETHICS AND CORPORATE GOVERNANCE GUIDELINES

We have adopted a Code of Ethics that applies to all of our employees and our board of directors. The Code of Ethics is available on our investor relations website, www.investors.deluxe.com, and also can be obtained free of charge upon written request to the attention of Investor Relations, Deluxe Corporation, P.O. Box 818095, Cleveland, Ohio 44181. Any changes or

waivers of the Code of Ethics will be disclosed on our website. In addition, our Corporate Governance Guidelines and the charters of the Audit, Compensation, Corporate Governance and Finance Committees of our board of directors are available on our website, www.investors.deluxe.com, or upon written request.

INFORMATION ABOUT OUR EXECUTIVE OFFICERS

Our executive officers are appointed by the board of directors each year. The following summarizes our executive officers and their positions.

Name	Age	Present Position	Executive Officer Since
Barry McCarthy	59	President and Chief Executive Officer	2018
William "Chip" Zint	37	Senior Vice President, Chief Financial Officer	2022
Garry Capers, Jr.	46	Senior Vice President, Division President, Data Solutions and Promotional Solutions	2019
Jeffrey Cotter	55	Senior Vice President, Chief Administrative Officer and General Counsel	2018
Tracey Engelhardt	58	Senior Vice President, Division President, Checks and Chief of Operations	2012
Jean Herrick	54	Senior Vice President, Chief Human Resources Officer	2022
Yogaraj "Yogs" Jayaprakasam	45	Senior Vice President, Chief Technology and Digital Officer	2022
Amanda Parrilli	44	Senior Vice President, Chief Strategy, Transformation and Business Development Officer	2019
Michael Reed	51	Senior Vice President, Division President, Payments	2019

Barry McCarthy joined us in November 2018 as President and Chief Executive Officer. Prior to joining us, Mr. McCarthy served in various senior executive positions, most recently, from November 2014 to November 2018, as Executive Vice President and Head of Network and Security Solutions, a segment of publicly traded First Data Corporation, a financial services company, now part of Fiserv, Inc.

Chip Zint joined us in August 2020 as Vice President of Corporate Finance and was named Senior Vice President, Chief Financial Officer in October 2022. Prior to joining us, Mr. Zint held several positions with NCR Corporation, an enterprise technology provider, most recently as Vice President of Finance and Chief Financial Officer of Hardware from January 2019 to July 2020 and Vice President, Corporate Financial Planning and Analysis from May 2017 to January 2019.

Garry Capers, Jr. joined us in September 2019 as Senior Vice President, Division President, Data Solutions, and in November 2021, added the Promotional Solutions segment to his responsibilities. Prior to joining us, Mr. Capers was employed by Automatic Data Processing, Inc., a provider of human resources management software and services, from January 2017 to September 2019, most recently as Senior Vice President, General Manager, National Account Services Comprehensive Outsourcing Services and Operations.

Jeffrey Cotter was named Chief Administrative Officer in January 2019. Mr. Cotter joined us in June 2018 as Senior Vice President, General Counsel. Prior to joining us, Mr. Cotter served as Senior Vice President and General Counsel for Tennant Company, a provider of cleaning products and solutions, from September 2017 to June 2018.

Tracey Engelhardt was named Senior Vice President, Division President, Checks in October 2019 and in May 2022, she added Chief of Operations to her responsibilities. From March 2017 to October 2019, Ms. Engelhardt served as Senior Vice President, Direct-to-Consumer.

Jean Herrick was named Senior Vice President, Chief Human Resources Officer in June 2022. From January 2016 to June 2022, Ms. Herrick served as Vice President, Human Resources.

Yogs Jayaprakasam joined us in May 2022 as Senior Vice President, Chief Technology and Digital Officer. Prior to joining us, Mr. Jayaprakasam held several positions with American Express Company, most recently as Unit Chief Information Officer for the Global and Large Client Group and head of engineering for B2B Digital Payments from June 2021 to May 2022. Mr. Jayaprakasam also served American Express Company as Vice President, Enterprise Platforms for Sales, Marketing and Data Platforms from May 2020 to June 2021, and as Vice President, Enterprise Platforms for Sales and Marketing from November 2017 to May 2020.

Amanda Parrilli was named Senior Vice President, Business Development and Strategy in October 2019, and in June 2020, she added Transformation to her responsibilities. Ms. Parrilli joined us in February 2019 as Vice President, Strategy. Prior

to joining us, Ms. Parrilli held several positions at The Home Depot, Inc., most recently as Senior Director, Services Lead Generation from January 2018 to February 2019.

Michael Reed joined us in November 2019 as Senior Vice President, Division President, Payments. Prior to joining us, Mr. Reed served as Managing Director, Global Payments and Product for Barclays Bank Plc in London from September 2018 to November 2019. From January 2015 to August 2018, Mr. Reed served as Managing Director at BofA Merrill Lynch Merchant Services (Europe) Limited, the European subsidiary of Banc of America Merchant Services, LLC.

ITEM 1A. RISK FACTORS

We routinely encounter and address risks, many of which could cause our future results to be materially different than we currently anticipate. These risks include, but are not limited to, the principal factors listed below and the other matters set forth in this Annual Report on Form 10-K. We place no priority or likelihood based on these descriptions or order of presentation. We are also subject to general risks and uncertainties that affect many other companies, including overall economic, industry and market conditions. Additional risks not presently known to us, or that we currently believe are immaterial, may also adversely affect us. You should carefully consider all of these risks and uncertainties before investing in our common stock.

STRATEGIC RISKS

If our long-term growth strategy is not successful, our business and financial results would be adversely impacted.

Our vision is to be a trusted technology partner empowering businesses to pay, get paid and grow. Further information about our strategy can be found under the caption "Our Strategy" appearing in Part I, Item 1 of this report. We may not achieve our long-term objectives, and investments in our business may fail to impact our financial results as anticipated. Our strategic plan could fall short of our expectations for many reasons, including, among others:

- our failure to generate profitable revenue growth;
- our inability to acquire new customers, retain our current customers and sell more products and services to current and new customers;
- our failure to fully utilize new sales technology that enables a single view of our customers;
- our inability to implement additional improvements to our technology infrastructure, our digital services offerings and other key assets to increase efficiency, enhance our competitive advantage and scale our operations;
- our failure to develop new products and services;
- our failure to effectively manage the growth, expanding complexity and pace of change of our business and operations;
- our inability to effectively operate, integrate or leverage businesses we acquire;
- the failure of new products and services to achieve widespread customer acceptance;
- our inability to promote, strengthen and protect our brand;
- an unexpected change in demand for checks or other products;
- our failure to attract and retain skilled talent to execute our strategy and sustain our growth;
- unanticipated changes in our business, markets, industry or the competitive landscape; and
- general economic conditions.

We can provide no assurance that our strategy will be successful, either in the short term or in the long term, that it will generate a positive return on our investment or that it will not materially reduce our adjusted earnings before interest, taxes, depreciation and amortization (adjusted EBITDA) margins. If our strategy is not successful, or if there is market perception that our strategy is not successful, our reputation and brand may be damaged and our stock price may fall.

If we are unable to attract and retain customers in a cost-effective manner or effectively operate a multichannel customer experience, our business and results of operations would be adversely affected.

Our success depends on our ability to attract new and returning customers in a cost-effective manner. We use a variety of methods to promote our products and services, including a direct sales force, partner referrals, email marketing, purchased search results from online search engines, direct mail advertising, broadcast media, advertising banners, social media and other online links. Certain of these methods may become less effective or more expensive. For example, response rates for direct mail advertising have been decreasing for some time, internet search engines could modify their algorithms or increase prices for purchased search results or certain partner referrals could decline. Because we offer a diverse portfolio of products and services, we may also face challenges in increasing customer awareness of all of our offerings. Efforts to expand customer awareness of our diverse range of products and services may result in increased marketing expense and may fail to generate additional revenue.

We continually evaluate and modify our marketing and sales efforts to achieve the most effective mix of promotional methods. Competitive pressure may inhibit our ability to reflect increased costs in the prices of our products and services and/or

new marketing strategies may not be successful. Either of these occurrences would have an adverse impact on our ability to compete and our results of operations would be adversely affected. In addition, when our check supply contracts expire, customers have the ability to renegotiate their contracts with us or to consider changing suppliers. Failure to achieve favorable contract renewals and/or to obtain new check supply customers would result in decreased revenue.

Additionally, we believe we must maintain a relevant, multichannel experience in order to attract and retain customers. Customers expect to have the ability to choose their method of ordering, whether via the mail, computer, phone or mobile device. Although we are constantly investing in our user experience, we cannot predict the success of these investments. Multichannel marketing is rapidly evolving and we must keep pace with the changing expectations of our customers and new developments by our competitors. If we are unable to implement improvements to our customer-facing technology in a timely manner, or if our customer-facing technology does not function as designed, we could find it increasingly difficult to attract new and returning visitors, which would result in decreased revenue.

We face intense competition from other business enterprises, and we expect that competition will continue to increase.

Competition in the payments industry is intense. We are competing against numerous financial technology (Fintech) companies, including independent payment processors, credit card processing firms and treasury management service providers, as well as financial institution in-house capabilities. Volume is the key to staying cost-competitive, and breadth of services is critical to staying relevant to customers. In addition, although we are a leading check printer in the U.S., we face considerable competition in the check printing portion of the payments industry from another large check printer in our traditional financial institution sales channel, from direct mail and internet-based sellers of personal and business checks, from check printing software vendors, and from certain significant retailers. Pricing continues to be competitive in our financial institution sales channel, as financial institutions seek to maintain their previous levels of profitability, even as check usage declines.

Within our Data Solutions segment, our data-driven marketing services face intense competition from a wide variety of companies in the data solutions space, including advertising agencies, marketing technology firms, data aggregators and brokers, and source data providers. Adapting to new technology is a key challenge in this business, along with hiring and retaining the right people.

Within our Promotional Solutions segment, the markets for business forms and promotional products are intensely competitive and highly fragmented. Current and potential competitors include traditional storefront printing companies, office superstores, wholesale printers, online printing companies, small business product resellers and providers of custom apparel and gifts. The competitive landscape for online suppliers continues to be challenging as new businesses enter the space.

We can provide no assurance that we will be able to compete effectively against current and future competitors. Our competitors may develop better products or technologies and may be able to adapt more quickly to new or emerging technologies and changes in customer requirements. Continued competition could result in price reductions, reduced profit margins and/or loss of customers, all of which would have an adverse effect on our results of operations and cash flows.

If we do not adapt to changes in technology in a timely and cost-effective manner, we could lose clients or have trouble attracting new clients, and our ability to grow may be limited.

Rapid, significant, and disruptive technological changes impact the markets for our products and services, including changes in payment and internet browser technologies and the use of artificial intelligence and machine learning, as well as developments in technologies supporting our regulatory and compliance obligations and in-store, digital, mobile and social commerce. The introduction of competing products and services using new technologies, the evolution of industry standards or the introduction of more attractive products or services, including continued increases in the digitization of payments, could make some of our products and services less desirable, or even obsolete. Our ability to enhance our current products and services and to develop and introduce innovative products and services will significantly affect our future success. The impact is magnified by the intense competition we face. To be successful, our technology-based products and services must keep pace with technological developments and evolving industry standards, address the ever-changing and increasingly sophisticated needs of our customers, and achieve market acceptance. Additionally, we must differentiate our service offerings from those of our competitors and from the in-house capabilities of our customers. We could lose current and potential customers if we are unable to develop products and services that meet changing demands in a timely manner. Additionally, we must continue to develop our skills, tools and capabilities to capitalize on existing and emerging technologies, and this requires significant investment, takes considerable time and ultimately, may not be successful. Any of the foregoing risks could result in harm to our business, results of operations and growth prospects.

We may be unable to successfully identify future acquisitions, integrate past and future acquisitions and realize the anticipated benefits of the transactions.

We have completed many acquisitions during the past several years, including the acquisition of First American in June 2021, which was the largest acquisition in our history. In addition, we purchased the operations of several small business distributors with the intention of growing revenue in our dealer channels. We are currently devoting significant management

attention and resources to integrating the business practices and operations of First American and our previous acquisitions. The integration of any acquisition involves numerous risks, including, among others:

- the inability to successfully combine the businesses in a manner that permits us to achieve the revenue synergies and cost savings anticipated to result from the acquisition, which would result in the anticipated benefits of the acquisition not being realized in the anticipated timeframe or at all;
- difficulties and/or delays in assimilating operations and ensuring that a strong system of information security and controls is in place;
- the complexities of integrating a company with different products, services, markets and customers;
- performance shortfalls due to the diversion of management's attention from other business concerns;
- lost sales and customers as a result of certain customers, retail partners, financial institutions or other third parties deciding not to do business with us;
- unanticipated integration costs;
- complexities associated with implementing necessary controls for the acquired business activities to address our requirements as a public company;
- difficulties in identifying and eliminating redundant and underperforming functions and assets;
- the complexities of assimilating the acquired business into our corporate culture and management philosophies;
- unidentified issues not discovered during our due diligence process, including product or service quality issues, intellectual property issues and tax or legal contingencies;
- failure to address legacy distributor account protection rights; and
- loss of key employees.

One or more of these factors could impact our ability to successfully operate, integrate or leverage an acquisition and could materially and adversely affect our business and financial results.

We have indicated that we plan to supplement sales-driven revenue growth with strategically targeted acquisitions over time. The time and expense associated with finding suitable businesses, technologies or services to acquire can be disruptive to our ongoing business and may divert management's attention. We cannot predict whether suitable acquisition candidates can be identified or acquired on acceptable terms or whether any acquired products, technologies or businesses will contribute to our revenue or earnings to any material extent. We may need to seek additional financing for larger acquisitions, which would increase our debt obligations and may not be available on terms that are favorable to us. Additionally, acquisitions may result in additional contingent liabilities, additional amortization expense, and/or future non-cash asset impairment charges related to acquired intangible assets and goodwill, and thus, could adversely affect our business, results of operations and financial condition.

The use of checks and forms is declining and we may be unable to offset the decline with profitable revenue growth.

Checks continue to be a significant portion of our business, accounting for 32.6% of our consolidated revenue in 2022, and providing a significant amount of the cash flows we invest in our growth businesses, although our Payments segment now rivals our Checks segment in terms of revenue. We sell checks for personal and business use and believe that there will continue to be demand for personal and business checks for the foreseeable future, although the total number of checks written in the U.S. has been in decline since the mid-1990s. We expect that the number of checks written will continue to decline due to the digitization of payments, including debit cards, credit cards, direct deposit, wire transfers, and other payment solutions, such as PayPal®, Apple Pay®, Square®, Zelle®, and Venmo®, as well as cryptocurrencies. In addition, the RTP® system run by The Clearing House Payments Company, LLC is a real-time payments system that currently reaches approximately 60% of U.S. bank accounts. The U.S. Federal Reserve has announced that it plans to develop its own real-time payments system, FedNowSM, with an expected launch in mid-2023.

The rate and the extent to which digital payments will replace checks, whether as a result of legislative developments, changing payment systems, personal preference or otherwise, cannot be predicted with certainty. Increased use of alternative payment methods, or our inability to successfully offset the secular decline in check usage with new check supply clients or other sources of revenue, would have an adverse effect on our business, cash flows and results of operations.

The use of business forms has also been declining. Continual technological improvements, including the lower price and higher performance capabilities of personal computers, printers and mobile devices, have provided small business customers with alternative means to execute and record business transactions. Additionally, electronic transaction systems, off-the-shelf business software applications, web-based solutions and mobile applications have been designed to replace preprinted business forms. Greater acceptance of electronic signatures also has contributed to the overall secular decline in printed products. It is difficult to predict the pace at which these alternative products and services will replace standardized business forms. If small business preferences change rapidly and we are unable to develop new products and services with comparable operating margins, our results of operations would be adversely affected.

Our business depends on our strong and trusted brand, and any failure to maintain, protect and enhance our brand would hurt our business.

We have developed a strong and trusted brand that has contributed significantly to the success of our business. We believe that maintaining and promoting our brand in a cost-effective manner is critical to achieving widespread acceptance of our products and services, expanding our base of customers, and attracting and retaining top talent throughout the organization. We believe that the importance of brand recognition and trust is particularly essential for the success of our various service offerings because of the level of competition for these services. Customer awareness of our brand, as well as the perceived value of our brand, depends largely on the success of our marketing efforts, our ability to continue to provide useful, reliable, secure and innovative products and services, and our ability to maintain trust and be a technology leader. If we fail to successfully promote and maintain our brand or if we incur excessive expenses in this effort, our business could be materially and adversely affected. There is also the risk that adverse publicity, whether or not justified, could adversely affect our business. If our business partners or key employees are the subject of adverse news reports or negative publicity, our reputation may be tarnished and our results of operations could be adversely affected.

A component of our brand promotion strategy is building on our relationship of trust with our customers, which we believe can be achieved by providing a high-quality customer experience. We have invested, and will continue to invest, in website development, design and technology, and customer service and production operations. Our ability to provide a high-quality customer experience is also dependent on external factors, including the reliability and performance of our suppliers, telecommunications providers and third-party carriers. Our brand value also depends on our ability to protect and use our customers' data in a manner that meets expectations. The failure of our brand promotion activities to meet our expectations or our failure to provide a high-quality customer experience for any reason could adversely affect our ability to attract new customers and maintain customer relationships, which would adversely harm our business and results of operations.

Our cost reduction initiatives may not be successful.

Intense competition and secular declines in the use of checks and business forms compels us to continually improve our operating efficiency in order to maintain or improve profitability. Cost reduction initiatives have required, and will continue to require, up-front expenditures related to various actions, such as redesigning and streamlining processes, consolidating information technology platforms, standardizing technology applications, further enhancing our strategic supplier sourcing arrangements, improving real estate utilization and funding employee severance benefits. We can provide no assurance that we will achieve future cost reductions or that we will do so without incurring unexpected or greater than anticipated expenditures. Moreover, we may find that we are unable to achieve business simplification and/or cost reduction goals without disrupting our business, negatively impacting efforts to grow our business or reducing the effectiveness of our sustainability practices. As a result, we may choose to delay or forgo certain cost reductions as business conditions require. Failure to continue to improve our operating efficiency and to generate adequate savings to fund necessary investments could adversely affect our business if we are unable to remain competitive.

OPERATIONAL RISKS

We are unable to predict the extent to which COVID-19 or other outbreaks, epidemics, pandemics, or public health crises may adversely impact our business, financial condition and results of operations.

Although the immediate impacts of the COVID-19 pandemic have declined, the sweeping nature of the pandemic makes it extremely difficult to predict how our business and operations may be affected in the longer term. The extent to which COVID-19 continues to impact our business depends on future developments, many of which are unknown, such as: the severity and duration of the pandemic, including the impact of COVID-19 variants; governmental, business and individuals' actions in response to the pandemic; vaccination rates; and the resulting impact on economic activity and the financial markets. There are no comparable recent events that provide guidance as to the effect the COVID-19 pandemic may have, and, as a result, the ultimate impact of the pandemic is highly uncertain and subject to change.

In addition to the above impacts, at the onset of the COVID-19 pandemic in 2020, all of our employees who had the ability to work from home did so, and the success of our work-from-home model allowed us to accelerate certain site closures. Although our facilities re-opened in late 2021, a portion of our employees now work remotely on a permanent basis and many others work remotely for portions of each work week, which increases our cybersecurity and data security risk. Changes in the scope and severity of the pandemic may cause us to once again close certain of our facilities to protect the health of our employees, as a result of disruptions in the operation of our supply chain, or in response to a prolonged decrease in demand for our products and services. Disruptions caused by future facility closures, along with the subsequent reintroduction of employees back into the workplace, could introduce operational risks, negatively impact productivity or result in claims by employees.

Other cascading effects of the COVID-19 pandemic, along with other outbreaks, epidemics, pandemics or public health crises that are not currently foreseeable, could materially increase our costs, negatively impact our revenue and adversely impact our results of operations and liquidity, possibly to a significant degree. We cannot predict the severity or duration of any

such impacts. Such events could have the effect of heightening or exacerbating many of the other risks described in this *Risk Factors* discussion.

Security breaches, computer malware or other cyberattacks involving the confidential information of our customers, employees or business partners could substantially damage our reputation, subject us to litigation and enforcement actions, and substantially harm our business and results of operations.

Information security risks have increased in recent years, in part because of the proliferation of new technologies and an increase in remote work arrangements, as well as the increased sophistication and activities of hackers, terrorists and activists. In addition, our information security risks have increased with the acquisition of companies with their own technologies, which we continue to integrate into our systems and processes. Until these technologies are integrated, we may experience a period of increased risk. We use internet-based channels that collect customers' financial account and payment information, as well as other sensitive information, including proprietary business information and personally identifiable information of our customers, employees, contractors, suppliers and business partners. Each year, we process hundreds of millions of records containing data related to individuals and businesses. We also provide services that are instrumental in supporting our customers and their businesses, such as website/email hosting and remittance processing. Cybersecurity is one of the top risks identified by our Enterprise Risk Management Committee, as technology-based organizations such as ours are vulnerable to targeted attacks aimed at exploiting network and system weaknesses.

The secure and uninterrupted operation of our networks and systems, as well as the processing, maintenance and confidentiality of the sensitive information that resides on our systems, is critical to our business operations and strategy. We have a risk-based information/cybersecurity program dedicated to protecting our data and solutions. We employ a defensive in-depth strategy, utilizing the concept of security layers and the CIA (confidential, integrity and availability) triad model. Computer systems and networks are, by nature, vulnerable to unauthorized access. An accidental or willful security breach could result in unauthorized access and/or use of customer information, including consumers' personally identifiable information or, in some cases, the protected health information of certain individuals. Our security measures could be breached by third-party action, computer viruses, accidents, employee or contractor error, or malfeasance by rogue employees. In addition, we depend on a number of third parties, including vendors, developers and partners, that are critical to our business and to which we may grant access to our customer or employee data. While we conduct due diligence on these third parties with respect to their security and business controls, we rely on them to effectively monitor and oversee these control measures. Individuals or third parties may be able to circumvent controls and/or exploit vulnerabilities that may exist, resulting in the disclosure or misuse of sensitive business and personal customer or employee information and data.

We utilize third-party providers to help support and provide our services to customers. We have established a vendor security program that assesses the risk of these partners, and certain of our third-party relationships are subject to security requirements as specified in written contracts. However, we cannot control the actions of our third-party providers, and any cyberattacks or security breaches they experience could adversely affect our ability to service our customers or otherwise conduct our business.

Because techniques used to obtain unauthorized access, disable or degrade service, or sabotage computer systems change frequently, may be difficult to detect immediately, and generally are not recognized until they are launched against a target, we may be unable to implement adequate preventive measures. Unauthorized parties may also attempt to gain access to our systems or facilities through various means, including hacking into our systems or facilities, fraud, trickery or other means of deceiving employees and contractors. We have experienced external internet-based attacks by threat actors aimed at disrupting internet traffic and/or attempting to place illegal or abusive content on our or our customers' websites. Additionally, our customers and employees have been and will continue to be targeted by threat actors using social engineering techniques to obtain confidential information or using fraudulent "phishing" emails to introduce malware into the environment. To-date, these various threats and incidents have not materially impacted our customers, our business or our financial results. However, our technologies, systems and networks are likely to be the target of future attacks due to the increasing threat landscape for all technology businesses, and we can provide no assurance that future incidents will not be material.

Despite our significant cybersecurity systems and processes, a party that circumvents our security measures could misappropriate our own, our customers' or our partners' personal or proprietary information, cause interruption in our operations, damage our computers or those of our users, or otherwise damage our reputation, all of which could deter clients and consumers from ordering our products and services and result in the termination of client contracts. Additionally, it is possible that there could be vulnerabilities that impact large segments of mobile, computer or server architecture. Any of these events would adversely affect our business, financial condition and results of operations.

In addition, if we were to experience a material information security breach, we may be required to expend significant amounts of management time and financial resources to remedy, protect against or mitigate the effects of the breach, and we may not be able to remedy the situation in a timely manner, or at all. Furthermore, under payment card association rules and our contracts with debit and credit card processors, if there is a breach of payment card information that we store or that is stored by third parties with which we do business, we could be liable to the payment card issuing banks for their cost of issuing new cards and other related expenses. We could also lose our ability to accept and process credit and debit card payments, which would likely result in the loss of customers and the inability to attract new customers. We could also be exposed to time-consuming and

expensive litigation, government inquiries and/or enforcement actions. If we are unsuccessful in defending a claim regarding information security breaches, we may be forced to pay damages, penalties and fines, and our insurance coverage may not be adequate to compensate us fully for any losses that may occur. Contractual provisions with third parties, including cloud service providers, may limit our ability to recover losses resulting from the security breach of a business partner.

There are international, federal and state laws and regulations requiring companies to notify individuals of information security breaches involving their personal data, the cost of which would negatively affect our financial results. These mandatory disclosures regarding an information security breach often lead to widespread negative publicity. If we were required to make such a disclosure, it may cause our clients and customers to lose confidence in the effectiveness of our information security measures. Likewise, general publicity regarding information security breaches at other companies could lead to the perception among the general public that e-commerce is not secure. This could decrease traffic to our websites, negatively affect our financial results and limit future business opportunities.

Interruptions to our website operations or information technology systems, failure to maintain our information technology platforms, or failure to successfully implement our new enterprise resource planning (ERP) system could damage our reputation and harm our business.

The satisfactory performance, reliability and availability of our information technology systems, and those of our third-party service providers, is critical to our reputation and our ability to attract and retain customers. We could experience temporary interruptions in our websites, transaction and payment processing systems, network infrastructure, service technologies, printing production facilities or customer service operations for a variety of reasons, including, among others, human error, software errors or design faults, security breaches, power loss, telecommunications failures, equipment failures, electrical disruptions, labor issues, vandalism, fire, flood, extreme weather, terrorism and other events beyond our control.

We have invested, and will continue to invest, significant resources to build out, maintain and improve our technology platforms and to integrate our various businesses. We are in the process of converting to a new ERP system. Any disruptions, delays or deficiencies in the design, implementation or operation of our systems, particularly any disruptions, delays or deficiencies that impact our operations, including smoothly executing the implementation of our ERP system, could adversely affect our ability to effectively run and manage our business. Frequent or persistent interruptions in our operations could cause customers to believe that our products and services are unreliable, leading them to switch to our competitors or to avoid our products and services.

In recent years, we shifted a substantial portion of our applications to a cloud-based environment. While we maintain redundant systems and backup databases and applications software designed to provide continuous access to cloud services, it is possible that access to our software capabilities could be interrupted and our disaster recovery planning may not account for all eventualities. The failure of our systems could interfere with the delivery of products and services to our customers, impede our customers' ability to do business and result in the loss or corruption of critical data. In addition to the potential loss of customers, we may be required to incur additional development costs and divert technical and other resources, and we may be the subject of negative publicity and/or liability claims.

If any of our significant information technology systems suffer severe damage, disruption or shutdown, and our disaster recovery and business continuity plans do not effectively resolve the issue in a timely manner, our results of operations would be adversely affected, and our business interruption insurance coverage may not be adequate to compensate us fully for any losses we may incur. Moreover, to the extent that any system failure or similar event results in damages to our customers or contractual counterparties, these customers and contractual counterparties could seek compensation from us for their losses, and those claims, even if unsuccessful, would likely be time-consuming and costly for us to address.

We rely on third parties and their systems for a variety of services, including significant information technology services, and the failure of these third parties to provide these services could disrupt our business.

We have entered into agreements with third-party providers for information technology services, including telecommunications, network server, cloud computing and transaction processing services. In addition, we have agreements with companies to provide services related to our online payment solutions, including financial institutions that provide clearing services in connection with our merchant services settlement activities, and we have outsourced certain activities, including portions of our finance and procurement functions. A service provider's ability to provide services could be disrupted for a variety of reasons, including, among others, human error, software errors or design faults, security breaches, power loss, telecommunications failures, equipment failures, electrical disruptions, labor issues, vandalism, fire, flood, extreme weather, terrorism and other events beyond their control. In the event that one or more of our service providers is unable to provide adequate or timely services, our ability to deliver products and services to our customers could be adversely affected. Although we believe we have taken reasonable steps to protect our business through contractual arrangements with our service providers, we cannot completely eliminate the risk of disruption in service. Any significant disruption could harm our business, including damage to our brand and loss of customers. Additionally, although we believe that most of these services are available from numerous sources, a failure to perform by one or more of our service providers could cause a material disruption in our business while we obtain an alternative service provider. The use of substitute third-party providers could also result in increased expense. Additionally, while we have policies and procedures for managing these relationships, they inherently involve a lesser degree of

control over business operations, governance and compliance, thereby potentially increasing our financial, legal, reputational and operational risk.

If we are unable to attract, motivate and retain key personnel and other qualified employees, our business and results of operations could be adversely impacted.

We operate in a rapidly changing technological environment that requires a wide ranging set of expertise and intellectual capital. To successfully compete and grow, we must recruit, develop, motivate and retain personnel who can provide the needed expertise across the organization. In addition, we must develop our personnel to fulfill succession plans capable of maintaining continuity in the midst of the inevitable unpredictability of human capital.

Competition for employees is intense, even more so in the current challenging labor market. We have implemented various human capital initiatives, including employee wellness initiatives, the introduction of employee resource groups and a revised performance management process, to make Deluxe an attractive place to work. As a result of the COVID-19 pandemic, remote working arrangements became more widely accepted and it is more challenging for us to maintain and enhance our corporate culture and to navigate the flexible working arrangements that employees may demand. Our work environment may not meet the needs or expectations of our employees or may be perceived as less favorable compared to other companies' policies, which could negatively impact our ability to hire and retain qualified personnel. We can provide no assurance that key personnel, including our executive officers, will continue to be employed, or that in the event we have to replace key employees, that labor costs will not increase. Failure to retain or attract key personnel could have a material adverse effect on our business, financial condition and results of operations.

Increases in prices and declines in the availability of materials and other services have adversely affected, and could continue to adversely affect, our operating results.

We are subject to risks associated with the cost and availability of paper, plastics, ink, promotional materials, merchant services point-of-sale equipment and other raw materials, as well as various third-party services we utilize, including delivery services. In addition, from time-to-time, the card networks, including Visa® and Mastercard®, increase the fees that they charge processors. Increased levels of inflation during the past 2 years have resulted in cost increases for certain of the materials and services we utilize. We expect inflationary pressures to continue into fiscal 2023, and this trend could have a material adverse impact if inflation rates significantly exceed our ability to continue to achieve price increases or if such price increases adversely impact demand for our products. Emerging from the COVID-19 pandemic, we have experienced supply chain disruptions, including impacts on the supply of certain higher margin printed products in our Promotional Solutions segment, and the continuing Russia-Ukraine dispute could cause further disruption in the global supply chain. We continue to closely monitor our supply chain to promptly address any further delays or disruptions, but we can provide no assurance that our ability to provide products to our customers will not be adversely impacted if our supply chain is compromised.

Paper costs represent a significant portion of our materials expense. Paper is a commodity and its price has been subject to volatility due to supply and demand in the marketplace, as well as volatility in the raw material and other costs incurred by paper suppliers. There are also relatively few paper suppliers and these suppliers are under financial pressure as paper use declines. As such, when our suppliers increase paper prices, we may not be able to obtain better pricing from alternative suppliers.

We depend upon third-party providers for delivery services and for certain outsourced products. Events resulting in the inability of these third parties to perform their obligations, such as work slowdowns, extended labor strikes, labor shortages or inclement weather, could adversely impact our results of operations by requiring us to secure alternate providers at higher costs. Postal rates are dependent on the operating efficiency of the U.S. Postal Service (USPS) and on legislative mandates imposed upon the USPS. Postal rates have increased in recent years and the USPS has incurred significant financial losses. This may result in continued changes to the breadth and/or frequency of USPS mail delivery services. In addition, fuel costs have fluctuated over the past several years. Increases in fuel costs increase the costs we incur to deliver products to our customers, as well as the price we pay for outsourced products.

Competitive pressures and/or contractual arrangements may inhibit our ability to reflect increased costs in the price of our products and services. Any of the foregoing risks could result in harm to our business and results of operations.

We are subject to customer payment-related risks and payment card network rules, which could adversely affect our business and financial results.

We may be liable for fraudulent transactions conducted on our websites, such as the use of stolen credit card numbers, and we have potential liability for fraudulent electronic payment transactions or credits initiated by merchants or others. While we do have safeguards in place, we cannot prevent all fraudulent transactions. To date, we have not incurred significant losses from payment-related fraud. However, such transactions negatively impact our results of operations and could subject us to penalties from payment card networks for inadequate fraud protection.

In addition, changes to the payment card networks' rules or how they are interpreted could have a significant impact on our business and financial results. For example, changes in the rules regarding chargebacks may affect our ability to dispute chargebacks and the amount of losses we incur from chargebacks. Changes in network rules may also increase the cost of, impose restrictions on, or otherwise impact the development of, our retail point-of-sale solutions, which may negatively affect their deployment and adoption. Any changes to or interpretations of the network rules that are inconsistent with the way we currently operate may require us to make changes to our business that could be costly or difficult to implement and that could adversely affect our results of operations.

Revenue from the sale of services to merchants that accept Visa and Mastercard are dependent upon our continued Visa and Mastercard registrations, financial institution sponsorship and, in some cases, continued membership in certain card networks.

In order to provide our Visa and Mastercard transaction processing services, we must be either a direct member or be registered as a merchant processor or service provider of Visa and Mastercard. Registration as a merchant processor or service provider is dependent upon our being sponsored by members of each organization in certain jurisdictions. If our sponsor financial institution in any market should stop providing sponsorship for us, we would need to find another financial institution to provide those services or we would need to attain direct membership with the card networks, either of which could prove to be difficult and expensive. If we are unable to find a replacement financial institution to provide sponsorship or attain direct membership, we may no longer be able to provide processing services to affected customers, which would negatively affect our business and results of operations. In addition, some agreements with our financial institution sponsors give them substantial discretion in approving certain aspects of our business practices, including our solicitation, application and qualification procedures for merchants and the terms of our agreements with merchants. Our sponsors' discretionary actions under these agreements could have a material adverse effect on our business and results of operations.

If we fail to comply with the applicable requirements of the card networks, the card networks could seek to fine us, suspend us or terminate our registrations or membership. The termination of our registrations or our membership or our status as a service provider or a merchant processor would have a material adverse effect on our business, financial condition and results of operations. If a merchant or an independent sales organization (ISO) customer fails to comply with the applicable requirements of the card associations and networks, we or the merchant or ISO could be subject to a variety of fines or penalties that may be levied by the card associations or networks. If we cannot collect or pursue collection of such amounts from the applicable merchant or ISO, we may have to bear the cost of such fines or penalties, negatively impacting our results of operations.

LEGAL AND COMPLIANCE RISKS

Governmental regulation is continuously evolving and could limit or harm our business.

We are subject to numerous international, federal, state and local laws and regulations that affect our business activities in several areas, including, but not limited to, labor, advertising, taxation, data privacy and security, digital content, consumer reports, consumer protection, merchant processing, online payment services, real estate, e-commerce, intellectual property, health care, environmental matters, and workplace health and safety. In addition, legal or regulatory measures to address climate change may impact us in the near future. The complexity of complying with existing and new laws and regulations is significant, and regulators may adopt new laws or regulations at any time.

The various regulatory requirements to which we are subject could impose significant limitations on our business activities, require changes to our business, restrict our use or storage of personal information, or cause changes in our customers' purchasing behavior, which may make our business more costly and/or less efficient and may require us to modify our current or future products, services, systems or processes. We cannot quantify or predict with any certainty the likely impact of such changes on our business, prospects, financial condition or results of operations.

Portions of our business operate within highly regulated industries and our business results could be significantly affected by the laws and regulations to which we are subject. For example, international, federal and state laws and regulations regarding the protection of certain consumer information require us to develop, implement and maintain policies and procedures to protect the security and confidentiality of consumers' personal information. Portions of our business are subject to regulations affecting payment processing, including merchant processing, ACH, remote deposit capture and lockbox services. These laws and regulations require us to develop, implement, and maintain certain policies and procedures related to payments. We are also subject to additional requirements in certain of our contracts with financial institution clients and communications service providers, which are often more restrictive than the regulations, as well as confidentiality clauses in certain of our contracts related to small businesses' customer information. These regulations and agreements typically limit our ability to use or disclose personal information for other than the purposes originally intended, which could limit business opportunities. Proposed privacy and cybersecurity regulations may also increase the cost of compliance for the protection of collected data. The complexity of compliance with these various regulations may increase our cost of doing business and may affect our clients, reducing their discretionary spending and thus, reducing their capacity to purchase our products and services.

Due to our increased use of the internet for sales and marketing, laws specifically governing digital commerce, the internet, mobile applications, search engine optimization, behavioral advertising, privacy and email marketing may have an impact on our business. Existing and future laws governing issues such as digital and social marketing, privacy, consumer protection or commercial email may limit our ability to market and provide our products and services. Changing data protection regulations may increase the cost of compliance in servicing domestic and international markets for our wholesale and retail business services channels. More restrictive rules, such as new privacy laws, consumer protection "dark patterns" restrictions, search engine marketing restrictions, "anti-spam" regulations or email privacy rules, could decrease marketing opportunities, decrease traffic to our websites and/or increase the cost of obtaining new customers.

Because of additional regulatory costs, financial institutions may continue to put significant pricing pressure on their suppliers, including their check and service providers. The increase in cost and profit pressure may also lead to further consolidation of financial institutions. Additionally, some financial institutions do not permit offers of add-on services, such as bundled products, fraud/identity protection or expedited check delivery, to their customers. It would have an adverse impact on our results of operations if we were unable to market such services to consumers or small businesses through the majority of our financial institution clients. Additionally, as our product and service offerings become more technologically focused, and with expanded regulatory expectations for supervision of third-party service providers, additional portions of our business could become subject to direct federal regulation and/or examination. This would increase our cost of doing business and could slow our ability to introduce new products and services and otherwise adapt to a rapidly changing business environment.

Third-party claims could result in costly and distracting litigation and, in the event of an unfavorable outcome, could have an adverse effect on our business, financial condition and results of operations.

From time to time, we are involved in claims, litigation and other proceedings related to the conduct of our business, including purported class action litigation. Such legal proceedings may include claims related to our employment practices; claims alleging breach of contractual obligations; claims asserting deceptive, unfair or illegal business practices; claims alleging violations of consumer protection-oriented laws; claims related to legacy distributor account protection rights; or claims related to environmental matters. In addition, third parties may assert patent and other intellectual property infringement claims against us and/or our clients, which could include aggressive and opportunistic enforcement of patents by non-practicing entities. Any such claims could result in litigation against us and could also result in proceedings being brought against us by various federal and state agencies that regulate our businesses. The number and significance of these claims and proceedings has increased as our businesses have evolved and expanded in scope. These claims, whether successful or not, could divert management's attention, result in costly and time-consuming litigation, or both. Accruals for identified claims or lawsuits are established based on our best estimates of the probable liability. However, we cannot accurately predict the ultimate outcome of any such proceedings due to the inherent uncertainties of litigation and other dispute resolution mechanisms. Any unfavorable outcome of a material claim or material litigation could require the payment of monetary damages or fines, attorneys' fees or costly and undesirable changes to our products, features or business practices, which would result in a material adverse effect on our business, financial condition and results of operations.

We may be unable to protect our rights in intellectual property, which could harm our business and ability to compete.

We rely on a combination of trademark and copyright laws, trade secret and patent protection, and confidentiality and license agreements to protect our trademarks, software and other intellectual property. These protective measures afford only limited protection. Despite our efforts to protect our intellectual property, third parties may infringe or misappropriate our intellectual property or otherwise independently develop substantially equivalent products or services that do not infringe on our intellectual property rights. Policing unauthorized use of our intellectual property is difficult. We may be required to spend significant resources to protect our trade secrets and to monitor and police our intellectual property rights. The loss of intellectual property protection or the inability to secure or enforce intellectual property protection could harm our business and ability to compete.

Activities of our customers or the content of their websites could damage our reputation and/or adversely affect our financial results.

As a provider of domain name registration, web hosting services and customized business products, we may be subject to potential liability for the activities of our customers on or in connection with their domain names or websites, for the data they store on our servers, including information accessible through the "dark web," or for images or content that we produce on their behalf. Customers may also launch distributed denial of service attacks or malicious executables, such as viruses, worms or trojan horses, from our servers. Although our agreements with our customers prohibit illegal use of our products and services and permit us to take appropriate action for such use, customers may nonetheless engage in prohibited activities or upload or store content with us in violation of applicable law. Our reputation may be negatively impacted by the actions of customers that are deemed to be hostile, offensive or inappropriate, or that infringe the copyright or trademark of another party. The safeguards we have established may not be sufficient to avoid harm to our reputation, especially if the inappropriate activities are high profile.

Laws relating to the liability of online services companies for information, such as online content disseminated through their services, are subject to frequent challenges. Claims may be made against online services companies by parties who

disagree with the content. Where the online content is accessed on the internet outside of the U.S., challenges may be brought under foreign laws that do not provide the same protections for online services companies as in the U.S. These challenges in either U.S. or foreign jurisdictions may give rise to legal claims alleging defamation, libel, invasion of privacy, negligence or copyright or trademark infringement, based on the nature and content of the materials disseminated through our services. Certain of our products and services include content generated by users of our online services. Although this content is not generated by us, claims of defamation or other injury may be made against us for that content. If such claims are successful, our financial results would be adversely affected. Even if the claims do not result in litigation or are resolved in our favor, the time and resources necessary to resolve them could divert management's attention and adversely affect our business and financial results.

FINANCIAL RISKS

Economic conditions may adversely affect trends in business and consumer spending, which may adversely impact demand for our products and services.

Economic conditions have affected, and will continue to affect, our results of operations and financial position. Current and future economic conditions that affect inflation, business and consumer spending, including levels of business and consumer confidence, unemployment levels, consumer spending and the availability of credit, as well as uncertainty or volatility in our customers' businesses, may adversely affect our business and results of operations. A challenging economic environment could cause existing and potential customers to not purchase or to delay purchasing our products and services. Continued inflationary pressures could negatively impact our customers' ability to purchase our products and services, thereby negatively impacting our revenue and results of operations.

A significant portion of our business relies on small business spending. We believe that small businesses are more likely to be significantly affected by economic conditions than larger, more established companies. During a sluggish economy, it may be more difficult for small businesses to obtain credit and they may choose to spend their limited funds on items other than our products and services. As such, the level of small business confidence, the rate of small business formations and closures, and the availability of credit to small businesses all impact our business.

A significant portion of our business also relies upon the health of the financial services industry. As a result of global economic conditions in past years, a number of financial institutions sought additional capital, merged with other financial institutions and, in some cases, failed. The failure of one or more of our larger financial institution clients, or large portions of our customer base, could adversely affect our operating results. In addition to the possibility of losing a significant client, the inability to recover prepaid product discount payments made to one or more of our larger financial institution clients, or the inability to collect accounts receivable or contractually required contract termination payments, could have a significant negative impact on our results of operations.

There may also be an increase in financial institution mergers and acquisitions during periods of economic uncertainty or as a result of other factors affecting the financial services industry. Such an increase could adversely affect our operating results. Often the newly combined entity seeks to reduce costs by leveraging economies of scale in purchasing, including its check supply and business services contracts. This results in providers competing intensely on price in order to retain not only their previous business with one of the financial institutions, but also to gain the business of the other party in the combined entity. Although we devote considerable effort toward the development of a competitively-priced, high-quality selection of products and services for the financial services industry, there can be no assurance that significant financial institution clients will be retained or that the impact of the loss of a significant client can be offset through the addition of new clients or by expanded sales to our remaining clients.

Global events, such as the COVID-19 pandemic and the actions taken in response to it, as well as the Russia-Ukraine dispute, significantly increase economic uncertainty. Given the ongoing and dynamic nature of these events, we cannot predict the impact on our business, financial position or results of operations. Even after such impacts subside, the U.S. economy may experience a recession, and our business could be adversely affected by a prolonged recession.

Asset impairment charges would have a negative impact on our results of operations.

Goodwill represented 46.5% of our total assets as of December 31, 2022. On at least an annual basis, we assess whether the carrying value of goodwill is impaired. This analysis considers several factors, including economic, market and industry conditions. Circumstances that could indicate a decline in the fair value of one or more of our reporting units include, but are not limited to, the following:

- a downturn in economic conditions that negatively affects our actual and forecasted operating results;
- changes in our business strategy, structure and/or the allocation of resources;
- the failure of our growth strategy;
- the inability of our acquisitions to achieve expected operating results;
- changes in market conditions, including increased competition;

- the loss of significant customers;
- a decline in our stock price for a sustained period; or
- a material acceleration of order volume declines for checks and business forms.

Such situations may require us to record an impairment charge for a portion of goodwill. We are also required to assess the carrying value of other long-lived assets, including intangible assets. Information regarding our 2022 impairment analyses can be found under the caption "Note 8: Fair Value Measurements" in the Notes to Consolidated Financial Statements appearing in Part II, Item 8 of this report. We have, in the past, and may again in the future, be required to write-down the value of some of our assets, and these write-downs have been, and could in the future be, material to our results of operations. If we are required to record additional asset impairment charges for any reason, our consolidated results of operations would be adversely affected.

Our variable-rate indebtedness exposes us to interest rate risk.

Borrowings under our credit facility, including our secured term loan facility, are subject to variable rates of interest and expose us to interest rate risk. If interest rates were to continue to increase, our interest expense would increase, negatively affecting earnings and reducing cash flows available for working capital, capital expenditures and other investments. To address the risk associated with variable-rate debt, we entered into interest rate swaps to convert \$500.0 million of our variable-rate debt to a fixed rate. As of December 31, 2022, \$684.4 million of our outstanding debt was subject to variable interest rates.

ITEM 1B. UNRESOLVED STAFF COMMENTS

None.

ITEM 2. PROPERTIES

As of December 31, 2022, we occupied 46 facilities throughout the U.S., 5 facilities in Canada and 2 facilities in Europe, where we conduct printing and fulfillment, payment processing, call center, data center and administrative functions. Because of our shared services approach to most of our business functions, many of our facilities are utilized for the benefit of more than one of our business segments. Approximately 20% of our facilities are owned, while the remaining 80% are leased. Our facilities have a combined floor space of approximately 2 million square feet. None of our owned properties are mortgaged or held subject to any significant encumbrance. We believe that existing leases will be renegotiated as they expire or that suitable alternative properties will be leased on acceptable terms. We also believe that our properties are sufficiently maintained and are adequate and suitable for our business needs as presently conducted. We closed 6 facilities during 2022, as we continued to assess our real estate footprint.

ITEM 3. LEGAL PROCEEDINGS

We record provisions with respect to identified claims or lawsuits when it is probable that a liability has been incurred and the amount of the loss can be reasonably estimated. Claims and lawsuits are reviewed quarterly and provisions are taken or adjusted to reflect the status of a particular matter. We believe the recorded reserves in our consolidated financial statements are adequate in light of the probable and estimable outcomes. Recorded liabilities were not material to our financial position, results of operations or liquidity, and we do not believe that any of the currently identified claims or litigation will materially affect our financial position, results of operations or liquidity upon resolution. However, litigation is subject to inherent uncertainties, and unfavorable rulings could occur. If an unfavorable ruling were to occur, it may cause a material adverse impact on our financial position, results of operations or liquidity in the period in which the ruling occurs or in future periods.

ITEM 4. MINE SAFETY DISCLOSURES

Not applicable.

PART II

ITEM 5. MARKET FOR REGISTRANT'S COMMON EQUITY, RELATED STOCKHOLDER MATTERS AND ISSUER PURCHASES OF EQUITY SECURITIES

Our common stock is traded on the New York Stock Exchange under the symbol DLX. Dividends are declared by our board of directors on a quarterly basis, and therefore, are subject to change. As of December 31, 2022, the number of shareholders of record was 5,073, excluding shareholders whose shares are held in the name of various dealers, clearing agencies, banks, brokers and other fiduciaries.

The following table shows purchases of our common stock that were completed during the fourth quarter of 2022:

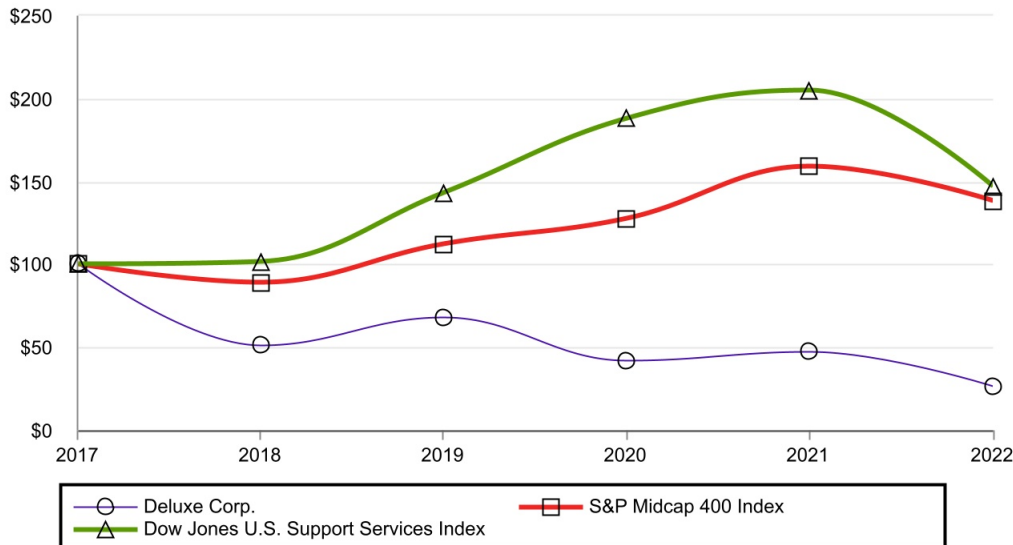
Period	Total number of shares purchased ⁽¹⁾	Average price paid per share ⁽¹⁾	Total number of shares purchased as part of publicly announced plans or programs	Maximum number (or approximate dollar value) of shares that may yet be purchased under the plans or programs ⁽²⁾
October 1, 2022 – October 31, 2022	371	\$ 16.91	—	287,452,394
November 1, 2022 – November 30, 2022	7,957	19.41	—	287,452,394
December 1, 2022 – December 31, 2022	192	16.52	—	287,452,394
Total	<u>8,520</u>	<u>19.24</u>	<u>—</u>	<u>287,452,394</u>

⁽¹⁾ Under the terms of our 2022 Stock Incentive Plan, as well as our previous long-term incentive plans, participants may surrender shares that would otherwise be issued under equity-based awards to cover the withholding taxes due as a result of the exercise or vesting of such awards. During the fourth quarter of 2022, we withheld 8,520 shares in conjunction with the vesting and exercise of equity-based awards.

⁽²⁾ In October 2018, our board of directors authorized the repurchase of up to \$500.0 million of our common stock. This authorization has no expiration date. No shares were repurchased under this authorization during the fourth quarter of 2022 and \$287.5 million remained available for repurchase as of December 31, 2022.

The table below compares the cumulative total shareholder return on our common stock for the last five fiscal years with the cumulative total return of the S&P MidCap 400 Index and the Dow Jones U.S. Support Services (DJUSIS) Index.

**COMPARISON OF FIVE-YEAR CUMULATIVE TOTAL RETURN
ASSUMES INITIAL INVESTMENT OF \$100
DECEMBER 2022**



The graph assumes that \$100 was invested on December 31, 2017 in each of Deluxe common stock, the S&P MidCap 400 Index and the DJUSIS Index, and that all dividends were reinvested.

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ITEM 6. [RESERVED]

ITEM 7. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

Management's Discussion and Analysis of Financial Condition and Results of Operations (MD&A) includes the following sections:

- [Executive Overview](#) that discusses what we do, our operating results at a high level and our financial outlook for the upcoming year;
- [Consolidated Results of Operations; Restructuring and Integration Costs; and Segment Results](#) that includes a more detailed discussion of our revenue and expenses;
- [Cash Flows and Liquidity, Capital Resources and Other Financial Position Information](#) that discusses key aspects of our cash flows, financial commitments, capital structure and financial position; and
- [Critical Accounting Estimates](#) that discusses the estimates that involve a significant level of uncertainty and have had or are reasonably likely to have a material impact on our financial condition or results of operations.

Please note that this MD&A discussion contains forward-looking statements that involve risks and uncertainties. Part I, Item 1A of this report outlines known material risks and important information to consider when evaluating our forward-looking statements. The Private Securities Litigation Reform Act of 1995 (the "Reform Act") provides a "safe harbor" for forward-looking

statements to encourage companies to provide prospective information. When we use the words or phrases “should result,” “believe,” “intend,” “plan,” “are expected to,” “targeted,” “will continue,” “will approximate,” “is anticipated,” “estimate,” “project,” “outlook,” “forecast” or similar expressions in this Annual Report on Form 10-K, in future filings with the Securities and Exchange Commission, in our press releases, investor presentations and in oral statements made by our representatives, they indicate forward-looking statements within the meaning of the Reform Act.

This MD&A includes financial information prepared in accordance with accounting principles generally accepted in the U.S. (“GAAP”). In addition, we discuss free cash flow, net debt, liquidity, adjusted diluted earnings per share (“EPS”), consolidated adjusted earnings before interest, taxes, depreciation and amortization (“adjusted EBITDA”) and consolidated adjusted EBITDA margin, all of which are non-GAAP financial measures. We believe that these non-GAAP financial measures, when reviewed in conjunction with GAAP financial measures, can provide useful information to assist investors in analyzing our current period operating performance and in assessing our future operating performance. For this reason, our internal management reporting also includes these financial measures, which should be considered in addition to, and not as superior to or as a substitute for, GAAP financial measures. We strongly encourage investors and shareholders to review our financial statements and publicly-filed reports in their entirety and not to rely on any single financial measure. Our non-GAAP financial measures may not be comparable to similarly titled measures used by other companies and therefore, may not result in useful comparisons. The reconciliation of our non-GAAP financial measures to the most directly comparable GAAP financial measures can be found in *Consolidated Results of Operations*.

The following discussion and analysis provides information we believe to be relevant to understanding our financial condition and results of operations. This discussion focuses on our financial results for the years ended December 31, 2022 and December 31, 2021. A discussion of our results of operations for the year ended December 31, 2021, as compared to the year ended December 31, 2020, is included in Part II, Item 7 of our Annual Report on Form 10-K for the year ended December 31, 2021 (“the 2021 Form 10-K”), filed with the SEC on February 28, 2022, and is incorporated by reference into this Form 10-K. You should read the following discussion and analysis in conjunction with our consolidated financial statements and related notes presented in Part II, Item 8 of this report.

EXECUTIVE OVERVIEW

We help businesses deepen customer relationships through trusted, technology-enabled solutions that help businesses pay and get paid, accelerate growth and operate more efficiently. Our solutions include merchant services, marketing services and data analytics, treasury management solutions, promotional products, and fraud and payroll solutions, as well as customized checks and business forms. We support millions of small businesses, thousands of financial institutions and hundreds of the world’s largest consumer brands, while processing approximately \$3 trillion in annual payment volume. Our reach, scale and distribution channels position us to be a trusted business partner for our customers.

Acquisition – On June 1, 2021, we acquired all of the equity of First American Payment Systems, L.P. (“First American”) in a cash transaction for \$958.5 million, net of cash, cash equivalents, restricted cash and restricted cash equivalents acquired. First American is a large-scale payments technology company that provides partners and merchants with comprehensive in-store, online and mobile payment solutions. The results of First American are included in our Payments segment and contributed incremental revenue of \$144.2 million and incremental adjusted EBITDA of \$30.2 million in 2022. The acquisition was funded with cash on hand and proceeds from new debt. Further information regarding the acquisition can be found under the caption “Note 6: Acquisition and Divestitures” and further information regarding our debt can be found under the caption “Note 13: Debt,” both of which appear in the Notes to Consolidated Financial Statements appearing in Part II, Item 8 of this report.

Recent market conditions – The impact of the global coronavirus (“COVID-19”) pandemic on our business and results of operations for the years ended December 31, 2021 and 2020 can be found in the *Executive Overview* section appearing in Part II, Item 7 of the 2021 Form 10-K. The environment surrounding COVID-19 and any countermeasures taken to reduce its spread may impact our future performance and remains difficult to predict.

During 2021, we began experiencing increased inflationary pressures on our labor, delivery and material costs. In response to the inflationary environment, we began implementing targeted price increases in all of our segments in late 2021. Despite the price changes, we continued to experience strong revenue volumes throughout 2022, demonstrating the strength of our business and the continued strong demand for our products. During the first half of 2022, we began experiencing some supply disruptions impacting certain higher margin printed products in our Promotional Solutions segment. We continue to closely monitor our supply chain to promptly address any further delays or disruptions, and we did see some improvement in the second half of 2022. We have also been experiencing labor supply issues in certain portions of our business. It remains difficult to estimate the severity and duration of the current inflationary environment or supply chain and labor issues on our business, financial position or results of operations.

In 2022, our interest expense began increasing as a result of the rising interest rate environment. We executed an interest rate swap during the third quarter of 2022 to effectively convert an additional \$300.0 million of our variable-rate debt to a fixed rate. As of December 31, 2022, 59% of our debt was effectively fixed rate, which will partially insulate us from future interest rate increases.

Cash flows and liquidity – Cash provided by operating activities for 2022 decreased \$19.3 million as compared to 2021. The decrease reflects a \$40.5 million increase in interest payments as a result of rising interest rates in 2022 and debt issued to complete the First American acquisition in 2021, as well as a \$22.8 million increase in employee cash bonus payments related to our 2021 operating performance. During 2021, a portion of our cash bonuses was paid in the form of restricted stock units and the bonus payments in 2021 were unusually low because of the impact of the COVID-19 pandemic on our 2020 performance. Operating cash flow was also negatively impacted by a \$19.9 million increase in income tax payments, as well as inflationary pressures, supply chain disruptions in our Promotional Solutions segment, and the continuing secular decline in checks, business forms and some business accessories. The increase in income tax payments was primarily driven by the provisions of the Tax Cuts and Jobs Act of 2017 that became effective in 2022 and that require the capitalization of research and development and cloud computing arrangement expenditures for income tax purposes. We were able to substantially offset these decreases in operating cash flow through the incremental contribution of the First American acquisition, price increases in response to the current inflationary environment, continued cost saving actions, a \$22.9 million decrease in payments for cloud computing arrangements, primarily related to our sales and finance technology infrastructure, and revenue growth from new business and strong demand for our products. In addition, we incurred acquisition transaction costs of \$18.9 million in 2021 related to the First American acquisition that did not recur in 2022. Free cash flow decreased \$14.7 million for 2022, as compared to 2021. Total debt was \$1.64 billion and net debt was \$1.60 billion as of December 31, 2022. During the third quarter of 2022, we retired \$25.0 million of our \$500.0 million senior, unsecured notes, realizing a pretax gain of \$1.7 million. We held cash and cash equivalents of \$40.4 million as of December 31, 2022, and liquidity was \$335.6 million. Our capital allocation priorities are to responsibly invest in growth, pay our dividend, reduce debt and return value to our shareholders.

2022 results vs. 2021 – Multiple factors drove the increase in net income for 2022, as compared to 2021, including:

- price increases in response to the current inflationary environment;
- actions taken to reduce costs as we continually evaluate our cost structure, including workforce adjustments, real estate rationalization and marketing optimization;
- pretax gains of \$19.3 million from the sale of businesses and a facility during 2022;
- acquisition transaction costs of \$18.9 million in 2021 related to the First American acquisition that did not recur in 2022; and
- revenue growth from new business in all of our segments and strong ongoing demand for our products, reflecting the continued success of our One Deluxe strategy.

Partially offsetting these increases in net income were the following factors:

- a \$38.9 million increase in interest expense resulting from the effect of increasing interest rates on our variable-rate debt and the additional debt issued in June 2021 to complete the First American acquisition;
- increased transformational investments, primarily costs related to our technology infrastructure;
- inflationary pressures on hourly wages, materials and delivery and supply chain disruptions within the Promotional Solutions segment that impacted certain of our higher margin printed products during the first half of 2022;
- the continuing secular decline in checks, business forms and some Promotional Solutions business accessories; and
- a \$7.7 million increase in acquisition amortization, driven, in part, by the First American acquisition.

Diluted EPS of \$1.50 for 2022, as compared to \$1.45 for 2021, reflects the increase in net income as described in the preceding paragraphs. Adjusted diluted EPS for 2022 was \$4.08 compared to \$4.88 for 2021, and excludes the impact of non-cash items or items that we believe are not indicative of our current period operating performance. The decrease in adjusted diluted EPS was driven by the increase in interest expense resulting from the effect of increasing interest rates on our variable-rate debt and the debt issued in June 2021 to complete the First American acquisition, increased transformational investments, inflationary pressures on our cost structure, Promotional Solutions supply chain disruptions and the continuing secular decline in checks, business forms and some business accessories. These decreases in adjusted EPS were partially offset by price increases in response to the current inflationary environment and the contribution from First American, as adjusted EPS excludes the associated acquisition amortization. In addition, adjusted diluted EPS benefited from various cost saving actions across

functional areas, as well as revenue growth from new business in all of our segments and strong ongoing demand for our products. A reconciliation of diluted EPS to adjusted diluted EPS can be found in *Consolidated Results of Operations*.

"One Deluxe" Strategy

As a result of our transformational strategy, we have realized the benefit of significant new client wins in all of our segments, and in 2022, we generated consolidated sales-driven revenue growth for the second consecutive year. We also completed the acquisition of First American in June 2021. The acquisition enables us to expand significantly in the fast-growing payments sector, a sector known for generating significant recurring revenues and cash flows, and revenue from our growing Payments segment is expected to surpass that of our Checks segment during the first half of 2023. We now have an even stronger foundation from which to pursue future acquisitions that will allow us to potentially realize significant revenue synergies, and we believe that our scaled back-end processing will readily support incremental volume. Further information regarding our strategy can be found in Part I, Item 1 of this report.

Divestitures – In May 2022, we completed the sale of our Australian web hosting business for cash proceeds of \$17.6 million, net of costs of the sale. This business generated annual revenue in our Data Solutions segment of \$23.8 million during 2021, and we recognized a pretax gain of \$15.2 million on this sale during the second quarter of 2022. The assets and liabilities sold were not significant to our consolidated balance sheet.

In April 2022, we sold the assets of our Promotional Solutions strategic sourcing business and in August 2022, we sold the assets of our Promotional Solutions retail packaging business. These businesses generated annual revenue of approximately \$29 million during 2021. Neither the gain on these sales, nor the assets and liabilities sold, were significant to our consolidated financial statements.

In January 2023, we entered into an agreement for the sale of our North American web hosting and logo businesses for an aggregate sales price of \$42.0 million, plus up to \$10.0 million of additional proceeds contingent upon performance against certain conditions following the closing. We anticipate that the sale will close by March 31, 2023 and that we will recognize a gain on the sale. In conjunction with this anticipated sale, we changed the name of our Cloud Solutions segment to Data Solutions. These businesses generated annual revenue of approximately \$66 million during 2022, primarily in our Data Solutions segment.

We believe that the sale of these businesses allows us to focus our resources on the key growth areas of payments and data, while allowing us to optimize our operations.

Outlook for 2023

We expect that revenue for 2023 will be between \$2.145 billion and \$2.210 billion, as compared to 2022 revenue of \$2.238 billion. The 2022 amount included revenue of approximately \$69 million that will not recur in 2023 due to our divestitures. We expect that adjusted EBITDA for 2023 will be between \$390 million and \$405 million, as compared to \$418 million for 2022. The 2022 amount included adjusted EBITDA of approximately \$21 million that will not recur in 2023 due to our divestitures. These estimates are subject to, among other things, completion of the sale of the remaining web hosting and logo design businesses by March 31, 2023, prevailing macroeconomic conditions, labor supply issues, inflation and the impact of other divestitures.

As of December 31, 2022, we held cash and cash equivalents of \$40.4 million and \$295.2 million was available for borrowing under our revolving credit facility. We anticipate that capital expenditures will be approximately \$100 million in 2023, as compared to \$104.6 million for 2022, as we continue with important innovation investments and building scale across our product categories. We also expect that we will continue to pay our regular quarterly dividend. However, dividends are approved by our board of directors each quarter and thus, are subject to change. We anticipate that net cash generated by operations, along with cash and cash equivalents on hand and availability under our credit facility, will be sufficient to support our operations, including our contractual obligations and debt service requirements, for the next 12 months, as well as our long-term capital requirements. We were in compliance with our debt covenants as of December 31, 2022, and we anticipate that we will remain in compliance with our debt covenants throughout 2023.

CONSOLIDATED RESULTS OF OPERATIONS

Consolidated Revenue

<i>(in thousands)</i>	2022	2021	Change
Total revenue	\$ 2,238,010	\$ 2,022,197	10.7%

The increase in total revenue for 2022, as compared to 2021, was driven primarily by revenue growth from new business in all of our segments and strong ongoing demand for our products, reflecting the success of our One Deluxe strategy. Price increases in response to the current inflationary environment also contributed to the revenue increase, primarily in our Checks and Promotional Solutions segments. The revenue increase also reflected the acquisition and strong performance of First

American, which contributed incremental revenue of \$144.2 million in 2022. Partially offsetting these increases in revenue was the continuing secular decline in order volume for checks, business forms and some Promotional Solutions business accessories, as well as the divestitures discussed in *Executive Overview*, which resulted in a decrease in revenue of approximately \$32 million for 2022, as compared to 2021.

We do not manage our business based on product versus service revenue. Instead, we analyze our revenue based on the product and service offerings shown under the caption "Note 17: Business Segment Information" in the Notes to Consolidated Financial Statements appearing in Part II, Item 8 of this report. Our revenue mix by business segment was as follows:

	2022	2021
Payments	30.3 %	25.2 %
Data Solutions	11.9 %	13.0 %
Promotional Solutions	25.2 %	27.0 %
Checks	32.6 %	34.8 %
Total revenue	<u>100.0 %</u>	<u>100.0 %</u>

Consolidated Cost of Revenue

<i>(in thousands)</i>	2022	2021	Change
Total cost of revenue	\$ 1,032,116	\$ 884,270	16.7%
Total cost of revenue as a percentage of total revenue	46.1 %	43.7 %	2.4 pt.

Cost of revenue consists primarily of raw materials used to manufacture our products, shipping and handling costs, third-party costs for outsourced products and services, payroll and related expenses, information technology costs, depreciation and amortization of assets used in the production process and in support of digital service offerings, and related overhead.

The increase in total cost of revenue for 2022, as compared to 2021, was primarily attributable to the revenue growth noted above, and we experienced some inflationary pressures on hourly wages, materials and delivery. The increase in total cost of revenue also reflected incremental costs resulting from the First American acquisition of \$88.7 million, including acquisition amortization. Partially offsetting these increases in total cost of revenue was reduced revenue volume from the continuing secular decline in checks, business forms and some Promotional Solutions business accessories, and Promotional Solutions was impacted by supply chain disruptions for certain higher margin printed products in the first half of 2022.

Consolidated Selling, General & Administrative (SG&A) Expense

<i>(in thousands)</i>	2022	2021	Change
SG&A expense	\$ 993,250	\$ 941,023	5.6%
SG&A expense as a percentage of total revenue	44.4 %	46.5 %	(2.1) pt.

The increase in SG&A expense for 2022, as compared to 2021, was driven, in part, by increased costs related to our continued transformational investments, primarily investments in our technology infrastructure, including sales and financial management tools, and commission expense increased, primarily as a result of increased volume from new clients in our Checks segment. The increase in SG&A expense also reflected the incremental operating costs of First American of \$30.6 million. The First American acquisition also drove an increase in acquisition amortization of \$10.2 million for 2022, as compared to 2021, and bad debt expense increased \$6.3 million for 2022, driven by reserve reversals in 2021 as the impact of the COVID-19 pandemic lessened. Partially offsetting these increases in SG&A expense were various cost reduction actions, including workforce adjustments, real estate rationalization and marketing optimization, and during 2021, we incurred acquisition transaction costs of \$18.9 million that did not recur in 2022.

Restructuring and Integration Expense

<i>(in thousands)</i>	2022	2021	Change
Restructuring and integration expense	\$ 62,529	\$ 54,750	\$ 7,779

We continue to pursue several initiatives designed to focus our business behind our growth strategy, to increase our efficiency and to integrate acquired businesses. The amount of restructuring and integration expense is expected to vary from period to period as we execute these initiatives. Further information regarding these costs can be found in *Restructuring and Integration Costs* in this MD&A discussion.

Gain on Sale of Businesses and Facility

(in thousands)	2022	2021	Change
Gain on sale of businesses and facility	\$ 19,331	\$ —	19,331

As discussed in *Executive Overview*, during the third quarter of 2022, we sold the assets of our Promotional Solutions retail packaging business, and during the second quarter of 2022, we completed the sale of our Australian web hosting business, our Promotional Solutions strategic sourcing business and a former facility. Net cash proceeds from these sales were \$25.2 million during 2022.

Interest Expense

(in thousands)	2022	2021	Change
Interest expense	\$ 94,454	\$ 55,554	70.0%
Weighted-average debt outstanding	1,682,676	1,402,970	19.9%
Weighted-average interest rate	5.19 %	3.60 %	1.59 pt.

The increase in interest expense for 2022, as compared to 2021, was due primarily to the increase in our weighted-average interest rate driven by the rising interest rate environment and the \$500.0 million notes we issued in June 2021 to fund the First American acquisition with an interest rate of 8.0%. Based on the daily average amount of variable-rate debt outstanding during 2022, a one percentage point change in the weighted-average interest rate would have resulted in a \$9.1 million change in interest expense. Also negatively impacting interest expense for 2022 was the increase in our weighted-average debt outstanding driven by the issuance of debt to fund the First American acquisition in June 2021. Further information regarding our debt can be found under the caption "Note 13: Debt" in the Notes to Consolidated Financial Statements appearing in Part II, Item 8 of this report.

Income Tax Provision

(in thousands)	2022	2021	Change
Income tax provision	\$ 18,848	\$ 31,031	(39.3%)
Effective tax rate	22.3 %	33.1 %	(10.8) pt.

The decrease in our effective income tax rate for 2022, as compared to 2021, was driven primarily by the impact of the sale of our Australian web hosting business. For tax purposes, we recognized a capital loss on the transaction, and we recorded a valuation allowance for the portion of the capital loss carryover we do not currently expect to realize. These impacts reduced income tax expense \$7.1 million in 2022, reducing our effective income tax rate by 8.4 points. In addition, the impact of the repatriation of Canadian earnings drove a 2.7 point decrease in the effective income tax rate. Information regarding other factors that impacted our effective income tax rates can be found under the caption "Note 10: Income Tax Provision" in the Notes to Consolidated Financial Statements appearing in Part II, Item 8 of this report.

Net Income / Diluted Earnings per Share

(in thousands, except per share amounts)	2022	2021	Change
Net income	\$ 65,530	\$ 62,772	4.4 %
Diluted earnings per share	1.50	1.45	3.4 %
Adjusted diluted EPS ⁽¹⁾	4.08	4.88	(16.4 %)

⁽¹⁾ Information regarding the calculation of adjusted diluted EPS can be found in the following section entitled *Reconciliation of Non-GAAP Financial Measures*.

The increases in net income and diluted EPS and the decrease in adjusted diluted EPS for 2022, as compared to 2021, were driven by the factors outlined in *Executive Overview – 2022 results vs. 2021*.

Adjusted EBITDA

(in thousands)	2022	2021	Change
Adjusted EBITDA	\$ 418,130	\$ 407,765	2.5%
Adjusted EBITDA as a percentage of total revenue (adjusted EBITDA margin)	18.7 %	20.2 %	(1.5) pt.

The increase in adjusted EBITDA for 2022, as compared to 2021, was driven by price increases, actions taken to reduce costs as we continually evaluate our cost structure, and revenue growth from new business in all of our segments and strong ongoing demand for our products. In addition, the increase in adjusted EBITDA also reflected the incremental contribution from

the First American acquisition of \$30.2 million. Partially offsetting these increases in adjusted EBITDA were increased costs related to our continued transformational investments, primarily investments in our technology infrastructure, including sales and financial management tools; inflationary pressures on hourly wages, materials and delivery; an unfavorable change in product mix driven by the impact of Promotional Solutions supply chain disruptions for certain higher margin printed products and growth in Data Solutions's data-driven marketing revenue combined with declines in the higher margin web hosting business; and the continuing secular decline in checks, business forms and some business accessories.

Adjusted EBITDA margin decreased for 2022, as compared to 2021, driven by planned technology investments, inflationary pressures and the unfavorable product mix. These decreases in adjusted EBITDA margin were partially offset by price increases, cost saving actions and operating leverage from the revenue growth.

Reconciliation of Non-GAAP Financial Measures

Free cash flow – We define free cash flow as net cash provided by operating activities less purchases of capital assets. We believe that free cash flow is an important indicator of cash available for debt service and for shareholders, after making capital investments to maintain or expand our asset base. A limitation of using the free cash flow measure is that not all of our free cash flow is available for discretionary spending, as we may have mandatory debt payments and other cash requirements that must be deducted from our cash available for future use. We believe that the measure of free cash flow provides an additional metric to compare cash generated by operations on a consistent basis and to provide insight into the cash flow available to fund items such as dividends, mandatory and discretionary debt reduction, acquisitions or other strategic investments, and share repurchases.

Net cash provided by operating activities for the years ended December 31 reconciles to free cash flow as follows:

<i>(in thousands)</i>	2022	2021
Net cash provided by operating activities	\$ 191,531	\$ 210,821
Purchases of capital assets	(104,598)	(109,140)
Free cash flow	<u>\$ 86,933</u>	<u>\$ 101,681</u>

Net debt – Management believes that net debt is an important measure to monitor leverage and to evaluate the balance sheet. In calculating net debt, cash and cash equivalents are subtracted from total debt because they could be used to reduce our debt obligations. A limitation associated with using net debt is that it subtracts cash and cash equivalents, and therefore, may imply that management intends to use cash and cash equivalents to reduce outstanding debt. In addition, net debt suggests that our debt obligations are less than the most comparable GAAP measure indicates.

Total debt reconciles to net debt as follows as of December 31:

<i>(in thousands)</i>	2022	2021
Total debt	\$ 1,644,276	\$ 1,682,949
Cash and cash equivalents	(40,435)	(41,231)
Net debt	<u>\$ 1,603,841</u>	<u>\$ 1,641,718</u>

Liquidity – We define liquidity as cash and cash equivalents plus the amount available for borrowing under our revolving credit facility. We consider liquidity to be an important metric for demonstrating the amount of cash that is available or that could be available on short notice. This financial measure is not a substitute for GAAP liquidity measures. Instead, we believe that this measurement enhances investors' understanding of the funds that are currently available.

Liquidity was as follows as of December 31:

<i>(in thousands)</i>	2022	2021
Cash and cash equivalents	\$ 40,435	\$ 41,231
Amount available for borrowing under revolving credit facility	295,177	362,619
Liquidity	<u>\$ 335,612</u>	<u>\$ 403,850</u>

Adjusted diluted EPS – By excluding the impact of non-cash items or items that we believe are not indicative of current period operating performance, we believe that adjusted diluted EPS provides useful comparable information to assist in analyzing our current period operating performance and in assessing our future operating performance. As such, adjusted diluted EPS is one of the key financial performance metrics we use to assess the operating results and performance of the business and to identify strategies to improve performance. It is reasonable to expect that one or more of the excluded items will occur in future periods, but the amounts recognized may vary significantly.

Diluted earnings per share for the years ended December 31 reconciles to adjusted diluted EPS as follows:

<i>(in thousands, except per share amounts)</i>	2022	2021
Net income	\$ 65,530	\$ 62,772
Net income attributable to non-controlling interest	(135)	(139)
Net income attributable to Deluxe	65,395	62,633
Acquisition amortization	90,588	82,915
Restructuring and integration costs	63,136	58,947
Share-based compensation expense	23,676	29,477
Acquisition transaction costs	130	18,913
Certain legal-related (benefit) expense	(730)	2,443
Gain on sales of businesses and facility	(19,331)	—
Gain on debt retirements	(1,726)	—
Adjustments, pretax	155,743	192,695
Income tax provision impact of pretax adjustments ⁽¹⁾	(43,854)	(45,783)
Adjustments, net of tax	111,889	146,912
Adjusted net income attributable to Deluxe	177,284	209,545
Income allocated to participating securities	(98)	(156)
Re-measurement of share-based awards classified as liabilities	(512)	(448)
Adjusted income attributable to Deluxe available to common shareholders	\$ 176,674	\$ 208,941
Weighted-average shares and potential common shares outstanding	43,310	42,827
Adjustment ⁽²⁾	—	(16)
Adjusted weighted-average shares and potential common shares outstanding	43,310	42,811
GAAP diluted earnings per share	\$ 1.50	\$ 1.45
Adjustments, net of tax	2.58	3.43
Adjusted diluted EPS	\$ 4.08	\$ 4.88

⁽¹⁾ The tax effect of the pretax adjustments considers the tax treatment and related tax rate(s) that apply to each adjustment in the applicable tax jurisdiction(s). Generally, this results in a tax impact that approximates the U.S. effective tax rate for each adjustment. However, the tax impact of certain adjustments, such as share-based compensation expense and gains on sales of businesses, depends on whether the amounts are deductible in the respective tax jurisdictions and the applicable effective tax rate(s) in those jurisdictions.

⁽²⁾ The total of weighted-average shares and potential common shares outstanding used in the calculation of adjusted diluted EPS differs from the GAAP calculation due to differences in the amount of dilutive securities in each calculation.

Adjusted EBITDA and adjusted EBITDA margin – We believe that adjusted EBITDA and adjusted EBITDA margin are useful in evaluating our operating performance, as they eliminate the effect of interest expense, income taxes, the accounting effects of capital investments (i.e., depreciation and amortization) and certain items, as presented below, that may vary for reasons unrelated to current period operating performance. In addition, management utilizes these measures to assess the operating results and performance of the business, to perform analytical comparisons and to identify strategies to improve performance. We also believe that an increasing adjusted EBITDA and adjusted EBITDA margin depict an increase in the value of the company. We do not consider adjusted EBITDA to be a measure of cash flow, as it does not consider certain cash requirements such as interest, income taxes, debt service payments or capital investments.

We have not reconciled our adjusted EBITDA outlook for 2023 to the directly comparable GAAP financial measure because we do not provide outlook guidance for net income or the reconciling items between net income and adjusted EBITDA. Because of the substantial uncertainty and variability surrounding certain of these forward-looking reconciling items, including asset impairment charges; restructuring and integration costs; gains and losses on sales of businesses and facilities; and certain legal-related expenses, a reconciliation of the non-GAAP financial measure outlook guidance to the corresponding GAAP measure is not available without unreasonable effort. The probable significance of certain of these reconciling items is high and, based on historical experience, could be material.

Net income for the years ended December 31 reconciles to adjusted EBITDA and adjusted EBITDA margin as follows:

<i>(in thousands)</i>	2022	2021
Net income	\$ 65,530	\$ 62,772
Non-controlling interest	(135)	(139)
Depreciation and amortization expense	172,552	148,767
Interest expense	94,454	55,554
Income tax provision	18,848	31,031
Restructuring and integration costs	63,136	58,947
Share-based compensation expense	23,676	29,477
Acquisition transaction costs	130	18,913
Certain legal-related (benefit) expense	(730)	2,443
Gain on sales of businesses and facility	(19,331)	—
Adjusted EBITDA	<u>\$ 418,130</u>	<u>\$ 407,765</u>
Adjusted EBITDA margin	<u>18.7 %</u>	<u>20.2 %</u>

RESTRUCTURING AND INTEGRATION COSTS

Restructuring and integration expense consists of costs related to the consolidation and migration of certain applications and processes, including our financial and sales management systems. It also includes costs related to the integration of acquired businesses into our systems and processes. These costs consist primarily of information technology consulting, project management services and internal labor, as well as other costs associated with our initiatives, such as training, travel, relocation and costs associated with facility closures. In addition, we recorded employee severance costs related to these initiatives, as well as our ongoing cost reduction initiatives across functional areas. Further information regarding restructuring and integration expense can be found under the caption "Note 9: Restructuring and Integration Expense" in the Notes to Consolidated Financial Statements appearing in Part II, Item 8 of this report.

The majority of the employee reductions included in our restructuring and integration accruals as of December 31, 2022, as well as the related severance payments, are expected to be completed by mid-2023. As a result of our employee reductions, we realized cost savings of approximately \$20 million in SG&A expense, in comparison to our 2021 results of operations. For those employee reductions included in our restructuring and integration accruals through December 31, 2022, we expect to realize cost savings of approximately \$25 million in SG&A expense in 2023, in comparison to our 2022 results of operations. In addition, we realized cost savings from facility closures of approximately \$4 million in 2022, in comparison to our 2021 results of operations, and we continue to evaluate our real estate footprint. Note that these savings were, and will continue to be, partially offset by increased labor and other costs, including costs associated with new employees as we restructure certain activities and strive for the optimal mix of employee skill sets that will support our growth strategy.

SEGMENT RESULTS

We operate 4 reportable business segments: Payments, Data Solutions, Promotional Solutions and Checks. These segments are generally organized by product type and reflect the way we manage the company. In conjunction with the anticipated sale of our North American web hosting and logo businesses in 2023, as discussed in *Executive Overview*, we changed the name of our Cloud Solutions segment to Data Solutions. The financial information presented below for our reportable business segments is consistent with that presented under the caption "Note 17: Business Segment Information" in the Notes to Consolidated Financial Statements appearing in Part II, Item 8 of this report, where information regarding revenue for our product and service offerings can also be found.

Payments

Results for our Payments segment were as follows:

<i>(in thousands)</i>	2022	2021	Change
Total revenue	\$ 678,580	\$ 510,359	33.0%
Adjusted EBITDA	144,605	105,576	37.0%
Adjusted EBITDA margin	21.3 %	20.7 %	0.6 pt.

The increase in total revenue for 2022, as compared to 2021, was driven, in part, by volume increases in our major payments products, primarily lockbox processing services and digital payments, as well as growth in merchant services. Revenue also benefited from price increases in response to the current inflationary environment. The revenue increase also reflected the acquisition and strong performance of First American, which contributed incremental revenue of \$144.2 million for 2022. In 2023, we expect mid-single digit percentage revenue growth for this segment.

The increase in adjusted EBITDA for 2022, as compared to 2021, was driven, in part, by price increases and the revenue growth in our payments and merchant services businesses. In addition, adjusted EBITDA benefited from the incremental contribution of the First American acquisition of \$30.2 million. These increases in adjusted EBITDA were partially offset by continued sales and information technology investments and inflationary pressures on our cost structure, primarily labor costs in our lockbox processing business. Adjusted EBITDA margin increased for 2022, as compared to 2021, as the benefit of the revenue increases exceeded the impact of the investments in the business and the inflationary pressures. In 2023, we expect adjusted EBITDA margins will be in the low-to-mid 20% range.

Data Solutions

Results for our Data Solutions segment were as follows:

<i>(in thousands)</i>	2022	2021	Change
Total revenue	\$ 267,525	\$ 262,310	2.0%
Adjusted EBITDA	68,214	70,172	(2.8%)
Adjusted EBITDA margin	25.5 %	26.8 %	(1.3) pt.

The increase in total revenue for 2022, as compared to 2021, was driven by growth in data-driven marketing of \$26.8 million for 2022, resulting from relationship expansion with key clients, sales wins and increased marketing spend by our customers. Partially offsetting the revenue increases was the sale of our Australian web hosting business, which resulted in a \$16.0 million revenue reduction for 2022, and customer churn in our North American web hosting business. In 2023, we expect that revenue will decline approximately \$57 million as a result of the sale of our North American web hosting and logo design businesses, as discussed in *Executive Overview*, and that the remainder of the business will deliver low single-digit percentage revenue growth.

The decrease in adjusted EBITDA for 2022, as compared to 2021, was driven by the sale of the Australian web hosting business, which reduced adjusted EBITDA by approximately \$3 million for 2022, and investments in our data-driven marketing platform, partially offset by the growth in data-driven marketing revenue. Adjusted EBITDA margin decreased, as compared to 2021, driven by changes in product mix resulting from growth in data-driven marketing combined with declines in the higher margin web hosting business, as well as the platform investments in the data-driven marketing business. In 2023, we expect that adjusted EBITDA will decline approximately \$20 million as a result of the sale of our North American web hosting and logo design businesses, as discussed in *Executive Overview*, and that the remainder of the business will deliver adjusted EBITDA margins in the low 20% range.

Promotional Solutions

Results for our Promotional Solutions segment were as follows:

<i>(in thousands)</i>	2022	2021	Change
Total revenue	\$ 562,917	\$ 546,473	3.0%
Adjusted EBITDA	79,549	85,384	(6.8%)
Adjusted EBITDA margin	14.1 %	15.6 %	(1.5) pt.

The increase in total revenue for 2022, as compared to 2021, was driven primarily by the impact of new clients, relationship expansion with existing clients, price increases in response to the current inflationary environment, and strong ongoing demand for our promotional and apparel products. Partially offsetting these revenue increases were lower sales of certain printed products due to supply chain disruptions in the first half of the year, as well as the continuing secular decline in business forms and some accessories. As discussed in *Executive Overview*, we sold our strategic sourcing business during the second quarter of 2022 and our retail packaging business during the third quarter of 2022. These divestitures resulted in a revenue decline of \$16.2 million for 2022. In 2023, we expect that revenue will decline approximately \$12 million as a result of business exits, and that the remainder of the business will deliver low single-digit percentage revenue growth.

The decrease in adjusted EBITDA for 2022, as compared to 2021, was driven by inflationary pressures on materials and delivery and supply chain disruptions for certain printed products during the first half of the year, partially offset by price increases in response to the current inflationary environment and the revenue growth noted above. Adjusted EBITDA margin decreased for 2022, as compared to 2021, as the impact of inflation and supply chain disruptions for certain higher margin printed products

exceeded the impact of the price increases and revenue growth. In 2023, we expect adjusted EBITDA margin percentages will be in the mid-teens.

Checks

Results for our Checks segment were as follows:

<i>(in thousands)</i>	2022	2021	Change
Total revenue	\$ 728,988	\$ 703,055	3.7%
Adjusted EBITDA	320,498	324,224	(1.1%)
Adjusted EBITDA margin	44.0 %	46.1 %	(2.1) pt.

The increase in total revenue for 2022, as compared to 2021, was driven primarily by the impact of new client wins, price increases and strong demand for business checks. These increases in revenue were partially offset by the continuing secular decline in overall check volumes. In 2023, we are expecting mid-single digit percentage revenue declines.

The decrease in adjusted EBITDA for 2022, as compared to 2021, was driven by inflationary pressures on delivery and materials and the secular decline in overall check volumes, partially offset by price increases, cost saving actions, the impact of new clients and strong demand for business checks. Adjusted EBITDA margin decreased for 2022, as compared to 2021, as inflationary cost pressures and the addition of lower margin new clients exceeded the benefit of the pricing and cost savings actions. In 2023, we expect adjusted EBITDA margins will be in the mid-40% range.

CASH FLOWS AND LIQUIDITY

As of December 31, 2022, we held cash and cash equivalents of \$40.4 million, as well as restricted cash and restricted cash equivalents included in funds held for customers and in other non-current assets of \$297.0 million. The following table should be read in conjunction with the consolidated statements of cash flows appearing in Part II, Item 8 of this report.

<i>(in thousands)</i>	2022	2021	Change
Net cash provided by operating activities	\$ 191,531	\$ 210,821	\$ (19,290)
Net cash used by investing activities	(80,325)	(1,066,601)	986,276
Net cash (used) provided by financing activities	(48,601)	912,961	(961,562)
Effect of exchange rate change on cash, cash equivalents, restricted cash and restricted cash equivalents	(10,681)	(1,099)	(9,582)
Net change in cash, cash equivalents, restricted cash and restricted cash equivalents	\$ 51,924	\$ 56,082	\$ (4,158)
Free cash flow ⁽¹⁾	\$ 86,933	\$ 101,681	\$ (14,748)

⁽¹⁾ See *Reconciliation of Non-GAAP Financial Measures* within the *Consolidated Results of Operations* section, which defines and illustrates how we calculate free cash flow.

Net cash provided by operating activities decreased \$19.3 million for 2022, as compared to 2021, driven by a \$40.5 million increase in interest payments as a result of rising interest rates and debt issued to complete the First American acquisition, as well as a \$22.8 million increase in employee cash bonus payments related to our 2021 operating performance. During 2021, a portion of our cash bonuses were paid in the form of restricted stock units and the bonus payments in 2021 were unusually low because of the impact of the COVID-19 pandemic on our 2020 performance. Operating cash flow was also negatively impacted by a \$19.9 million increase in income tax payments, inflationary pressures, supply chain disruptions in our Promotional Solutions segment, and the continuing secular decline in checks, business forms and some business accessories. The increase in income tax payments was primarily driven by the provisions of the Tax Cuts and Jobs Act of 2017 that became effective in 2022 and that require the capitalization of research and development and cloud computing arrangement expenditures for income tax purposes. We were able to substantially offset these decreases in operating cash flow through the incremental contribution from the First American acquisition, price increases in response to the current inflationary environment, continued cost saving actions, a \$22.9 million decrease in payments for cloud computing arrangements, primarily related to our sales and finance technology infrastructure, and revenue growth from new business and strong demand for our products. In addition, we incurred acquisition transaction costs of \$18.9 million in 2021 related to the First American acquisition that did not recur in 2022.

Included in net cash provided by operating activities were the following operating cash outflows:

<i>(in thousands)</i>	2022	2021	Change
Interest payments	\$ 87,108	\$ 46,621	\$ 40,487
Income tax payments	38,629	18,761	19,868
Performance-based compensation payments ⁽¹⁾	34,972	12,192	22,780
Prepaid product discount payments ⁽²⁾	30,603	40,920	(10,317)
Payments for cloud computing arrangement implementation costs	18,649	41,547	(22,898)

⁽¹⁾ Amounts reflect compensation based on total company and segment performance.

⁽²⁾ See *Other Financial Position Information* for further information regarding these payments.

Net cash used by investing activities for 2022 was \$986.3 million lower than 2021, driven by the acquisition of First American in 2021 and proceeds of \$25.2 million from sales of businesses and a facility during 2022.

Net cash used by financing activities for 2022 was \$961.6 million higher than 2021, driven by the net proceeds from debt issued in 2021 to fund the First American acquisition, as well as the net change in customer funds obligations in each period, primarily related to the portion of First American's business under which property tax payments are collected in December and are paid on behalf of customers in the following quarter. In addition, proceeds from issuing shares were \$13.7 million lower in 2022, as certain employees of First American purchased our stock during 2021 in conjunction with the acquisition.

Significant cash transactions, excluding those related to operating activities, for each period were as follows:

<i>(in thousands)</i>	2022	2021	Change
Payment for acquisitions, net of cash, cash equivalents, restricted cash and restricted cash equivalents acquired	\$ —	\$ (958,514)	\$ 958,514
Purchases of capital assets	(104,598)	(109,140)	4,542
Cash dividends paid to shareholders	(52,647)	(51,654)	(993)
Net change in debt	(40,613)	854,974	(895,587)
Payments for debt issuance costs	—	(18,153)	18,153
Net change in customer funds obligations	56,426	126,703	(70,277)
Proceeds from sale of businesses and facilities	25,248	2,648	22,600
Proceeds from issuing shares	3,112	16,843	(13,731)

During 2022, we repatriated current year foreign earnings of \$25.5 million held in cash by our Canadian subsidiaries. The associated tax expense of \$1.8 million was included in our income tax provision. We believe the accumulated and remaining cash of our Canadian subsidiaries is sufficient to meet their working capital needs. We utilized the repatriated cash to reduce our outstanding debt. The historical unremitted Canadian earnings as of December 31, 2021, as well as the accumulated and future unremitted earnings of our European subsidiaries, will continue to be reinvested indefinitely in the operations of those subsidiaries. Deferred income taxes have not been recognized on these earnings as of December 31, 2022. If we were to repatriate our foreign cash and cash equivalents into the U.S. all at one time, we estimate that we would incur a foreign withholding tax liability of approximately \$2 million, notwithstanding any tax planning strategies that might be available. As of December 31, 2022, the amount of cash and cash equivalents held by our foreign subsidiaries was \$33.6 million, primarily in Canada.

During the fourth quarter of 2021, we repatriated accumulated foreign earnings of \$85.3 million held in cash by our Canadian subsidiaries. We decided to complete the repatriation due, in part, to changes in Canadian law announced during 2021 and the reorganization of our capital structure in June 2021. We utilized this cash to reduce our outstanding debt. The associated tax expense of \$4.6 million was included in our income tax provision for the fourth quarter of 2021.

In assessing our cash needs, we must consider our debt service requirements, lease obligations, other contractual commitments and contingent liabilities. Information regarding the maturities of our long-term debt, our operating and finance lease obligations and contingent liabilities can be found under the captions "Note 13: Debt," "Note 14: Leases" and "Note 15: Other Commitments and Contingencies," all of which appear in the Notes to Consolidated Financial Statements appearing in Part II, Item 8 of this report. In addition, we have executed contracts with third-party service providers, primarily for information technology services, including cloud computing and professional services agreements related to the modernization of our technology platform, as well as agreements for outsourcing services, the purchase of data, and payment acceptance services.

These contracts obligate us to pay approximately \$145 million in total, with approximately \$60 million due during 2023, \$40 million due during 2024 and the remainder due through 2027.

As of December 31, 2022, \$295.2 million was available for borrowing under our revolving credit facility. We anticipate that net cash generated by operations, along with cash and cash equivalents on hand and availability under our credit facility, will be sufficient to support our operations, including our contractual obligations and our debt service requirements, for the next 12 months, as well as our long-term capital requirements. We anticipate that we will continue to pay our regular quarterly dividend. However, dividends are approved by our board of directors each quarter and thus, are subject to change.

CAPITAL RESOURCES

The principal amount of our debt obligations was \$1.66 billion as of December 31, 2022 and \$1.70 billion as of December 31, 2021. Further information concerning our outstanding debt, including our debt service obligations, can be found under the caption "Note 13: Debt" in the Notes to Consolidated Financial Statements appearing in Part II, Item 8 of this report.

Our capital structure for each period was as follows:

	December 31, 2022		December 31, 2021		Change
	Amount	Period-end interest rate	Amount	Period-end interest rate	
(in thousands)					
Fixed interest rate ⁽¹⁾	\$ 975,000	6.6 %	\$ 700,000	6.9 %	\$ 275,000
Floating interest rate	684,375	6.6 %	1,002,125	2.4 %	(317,750)
Total debt principal	1,659,375	6.6 %	1,702,125	4.2 %	(42,750)
Shareholders' equity	604,224		574,598		29,626
Total capital	\$ 2,263,599		\$ 2,276,723		\$ (13,124)

⁽¹⁾ The fixed interest rate amount includes the amount of our variable-rate debt that is subject to interest rate swap agreements. The related interest rate includes the fixed rate under the swaps plus the credit facility spread due on all amounts outstanding under our credit facility.

In October 2018, our board of directors authorized the repurchase of up to \$500.0 million of our common stock. This authorization has no expiration date. We have not repurchased any shares since the first quarter of 2020, when we suspended share repurchases in order to maintain liquidity during the COVID-19 pandemic. As of December 31, 2022, \$287.5 million remained available for repurchase under the authorization. Information regarding changes in shareholders' equity can be found in the consolidated statements of shareholders' equity appearing in Part II, Item 8 of this report.

As of December 31, 2022, total commitments under our revolving credit facility were \$500.0 million and the credit facility matures in June 2026. Our quarterly commitment fee ranges from 0.25% to 0.35%, based on our total leverage ratio, as defined in the credit agreement. Further information regarding the terms and maturities of our debt, as well as our debt covenants, can be found under the caption "Note 13: Debt" in the Notes to Consolidated Financial Statements appearing in Part II, Item 8 of this report. Under the terms of our credit facility, if our consolidated total leverage ratio exceeds 2.75 to 1.00, the aggregate annual amount of permitted dividends and share repurchases is limited to \$60.0 million. We were in compliance with our debt covenants as of December 31, 2022, and we anticipate that we will remain in compliance with our debt covenants throughout 2023.

As of December 31, 2022, amounts were available for borrowing under our revolving credit facility as follows:

(in thousands)	Total available
Revolving credit facility commitment	\$ 500,000
Amount drawn on revolving credit facility	(197,000)
Outstanding letters of credit ⁽¹⁾	(7,823)
Net available for borrowing as of December 31, 2022	\$ 295,177

⁽¹⁾ We use standby letters of credit primarily to collateralize certain obligations related to our self-insured workers' compensation claims, as well as claims for environmental matters, as required by certain states. These letters of credit reduce the amount available for borrowing under our revolving credit facility.

OTHER FINANCIAL POSITION INFORMATION

Information concerning items comprising selected captions on our consolidated balance sheets can be found under the caption "Note 3: Supplemental Balance Sheet and Cash Flow Information" in the Notes to Consolidated Financial Statements appearing in Part II, Item 8 of this report.

Prepaid product discounts – Other non-current assets include prepaid product discounts that are recorded upon contract execution and are generally amortized on the straight-line basis as reductions of revenue over the related contract term. Changes in prepaid product discounts during the past 3 years can be found under the caption "Note 3: Supplemental Balance Sheet and Cash Flow Information" in the Notes to Consolidated Financial Statements appearing in Part II, Item 8 of this report. Cash payments made for prepaid product discounts were \$30.6 million for 2022, \$40.9 million for 2021 and \$33.6 million for 2020.

The number of checks being written has been declining, which has contributed to increased competitive pressure when attempting to retain or acquire clients. Both the number of financial institution clients requesting prepaid product discount payments and the amount of the payments has fluctuated from year to year. Although we anticipate that we will selectively continue to make these payments, we cannot quantify future amounts with certainty. The amount paid depends on numerous factors, such as the number and timing of contract executions and renewals, competitors' actions, overall product discount levels and the structure of up-front product discount payments versus providing higher discount levels throughout the term of the contract.

Liabilities for prepaid product discounts are recorded upon contract execution. These obligations are monitored for each contract and are adjusted as payments are made. Prepaid product discounts due within the next year are included in accrued liabilities on the consolidated balance sheets and were \$4.2 million as of December 31, 2022 and \$11.9 million as of December 31, 2021.

CRITICAL ACCOUNTING ESTIMATES

Our critical accounting estimates are those that are most important to the portrayal of our financial condition and results of operations, or which place the most significant demands on management's judgment about the effect of matters that are inherently uncertain, and the impact of different estimates or assumptions could be material to our financial condition or results of operations. Our MD&A discussion is based upon our consolidated financial statements, which have been prepared in accordance with GAAP. Our accounting policies are discussed under the caption "Note 1: Significant Accounting Policies" in the Notes to Consolidated Financial Statements appearing in Part II, Item 8 of this report. We review the accounting policies used in reporting our financial results on a regular basis. The preparation of our financial statements requires us to make estimates and judgments that affect the reported amounts of assets, liabilities, revenues and expenses and the related disclosure of contingent assets and liabilities. We base our estimates on historical experience and on various other factors and assumptions that we believe are reasonable under the circumstances, the result of which forms the basis for making judgments about the carrying values of assets and liabilities. In some instances, we reasonably could have used different accounting estimates and, in other instances, changes in the accounting estimates are reasonably likely to occur from period to period. Accordingly, actual results may differ from our estimates. Significant estimates and judgments are reviewed by management on an ongoing basis and by the audit committee of our board of directors at the end of each quarter prior to the public release of our financial results.

Goodwill Impairment

As of December 31, 2022, goodwill totaled \$1.43 billion, which represented 46.5% of our total assets. Goodwill is tested for impairment on an annual basis as of July 31, or more frequently if events occur or circumstances change that would indicate a possible impairment.

To analyze goodwill for impairment, we must assign our goodwill to individual reporting units. Identification of reporting units includes an analysis of the components that comprise each of our operating segments, which considers, among other things, the manner in which we operate our business and the availability of discrete financial information. Components of an operating segment are aggregated to form a reporting unit if the components have similar economic characteristics. We periodically review our reporting units to ensure that they continue to reflect the manner in which we operate our business.

When completing our annual goodwill impairment analysis, we have the option to first assess qualitative factors to determine whether the existence of events or circumstances leads to a determination that it is more likely than not that the fair value of a reporting unit is less than its carrying amount. If, after this qualitative assessment, we determine it is not more likely than not that the fair value of a reporting unit is less than its carrying amount, then performing the quantitative impairment test is unnecessary. In completing the 2022 annual impairment analysis of goodwill as of July 31, 2022, we elected to perform qualitative analyses for all of our reporting units, with the exception of our Data Analytics reporting unit. These qualitative analyses evaluated factors, including, but not limited to, economic, market and industry conditions, cost factors and the overall financial performance of the reporting units. We also considered the most recent quantitative analyses completed in prior periods. In completing these assessments, we noted no changes in events or circumstances that indicated that it was more likely than not that the fair value of any reporting unit was less than its carrying amount. The quantitative analysis of our Data Analytics reporting unit indicated that the estimated fair value of this reporting unit exceeded its carrying value by approximately \$46 million, or by 39% above the carrying value of its net assets. As such, no goodwill impairment charges were recorded as a result of our 2022 annual impairment analysis.

When performing a quantitative analysis of goodwill, we first compare the carrying value of the reporting unit, including goodwill, to its estimated fair value. Carrying value is based on the assets and liabilities associated with the operations of the reporting unit, which often requires the allocation of shared and corporate items among reporting units. We utilize a discounted cash flow model to calculate the estimated fair value of a reporting unit. This approach is a valuation technique under which we estimate future cash flows using the reporting unit's financial forecast from the perspective of an unrelated market participant. Using historical trending and internal forecasting techniques, we project revenue and apply our fixed and variable cost experience rates to the projected revenue to arrive at the future cash flows. A terminal value is then applied to the projected cash flow stream. Future estimated cash flows are discounted to their present value to calculate the estimated fair value. The discount rate used is the market-value-weighted average of our estimated cost of capital derived using both known and estimated customary market metrics. In determining the estimated fair values of our reporting units, we are required to estimate a number of factors, including revenue growth rates, terminal growth rates, direct costs, the discount rate and the allocation of shared and corporate items. When completing a quantitative analysis for all of our reporting units, the summation of our reporting units' fair values is compared to our consolidated fair value, as indicated by our market capitalization, to evaluate the reasonableness of our calculations.

While we did not record any goodwill impairment charges during 2022 or 2021, we did record significant goodwill impairment charges during 2020.

2020 goodwill impairment charges – During the first quarter of 2020, when the World Health Organization (WHO) classified the COVID-19 outbreak as a pandemic, we observed a decline in the market valuation of our common shares and we determined that the global response to the pandemic negatively impacted our estimates of expected future cash flows. We concluded that a triggering event had occurred for 2 of our reporting units and as such, we completed quantitative goodwill impairment analyses for our Promotional Solutions and Data Solutions Web Hosting reporting units as of March 31, 2020. Our analyses indicated that the goodwill of our Promotional Solutions reporting unit was partially impaired and the goodwill of our Data Solutions Web Hosting reporting unit was fully impaired, and we recorded goodwill impairment charges of \$67.1 million and \$4.3 million, respectively. The impairment charges were measured as the amount by which the reporting units' carrying values exceeded their estimated fair values, limited to the carrying amount of goodwill. After the impairment charges, \$59.0 million of goodwill remained in the Promotional Solutions reporting unit as of the measurement date.

Our impairment analyses were based on assumptions made using the best information available at the time, including the performance of our reporting units subsequent to the WHO declaration of a pandemic and available economic forecasts. These assumptions anticipated a sharp decline in gross domestic product and a material decline in the number of small businesses. The sweeping nature of the pandemic made it extremely difficult to predict how our business and operations would be affected in the longer term. To the extent our assumptions differ from actual events, we may be required to record additional asset impairment charges.

Our impairment assessments are sensitive to changes in forecasted revenues and expenses, as well as our selected discount rate. For the March 31, 2020 assessment of our Promotional Solutions reporting unit, holding all other assumptions constant, if we assumed revenue in each year was 10% higher than we estimated, our goodwill impairment charge would have been approximately \$18 million less, and if we assumed revenue in each year was 10% lower than we estimated, our goodwill impairment charge would have been approximately \$18 million more. If we assumed our expenses, as a percentage of revenue, were 100 basis points lower in each year, our goodwill impairment charge would have been approximately \$39 million less, and if we assumed our expenses, as a percentage of revenue, were 100 basis points higher in each year, our goodwill impairment charge would have been approximately \$39 million more. If we assumed our selected discount rate of 12% was 100 basis points lower, our goodwill impairment charge would have been approximately \$21 million less, and if we assumed the discount rate was 100 basis points higher, our goodwill impairment charge would have been approximately \$17 million more.

Further information regarding all of our goodwill impairment analyses can be found under the caption "Note 8: Fair Value Measurements" in the Notes to Consolidated Financial Statements appearing in Item II, Part 8 of this report. Evaluations of asset impairment require us to make assumptions about future events, market conditions and financial performance over the life of the asset being evaluated. These assumptions require significant judgment and actual results may vary from our assumptions. For example, if our stock price were to further decline over a sustained period, if a further downturn in economic conditions were to negatively affect our actual and forecasted operating results, if we were to change our business strategies and/or the allocation of resources, if we were to lose significant customers, if competition were to materially increase, or if order volume declines for checks and business forms were to materially accelerate, these situations could indicate a decline in the fair value of one or more of our reporting units. This may require us to record additional impairment charges for a portion of goodwill or other assets.

Business Combinations

We allocate the purchase price of acquired businesses to the estimated fair values of the assets acquired and liabilities assumed as of the date of the acquisition. The calculations used to determine the fair value of the long-lived assets acquired, primarily intangible assets, can be complex and require significant judgment. We weigh many factors when completing these estimates, including, but not limited to, the nature of the acquired company's business; its competitive position, strengths, and challenges; its historical financial position and performance; estimated customer retention rates; discount rates; and future plans

for the combined entity. We may also engage independent valuation specialists, when necessary, to assist in the fair value calculations for significant acquired long-lived assets.

We generally estimate the fair value of acquired customer lists using the multi-period excess earnings method. This valuation model estimates revenues and cash flows derived from the asset and then deducts portions of the cash flow that can be attributed to supporting assets, such as a trade name or fixed assets, that contributed to the generation of the cash flows. The resulting cash flow, which is attributable solely to the customer list asset, is then discounted at a rate of return commensurate with the risk of the asset to calculate a present value. The fair value of acquired customer lists may also be estimated by discounting the estimated cash flows expected to be generated by the assets. During 2021, we also utilized the multi-period excess earnings method to estimate the fair value of acquired partner relationship intangible assets. Key assumptions used in these calculations include same-customer revenue, merchant and partner growth rates; estimated earnings; estimated customer and partner retention rates, based on the acquirers' historical information; and the discount rate.

The fair value of acquired trade names and technology is estimated, at times, using the relief from royalty method, which calculates the cost savings associated with owning rather than licensing the assets. Assumed royalty rates are applied to projected revenue for the estimated remaining useful lives of the assets to estimate the royalty savings. Royalty rates are selected based on the attributes of the asset, including its recognition and reputation in the industry, and in the case of trade names, with consideration of the specific profitability of the products sold under a trade name and supporting assets. The fair value of acquired technology may also be estimated using the cost of reproduction method under which the primary components of the technology are identified and the estimated cost to reproduce the technology is calculated based on historical data provided by the acquiree.

The excess of the purchase price over the estimated fair value of the net assets acquired is recorded as goodwill. Goodwill is not amortized, but is subject to impairment testing on at least an annual basis.

We are also required to estimate the useful lives of the acquired intangible assets, which determines the amount of acquisition-related amortization expense we will record in future periods. Each reporting period, we evaluate the remaining useful lives of our amortizable intangibles to determine whether events or circumstances warrant a revision to the remaining period of amortization.

While we use our best estimates and assumptions, our fair value estimates are inherently uncertain and subject to refinement. As a result, during the measurement period, which may be up to 1 year from the acquisition date, we may record adjustments to the assets acquired and liabilities assumed, with the corresponding offset to goodwill. Any adjustments required after the measurement period are recorded in the consolidated statements of income.

The judgments required in determining the estimated fair values and expected useful lives assigned to each class of assets and liabilities acquired can significantly affect net income. For example, different classes of assets will have different useful lives. Consequently, to the extent a longer-lived asset is ascribed greater value than a shorter-lived asset, net income in a given period may be higher. Additionally, assigning a lower value to amortizable intangibles would result in a higher amount assigned to goodwill. As goodwill is not amortized, this would benefit net income in a given period, although goodwill is subject to annual impairment analysis.

Revenue Recognition

Product revenue is recognized when control of the goods is transferred to our customers, in an amount that reflects the consideration we expect to be entitled to in exchange for those goods. In most cases, control is transferred when products are shipped. We recognize the vast majority of our service revenue as the services are provided. The majority of our contracts are for the shipment of tangible products or the delivery of services that have a single performance obligation or include multiple performance obligations where control is transferred at the same time. Certain of our financial institution contracts require prepaid product discounts in the form of cash payments we make to our financial institution clients. These prepaid product discounts are included in other non-current assets on our consolidated balance sheets and are generally amortized as reductions of revenue on the straight-line basis over the contract term. Sales tax collected concurrent with revenue-producing activities is excluded from revenue. Amounts billed to customers for shipping and handling are included in revenue, while the related costs incurred for shipping and handling are reflected in cost of products and are accrued when the related revenue is recognized.

When another party is involved in providing goods or services to a customer, we must determine whether our obligation is to provide the specified good or service itself (i.e., we are the principal in the transaction) or to arrange for that good or service to be provided by the other party (i.e., we are an agent in the transaction). When we are responsible for satisfying a performance obligation, based on our ability to control the product or service provided, we are considered the principal and revenue is recognized for the gross amount of consideration. When the other party is primarily responsible for satisfying a performance obligation, we are considered the agent and revenue is recognized in the amount of any fee or commission to which we are entitled. We sell certain products and services through a network of distributors. We have determined that we are the principal in these transactions, and revenue is recorded for the gross amount of consideration.

Certain costs incurred to obtain customer contracts are required to be recognized as assets and amortized consistent with the transfer of goods or services to the customer. As such, we defer costs related to obtaining check supply, treasury management solution and merchant services contracts. These amounts, which totaled \$21.3 million as of December 31, 2022, are included in other non-current assets and are amortized on the straight-line basis as SG&A expense. Amortization of these amounts on the straight-line basis approximates the timing of the transfer of goods or services to the customer. Generally, these amounts are being amortized over periods of 2 to 5 years. We expense these costs as incurred when the amortization period would have been 1 year or less.

Accounting for customer contracts can be complex and may involve the use of various techniques to estimate total contract revenue. Estimates related to variable consideration are based on various assumptions to project the outcome of future events. We review and update our contract-related estimates regularly, and we do not anticipate that revisions to our estimates would have a material effect on our results of operations, financial position or cash flows.

New Accounting Pronouncements

Information regarding accounting pronouncements not yet adopted can be found under the caption "Note 2: New Accounting Pronouncements" in the Notes to Consolidated Financial Statements appearing in Part II, Item 8 of this report.

ITEM 7A. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

Interest rate risk – We are exposed to changes in interest rates primarily as a result of the borrowing activities used to support our capital structure, maintain liquidity and fund business operations and investments. We do not enter into financial instruments for speculative or trading purposes. The nature and amount of debt outstanding can be expected to vary as a result of future business requirements, market conditions and other factors.

Interest is payable on amounts outstanding under our credit facility at a fluctuating rate of interest determined by reference to the eurodollar rate (derived from LIBOR) plus an applicable margin ranging from 1.5% to 2.5%, depending on our total leverage ratio, as defined in the credit agreement. We are currently in the process of modifying our existing credit facility to utilize the Secured Overnight Financing Rate (SOFR), replacing LIBOR as the reference rate in the agreement, effective March 20, 2023. Subsequent to this modification, interest will be payable based on SOFR plus an applicable margin. We also had \$475.0 million of 8.0% senior, unsecured notes outstanding as of December 31, 2022. Including the related discount and debt issuance costs, the effective interest rate on these notes is 8.3%.

As of December 31, 2022, our total debt outstanding was as follows:

<i>(in thousands)</i>	Carrying amount ⁽¹⁾	Fair value ⁽²⁾	Interest rate ⁽³⁾
Senior, secured term loan facility	\$ 979,757	\$ 987,375	6.6 %
Senior, unsecured notes	467,519	390,042	8.0 %
Amounts drawn on revolving credit facility	197,000	197,000	6.6 %
Total debt	\$ 1,644,276	\$ 1,574,417	6.6 %

⁽¹⁾ The carrying amount has been reduced by unamortized discount and debt issuance costs of \$15.1 million.

⁽²⁾ For the amounts outstanding under our credit facility agreement, fair value approximates carrying value because the interest rate is variable and reflects current market rates. The fair value of the senior, unsecured notes is based on quoted prices in active markets for the identical liability when traded as an asset.

⁽³⁾ The interest rate presented for total debt includes the impact of the interest rate swaps discussed below.

As part of our interest rate risk management strategy, we entered into interest rate swaps, which we designated as cash flow hedges, to mitigate variability in interest payments on a portion of our variable-rate debt. The interest rate swaps effectively convert \$500.0 million of variable-rate debt to a fixed rate. Further information regarding the interest rate swaps can be found under the caption "Note 7: Derivative Financial Instruments" in the Notes to Consolidated Financial Statements appearing in Part II, Item 8 of this report. Changes in the fair value of the interest rate swaps are recorded in accumulated other comprehensive loss on the consolidated balance sheets and are subsequently reclassified to interest expense as interest payments are made on the variable-rate debt. The fair value of the interest rate swaps in effect as of December 31, 2022 was \$3.6 million and was included in other current and other non-current assets on the consolidated balance sheet. The fair value of the interest rate swap in effect as of December 31, 2021 was \$3.0 million and was included in other non-current liabilities on the consolidated balance sheet.

Based on the daily average amount of outstanding variable-rate debt in our portfolio, a one-percentage-point change in our weighted-average interest rate would have resulted in a \$9.1 million change in interest expense for 2022.

Our credit agreement matures on June 1, 2026, at which time any amounts outstanding under the revolving credit facility must be repaid. The term loan facility requires periodic principal payments through June 1, 2026, and the senior, unsecured notes mature in June 2029. Information regarding the maturities of our long-term debt can be found under the caption "Note 13: Debt" in the Notes to Consolidated Financial Statements appearing in Part II, Item 8 of this report.

Foreign currency exchange rate risk – We are exposed to changes in foreign currency exchange rates. Investments in, and loans and advances to, foreign subsidiaries and branches, as well as the operations of these businesses, are denominated in foreign currencies, primarily Canadian dollars. The effect of exchange rate changes is expected to have a minimal impact on our earnings and cash flows, as our foreign operations represent a relatively small portion of our business. We have not entered into hedges against changes in foreign currency exchange rates.

ITEM 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA

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Report of Independent Registered Public Accounting Firm

To the Board of Directors and Shareholders of Deluxe Corporation

Opinions on the Financial Statements and Internal Control over Financial Reporting

We have audited the accompanying consolidated balance sheets of Deluxe Corporation and its subsidiaries (the "Company") as of December 31, 2022 and 2021, and the related consolidated statements of income, of comprehensive income, of shareholders' equity and of cash flows for each of the three years in the period ended December 31, 2022, including the related notes (collectively referred to as the "consolidated financial statements"). We also have audited the Company's internal control over financial reporting as of December 31, 2022, based on criteria established in Internal Control - Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO).

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of the Company as of December 31, 2022 and 2021, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2022 in conformity with accounting principles generally accepted in the United States of America. Also in our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2022, based on criteria established in Internal Control - Integrated Framework (2013) issued by the COSO.

Basis for Opinions

The Company's management is responsible for these consolidated financial statements, for maintaining effective internal control over financial reporting, and for its assessment of the effectiveness of internal control over financial reporting, included in Management's Report on Internal Control over Financial Reporting appearing under Item 9A. Our responsibility is to express opinions on the Company's consolidated financial statements and on the Company's internal control over financial reporting based on our audits. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) (PCAOB) and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audits to obtain reasonable assurance about whether the consolidated financial statements are free of material misstatement, whether due to error or fraud, and whether effective internal control over financial reporting was maintained in all material respects.

Our audits of the consolidated financial statements included performing procedures to assess the risks of material misstatement of the consolidated financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the consolidated financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements. Our audit of internal control over financial reporting included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, and testing and evaluating the design and operating effectiveness of internal control based on the assessed risk. Our audits also included performing such other procedures as we considered necessary in the circumstances. We believe that our audits provide a reasonable basis for our opinions.

Definition and Limitations of Internal Control over Financial Reporting

A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (i) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (ii) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (iii) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

Critical Audit Matters

The critical audit matter communicated below is a matter arising from the current period audit of the consolidated financial statements that was communicated or required to be communicated to the audit committee and that (i) relates to accounts or

disclosures that are material to the consolidated financial statements and (ii) involved our especially challenging, subjective, or complex judgments. The communication of critical audit matters does not alter in any way our opinion on the consolidated financial statements, taken as a whole, and we are not, by communicating the critical audit matter below, providing a separate opinion on the critical audit matter or on the accounts or disclosures to which it relates.

Revenue Recognition

As described in Notes 1 and 17 to the consolidated financial statements, product and service revenue of \$1,286 million and \$952 million, respectively, for the year ended December 31, 2022, are disaggregated by seven product and service offerings including checks, merchant services and other payment solutions, forms and other products, marketing and promotional solutions, treasury management solutions, data-driven marketing solutions, and web and hosted solutions. Product revenue is recognized when control of the goods is transferred to customers, in an amount that reflects the consideration the Company expects to be entitled to in exchange for those goods. In most cases, control is transferred when products are shipped. The Company recognizes the vast majority of service revenue as services are provided. The majority of the Company's contracts are for the shipment of tangible products or the delivery of services that have a single performance obligation or include multiple performance obligations where control is transferred at the same time.

The principal consideration for our determination that performing procedures relating to revenue recognition is a critical audit matter is a high degree of auditor effort in performing procedures related to the Company's revenue recognition.

Addressing the matter involved performing procedures and evaluating audit evidence in connection with forming our overall opinion on the consolidated financial statements. These procedures included testing the effectiveness of controls relating to the revenue recognition process. These procedures also included, among others, testing, on a sample basis, whether the criteria for revenue recognition have been met by obtaining and inspecting source documents, including customer order information, the related customer contract, invoices, proof of shipment or delivery and cash receipts, as applicable.

/s/ PricewaterhouseCoopers LLP
Minneapolis, Minnesota
February 24, 2023

We have served as the Company's auditor since 2001.

DELUXE CORPORATION
CONSOLIDATED BALANCE SHEETS

(in thousands, except share par value)

	December 31, 2022	December 31, 2021
ASSETS		
Current assets:		
Cash and cash equivalents, including securities carried at fair value of \$5,000 as of December 31, 2022	\$ 40,435	\$ 41,231
Trade accounts receivable, net of allowance for credit losses	206,617	197,947
Inventories and supplies, net of reserves	52,267	34,928
Funds held for customers, including securities carried at fair value of \$8,126 and \$13,307, respectively	302,291	254,795
Prepaid expenses	36,642	37,643
Revenue in excess of billings	38,761	30,393
Other current assets	27,024	23,536
Total current assets	704,037	620,473
Deferred income taxes	1,956	2,180
Long-term investments	47,783	47,201
Property, plant and equipment, net of accumulated depreciation	124,894	125,966
Operating lease assets	47,132	58,236
Intangibles, net of accumulated amortization	458,979	510,724
Goodwill	1,431,385	1,430,141
Other non-current assets	260,354	279,463
Total assets	<u>\$ 3,076,520</u>	<u>\$ 3,074,384</u>
LIABILITIES AND SHAREHOLDERS' EQUITY		
Current liabilities:		
Accounts payable	\$ 157,055	\$ 153,072
Funds held for customers	305,138	256,257
Accrued liabilities	218,404	216,832
Current portion of long-term debt	71,748	57,197
Total current liabilities	752,345	683,358
Long-term debt	1,572,528	1,625,752
Operating lease liabilities	48,925	56,444
Deferred income taxes	45,510	75,121
Other non-current liabilities	52,988	59,111
Commitments and contingencies (Notes 10, 14 and 15)		
Shareholders' equity:		
Common shares \$1 par value (authorized: 500,000 shares; outstanding: December 31, 2022 – 43,204; December 31, 2021 – 42,679)	43,204	42,679
Additional paid-in capital	79,234	57,368
Retained earnings	518,635	505,763
Accumulated other comprehensive loss	(37,264)	(31,492)
Non-controlling interest	415	280
Total shareholders' equity	604,224	574,598
Total liabilities and shareholders' equity	<u>\$ 3,076,520</u>	<u>\$ 3,074,384</u>

See Notes to Consolidated Financial Statements

DELUXE CORPORATION
CONSOLIDATED STATEMENTS OF INCOME

	Year Ended December 31,		
	2022	2021	2020
<i>(in thousands, except per share amounts)</i>			
Product revenue	\$ 1,286,197	\$ 1,244,529	\$ 1,230,638
Service revenue	951,813	777,668	560,143
Total revenue	2,238,010	2,022,197	1,790,781
Cost of products	(470,237)	(450,880)	(458,637)
Cost of services	(561,879)	(433,390)	(272,134)
Total cost of revenue	(1,032,116)	(884,270)	(730,771)
Gross profit	1,205,894	1,137,927	1,060,010
Selling, general and administrative expense	(993,250)	(941,023)	(839,812)
Restructuring and integration expense	(62,529)	(54,750)	(75,874)
Gain (loss) on sale of businesses and facility	19,331	—	(1,846)
Asset impairment charges	—	—	(101,749)
Operating income	169,446	142,154	40,729
Interest expense	(94,454)	(55,554)	(23,140)
Other income, net	9,386	7,203	9,214
Income before income taxes	84,378	93,803	26,803
Income tax provision	(18,848)	(31,031)	(21,468)
Net income	65,530	62,772	5,335
Net income attributable to non-controlling interest	(135)	(139)	(91)
Net income attributable to Deluxe	\$ 65,395	\$ 62,633	\$ 5,244
Basic earnings per share	\$ 1.52	\$ 1.48	\$ 0.12
Diluted earnings per share	1.50	1.45	0.11

See Notes to Consolidated Financial Statements

DELUXE CORPORATION
CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME

(in thousands)	Year Ended December 31,		
	2022	2021	2020
Net income	\$ 65,530	\$ 62,772	\$ 5,335
Other comprehensive income, net of tax:			
Postretirement benefit plans:			
Net actuarial (loss) gain arising during the year	(11,235)	6,194	5,616
Less reclassification of amounts to net income:			
Amortization of prior service credit	(1,042)	(1,050)	(1,055)
Amortization of net actuarial loss	836	1,381	1,889
Postretirement benefit plans	(11,441)	6,525	6,450
Interest rate swaps:			
Unrealized gain (loss) arising during the year	4,869	2,067	(4,973)
Reclassification of realized (gain) loss to net income	(15)	1,023	719
Interest rate swaps	4,854	3,090	(4,254)
Debt securities:			
Unrealized holding (loss) gain arising during the year	(571)	(254)	338
Reclassification of realized loss (gain) to net income	6	—	(153)
Debt securities	(565)	(254)	185
Foreign currency translation adjustment:			
Unrealized foreign currency translation (loss) gain arising during the year	(4,170)	580	4,133
Reclassification of foreign currency translation loss to net income	5,550	—	—
Foreign currency translation adjustment	1,380	580	4,133
Other comprehensive (loss) income	(5,772)	9,941	6,514
Comprehensive income	59,758	72,713	11,849
Comprehensive income attributable to non-controlling interest	(135)	(139)	(91)
Comprehensive income attributable to Deluxe	\$ 59,623	\$ 72,574	\$ 11,758
Income tax benefit (expense) of other comprehensive (loss) income included in above amounts:			
Postretirement benefit plans:			
Net actuarial (loss) gain arising during the year	\$ 4,090	\$ (2,186)	\$ (1,948)
Less reclassification of amounts to net income:			
Amortization of prior service credit	379	371	366
Amortization of net actuarial loss	(64)	(248)	(412)
Postretirement benefit plans	4,405	(2,063)	(1,994)
Interest rate swaps:			
Unrealized gain (loss) arising during the year	(1,771)	(731)	1,725
Reclassification of realized (gain) loss to net income	5	(361)	(249)
Interest rate swaps	(1,766)	(1,092)	1,476
Debt securities:			
Unrealized holding (loss) gain arising during the year	197	88	(117)
Reclassification of realized loss (gain) to net income	(2)	—	53
Debt securities	195	88	(64)
Total net tax benefit (expense)	\$ 2,834	\$ (3,067)	\$ (582)

See Notes to Consolidated Financial Statements

DELUXE CORPORATION
CONSOLIDATED STATEMENTS OF SHAREHOLDERS' EQUITY

<i>(in thousands)</i>	Common shares	Common shares par value	Additional paid-in capital	Retained earnings	Accumulated other comprehensive loss	Non- controlling interest	Total
Balance, December 31, 2019	42,126	\$ 42,126	\$ 4,086	\$ 548,714	\$ (47,947)	\$ —	\$ 546,979
Net income	—	—	—	5,244	—	91	5,335
Cash dividends (\$1.20 per share)	—	—	—	(51,431)	—	—	(51,431)
Common shares issued	446	446	3,446	—	—	—	3,892
Common shares repurchased	(499)	(499)	(9,767)	(3,734)	—	—	(14,000)
Other common shares retired	(100)	(100)	(2,894)	—	—	—	(2,994)
Employee share-based compensation	—	—	22,687	—	—	—	22,687
Adoption of Accounting Standards Update No. 2016-13	—	—	—	(3,640)	—	—	(3,640)
Other comprehensive income	—	—	—	—	6,514	—	6,514
Investment in non-controlling interest	—	—	—	—	—	50	50
Balance, December 31, 2020	41,973	41,973	17,558	495,153	(41,433)	141	513,392
Net income	—	—	—	62,633	—	139	62,772
Cash dividends (\$1.20 per share)	—	—	—	(52,023)	—	—	(52,023)
Common shares issued	861	861	16,350	—	—	—	17,211
Other common shares retired	(155)	(155)	(5,814)	—	—	—	(5,969)
Employee share-based compensation	—	—	29,274	—	—	—	29,274
Other comprehensive income	—	—	—	—	9,941	—	9,941
Balance, December 31, 2021	42,679	42,679	57,368	505,763	(31,492)	280	574,598
Net income	—	—	—	65,395	—	135	65,530
Cash dividends (\$1.20 per share)	—	—	—	(52,523)	—	—	(52,523)
Common shares issued	723	723	3,122	—	—	—	3,845
Common shares retired	(198)	(198)	(5,564)	—	—	—	(5,762)
Employee share-based compensation	—	—	24,308	—	—	—	24,308
Other comprehensive loss	—	—	—	—	(5,772)	—	(5,772)
Balance, December 31, 2022	43,204	\$ 43,204	\$ 79,234	\$ 518,635	\$ (37,264)	\$ 415	\$ 604,224

See Notes to Consolidated Financial Statements

DELUXE CORPORATION
CONSOLIDATED STATEMENTS OF CASH FLOWS

(in thousands)	Year Ended December 31,		
	2022	2021	2020
Cash flows from operating activities:			
Net income	\$ 65,530	\$ 62,772	\$ 5,335
Adjustments to reconcile net income to net cash provided by operating activities:			
Depreciation	25,997	25,625	20,242
Amortization of intangibles	146,555	123,142	90,550
Operating lease expense	20,480	17,485	20,928
Asset impairment charges	—	—	101,749
Amortization of prepaid product discounts	34,400	31,784	29,235
Deferred income taxes	(28,529)	17,758	(5,456)
Employee share-based compensation expense	23,676	29,477	21,824
(Gain) loss on sale of businesses and facility	(19,331)	—	1,846
Other non-cash items, net	31,398	17,196	23,846
Changes in assets and liabilities, net of effect of acquisition:			
Trade accounts receivable	(13,672)	(8,857)	(2,709)
Inventories and supplies	(19,062)	(1,842)	(11,281)
Other current assets	(8,721)	(15,574)	15,344
Payments for cloud computing arrangement implementation costs	(18,649)	(41,547)	(19,426)
Other non-current assets	(17,537)	(11,467)	(6,367)
Accounts payable	6,015	22,794	(9,518)
Prepaid product discount payments	(30,603)	(40,920)	(33,613)
Other accrued and non-current liabilities	(6,416)	(17,005)	(24,976)
Net cash provided by operating activities	191,531	210,821	217,553
Cash flows from investing activities:			
Purchases of capital assets	(104,598)	(109,140)	(62,638)
Payment for acquisition, net of cash, cash equivalents, restricted cash and restricted cash equivalents acquired	—	(958,514)	—
Purchases of customer lists	(4,347)	(2,759)	(11,082)
Proceeds from sale of businesses and facilities	25,248	2,648	9,713
Purchases of customer funds debt securities	(123)	(93)	(3,918)
Proceeds from customer funds debt securities	4,077	93	7,764
Other	(582)	1,164	4,068
Net cash used by investing activities	(80,325)	(1,066,601)	(56,093)
Cash flows from financing activities:			
Proceeds from issuing long-term debt and swingline loans	640,000	1,884,850	309,000
Payments on long-term debt and swingline loans	(680,613)	(1,029,876)	(352,500)
Payments for debt issuance costs	—	(18,153)	—
Net change in customer funds obligations	56,426	126,703	(168)
Proceeds from issuing shares	3,112	16,843	3,747
Payments for common shares repurchased	—	—	(14,000)
Cash dividends paid to shareholders	(52,647)	(51,654)	(50,746)
Other	(14,879)	(15,752)	(5,888)
Net cash (used) provided by financing activities	(48,601)	912,961	(110,555)
Effect of exchange rate change on cash, cash equivalents, restricted cash and restricted cash equivalents	(10,681)	(1,099)	3,693
Net change in cash, cash equivalents, restricted cash and restricted cash equivalents	51,924	56,082	54,598
Cash, cash equivalents, restricted cash and restricted cash equivalents, beginning of year	285,491	229,409	174,811
Cash, cash equivalents, restricted cash and restricted cash equivalents, end of year (Note 3)	\$ 337,415	\$ 285,491	\$ 229,409

See Notes to Consolidated Financial Statements

NOTE 1: SIGNIFICANT ACCOUNTING POLICIES

Nature of operations – We help enterprises, small businesses and financial institutions deepen customer relationships through trusted, technology-enabled solutions, including marketing services and data analytics, treasury management solutions, merchant services, promotional products and fraud solutions, as well as customized checks and forms. We are also a leading provider of checks and accessories sold directly to consumers.

Consolidation – The consolidated financial statements include the accounts of Deluxe Corporation and its wholly-owned subsidiaries. All intercompany accounts, transactions and profits have been eliminated.

On April 1, 2020, we executed an agreement to form MedPayExchange LLC (MPX), doing business as Medical Payment Exchange, which delivers payments to healthcare providers from insurance companies and other payers. This entity is a variable interest entity (VIE), as defined in Accounting Standards Codification (ASC) Topic 810, *Consolidation*. As we are the primary beneficiary of the VIE, we are required to consolidate MPX in our consolidated financial statements. Our partner's interest in MPX is reported as non-controlling interest in the consolidated balance sheets within equity, separate from our equity. Net income and comprehensive income are attributed to us and the non-controlling interest. The amounts attributable to the non-controlling interest were not significant to our consolidated financial statements.

Comparability – The consolidated statement of income and the consolidated statement of cash flows for the year ended December 31, 2020 has been modified to conform to the current year presentation. Loss on sale of businesses and facility is presented separately in each of these statements. Previously, this amount was included in selling, general and administrative (SG&A) expense in the consolidated statement of income and in other non-cash items, net, within cash flows from operating activities in the consolidated statement of cash flows. In addition, the consolidated statements of cash flows for the years ended December 31, 2021 and 2020 have been modified to include employee taxes paid for shares withheld in other within cash flows from financing activities. Previously, these amounts were presented separately.

Use of estimates – We have prepared the accompanying consolidated financial statements in conformity with U.S. generally accepted accounting principles (GAAP). In this process, it is necessary for us to make certain estimates and assumptions affecting the amounts reported in the consolidated financial statements and related notes. We base our estimates on historical experience and on various other factors and assumptions that we believe are reasonable under the circumstances, including the estimated impact of extraordinary events, such as the coronavirus (COVID-19) pandemic, the results of which form the basis for making judgments about the carrying values of our assets, liabilities, revenues and expenses and the related disclosure of contingent assets and liabilities. Actual results may differ significantly from our estimates and assumptions.

Foreign currency translation – The financial statements of our foreign subsidiaries are measured in the respective subsidiaries' functional currencies, primarily Canadian dollars, and are translated into U.S. dollars. Assets and liabilities are translated using the exchange rates in effect at the balance sheet date. Revenue and expenses are translated at the average exchange rates during the year. The resulting translation gains and losses are reflected in accumulated other comprehensive loss in the shareholders' equity section of the consolidated balance sheets. Foreign currency transaction gains and losses are recorded in other income on the consolidated statements of income.

Cash and cash equivalents – We consider all cash on hand and other highly liquid investments with original maturities of 3 months or less to be cash and cash equivalents. The carrying amounts reported in the consolidated balance sheets for cash and cash equivalents approximate fair value. Checks issued by us but not presented to the banks for payment may create negative book cash balances. These book overdrafts are included in accounts payable on the consolidated balance sheets and were not significant as of December 31, 2022 or December 31, 2021.

Trade accounts receivable – Trade accounts receivable are initially recorded at the invoiced amount upon the sale of goods or services to customers, and also include amounts due for products shipped and services rendered, but for which invoices have not yet been issued due to timing. Our trade accounts receivable are not interest-bearing. They are stated net of allowance for credit losses, a valuation account that is deducted from an asset's amortized cost basis to present the net amount expected to be collected. Amounts are charged off against the allowance when we believe the uncollectibility of an account is confirmed. The point at which uncollected accounts are written off varies by type of customer, but generally does not exceed 1 year from the due date of the receivable. In calculating the allowances, we utilize a combination of aging schedules with reserve rates applied to both current and aged receivables and roll-rate reserves using historical loss rates and changes in current or projected conditions. Changes in the allowance for credit losses are included in SG&A expense on the consolidated statements of income. Further information regarding our allowance for credit losses can be found in Note 3.

Inventories and supplies – Inventories are stated at the lower of cost or net realizable value. Cost is calculated using moving average and standard costs, which approximates the first-in, first-out basis. We periodically review our inventory quantities and record a provision for excess and/or obsolete inventory based on our historical usage and forecasts of future demand. It is possible that additional reserves above those already established may be required if there is a significant change in the timing or level of demand for our products compared to forecasted amounts. This would require a change in the reserve for excess or obsolete inventory, resulting in a charge to net income during the period of the change. Charges for inventory write-downs are included in cost of revenue on the consolidated statements of income. Once written down, inventories are carried at this lower cost basis until sold or scrapped. Supplies consist of items not used directly in the production of goods, such as maintenance and other supplies utilized in the production area.

Funds held for customers – Our payroll services business collects funds from clients to pay their payroll and related taxes. We hold these funds temporarily until payments are remitted to the clients' employees and the appropriate taxing authorities. Our merchant services business temporarily holds funds collected from credit card networks and internet transaction processing on behalf of certain merchants, and our treasury management cash receipt processing business remits a portion of cash receipts to our clients the business day following receipt. Certain of our customer contracts include legal restrictions regarding the use of these funds.

All of these funds, consisting of cash and available-for-sale debt securities, are reported as funds held for customers on the consolidated balance sheets. The corresponding liability for these obligations is also reported as funds held for customers on the consolidated balance sheets. The available-for-sale debt securities are carried at fair value, with unrealized gains and losses included in accumulated other comprehensive loss on the consolidated balance sheets. Realized gains and losses are included in revenue on the consolidated statements of income and were not significant during the past 3 years.

Long-term investments – Long-term investments consist primarily of cash surrender values of company-owned life insurance policies. Certain of these policies fund amounts due under our deferred compensation plan and our inactive supplemental executive retirement plan (Note 12).

Property, plant and equipment – Property, plant and equipment, including leasehold and other improvements that extend an asset's useful life or productive capabilities, are stated at historical cost less accumulated depreciation. Buildings have been assigned useful lives of 40 years and machinery and equipment are generally assigned useful lives ranging from 1 year to 11 years, with a weighted-average useful life of 7 years as of December 31, 2022. Buildings are depreciated using the 150% declining balance method, and machinery and equipment is depreciated using the sum-of-the-years' digits method. Leasehold and building improvements are depreciated on the straight-line basis over the estimated useful life of the property or the life of the lease, whichever is shorter. Amortization of assets that are recorded under finance leases is included in depreciation expense. Maintenance and repairs are expensed as incurred.

Fully depreciated assets are retained in property, plant and equipment until disposal. Any gains or losses resulting from the disposition of property, plant and equipment are included in SG&A expense on the consolidated statements of income.

Leases – We determine if an arrangement is a lease at inception by considering whether a contract explicitly or implicitly identifies assets deployed in the arrangement and whether we have obtained substantially all of the economic benefits from the use of the underlying assets and direct how and for what purpose the assets are used during the term of the contract. Lease expense is recognized on the straight-line basis over the lease term and is included in total cost of revenue and in SG&A expense on the consolidated statements of income. Interest on finance leases is included in interest expense on the consolidated statements of income.

Operating leases are included in operating lease assets, accrued liabilities and operating lease liabilities on the consolidated balance sheets. Finance leases are included in property, plant and equipment, accrued liabilities and other non-current liabilities on the consolidated balance sheets. Lease assets represent our right to use an underlying asset for the lease term and lease liabilities represent our obligation to make lease payments arising from the lease. Lease assets and liabilities are recognized at the commencement date based on the present value of lease payments over the lease term. We have elected to exclude leases with original terms of 1 year or less from lease assets and liabilities, and we separate nonlease components, such as common area maintenance charges and utilities, from the associated lease component for real estate leases, based on their estimated fair values. As our lease agreements typically do not provide an implicit rate, we use our incremental borrowing rate, based on information available at the lease commencement date, in determining the present value of lease payments. Certain of our lease agreements include options to extend or terminate the lease. The lease term takes into account these options to extend or terminate the lease when it is reasonably certain that we will exercise the option.

Intangibles – Intangible assets are stated at historical cost less accumulated amortization. Amortization expense is generally determined on the straight-line basis, with the exception of customer lists, which are generally amortized using accelerated methods that reflect the pattern in which we receive the economic benefit of the asset. Intangibles have been assigned useful lives ranging from 1 year to 15 years, with a weighted-average useful life of 6 years as of December 31, 2022. Each reporting period, we evaluate the remaining useful lives of our amortizable intangibles to determine whether events or

circumstances warrant a revision to the remaining period of amortization. If our estimate of an asset's remaining useful life is revised, the remaining carrying amount of the asset is amortized prospectively over the revised remaining useful life. Any gains or losses resulting from the disposition of intangibles are included in SG&A expense on the consolidated statements of income.

We capitalize costs of software developed or obtained for internal use, including website development costs, once the preliminary project stage has been completed, management commits to funding the project and it is probable that the project will be completed and the software will be used to perform the function intended. Capitalized costs include only (1) external direct costs of materials and services consumed in developing or obtaining internal-use software, (2) payroll and payroll-related costs for employees who are directly associated with and who devote time to the internal-use software project, and (3) interest costs incurred, when significant, while developing internal-use software. Costs incurred in populating websites with information about the company or products are expensed as incurred. Capitalization of costs ceases when the project is substantially complete and ready for its intended use. The carrying value of internal-use software is reviewed in accordance with our policy on impairment of long-lived assets and amortizable intangibles.

We incur costs in connection with the development of certain software products that we sell to our customers. Costs for the development of software products to be sold are expensed as incurred until technological feasibility is established, at which time, such costs are capitalized until the product is available for general release to customers.

Business combinations – We periodically complete business combinations that align with our business strategy. The identifiable assets acquired and liabilities assumed are recorded at their estimated fair values, and the results of operations of each acquired business are included in our consolidated statements of income from their acquisition dates. The purchase price for each acquisition is equivalent to the fair value of the consideration transferred, including any contingent consideration. Goodwill is recognized for the excess of the purchase price over the net fair value of the assets acquired and liabilities assumed. While we use our best estimates and assumptions in estimating the fair values of the assets acquired and liabilities assumed, our fair value estimates are inherently uncertain and subject to refinement. As a result, during the measurement period, which may be up to 1 year from the acquisition date, we may record adjustments to the assets acquired and liabilities assumed, with the corresponding offset to goodwill. Any adjustments required after the measurement period are recorded in the consolidated statements of income. Transaction costs related to acquisitions are expensed as incurred and are included in SG&A expense on the consolidated statements of income.

Impairment of long-lived assets and amortizable intangibles – We evaluate the recoverability of property, plant, equipment and amortizable intangibles not held for sale whenever events or changes in circumstances indicate that an asset group's carrying amount may not be recoverable. Such circumstances could include, but are not limited to, (1) a significant decrease in the market value of an asset, (2) a significant adverse change in the extent or manner in which an asset is used or in its physical condition, or (3) an accumulation of costs significantly in excess of the amount originally expected for the acquisition or construction of an asset. We compare the carrying amount of the asset group to the estimated undiscounted future cash flows associated with it. If the sum of the expected future net cash flows is less than the carrying value of the asset group being evaluated, an impairment loss is recognized. The impairment loss is calculated as the amount by which the carrying value of the asset group exceeds its estimated fair value. As quoted market prices are not available for the majority of our assets, the estimate of fair value is based on various valuation techniques, including the discounted value of estimated future cash flows. During 2020, we recorded asset impairment charges related to certain intangible assets. Further information regarding these impairment charges can be found in Note 8.

We evaluate the recoverability of property, plant, equipment and intangibles held for sale by comparing the asset group's carrying amount with its estimated fair value less costs to sell. If the estimated fair value less costs to sell is less than the carrying value of the asset group, an impairment loss is recognized. The impairment loss is calculated as the amount by which the carrying value of the asset group exceeds its estimated fair value less costs to sell. During 2020, we recorded asset impairment charges related to certain real estate and internal-use software assets held for sale. Further information regarding these impairment charges can be found in Note 8.

The evaluation of asset impairment requires us to make assumptions about future cash flows over the life of the asset group being evaluated. These assumptions require judgment and actual results may differ from assumed and estimated amounts.

Impairment of goodwill – We evaluate the carrying value of goodwill as of July 31st of each year and between annual evaluations if events occur or circumstances change that would indicate a possible impairment. Such circumstances could include, but are not limited to, (1) a significant adverse change in legal factors or in business climate, (2) unanticipated competition, (3) an adverse change in market conditions that is indicative of a decline in the fair value of the assets, (4) a change in our business strategy, or (5) an adverse action or assessment by a regulator. Information regarding the results of our goodwill impairment analyses can be found in Note 8.

To analyze goodwill for impairment, we must assign our goodwill to individual reporting units. Identification of reporting units includes an analysis of the components that comprise each of our operating segments, which considers, among other

things, the manner in which we operate our business and the availability of discrete financial information. Components of an operating segment are aggregated to form a reporting unit if the components have similar economic characteristics. We periodically review our reporting units to ensure that they continue to reflect the manner in which we operate our business.

When completing our annual goodwill impairment analysis, we have the option to first assess qualitative factors to determine whether the existence of events or circumstances leads to a determination that it is more likely than not that the fair value of a reporting unit is less than its carrying amount. If, after this qualitative assessment, we determine it is not more likely than not that the fair value of a reporting unit is less than its carrying amount, then performing the quantitative impairment test is unnecessary.

When performing a quantitative analysis of goodwill, we calculate the estimated fair value of the reporting unit and compare this amount to the carrying amount of the reporting unit's net assets, including goodwill. We utilize a discounted cash flow model to calculate the estimated fair value of a reporting unit. This approach is a valuation technique under which we estimate future cash flows using the reporting unit's financial forecast from the perspective of an unrelated market participant. Using historical trending and internal forecasting techniques, we project revenue and apply our fixed and variable cost experience rates to the projected revenue to arrive at the future cash flows. A terminal value is then applied to the projected cash flow stream. Future estimated cash flows are discounted to their present value to calculate the estimated fair value. The discount rate used is the market-value-weighted average of our estimated cost of capital derived using both known and estimated customary market metrics. In determining the estimated fair values of our reporting units, we are required to estimate a number of factors, including revenue growth rates, terminal growth rates, direct costs, the discount rate and the allocation of shared and corporate items. When completing a quantitative analysis for all of our reporting units, the summation of our reporting units' fair values is compared to our consolidated fair value, as indicated by our market capitalization, to evaluate the reasonableness of our calculations. If the carrying amount of a reporting unit's net assets exceeds its estimated fair value, an impairment loss is recorded for the difference, not to exceed the carrying amount of goodwill.

Assets held for sale – We record assets held for sale at the lower of their carrying value or estimated fair value less costs to sell. Assets are classified as held for sale on our consolidated balance sheets when all of the following conditions are met: (1) management has the authority and commits to a plan to sell the assets; (2) the assets are available for immediate sale in their present condition; (3) there is an active program to locate a buyer and the plan to sell the assets has been initiated; (4) the sale of the assets is probable within 1 year; (5) the assets are being actively marketed at a reasonable sales price relative to their current fair value; and (6) it is unlikely that the plan to sell will be withdrawn or that significant changes to the plan will be made. As of December 31, 2022, there were no disposal groups classified as held for sale in the consolidated balance sheet. Disposal groups classified as held for sale as of December 31, 2021 were not significant.

Prepaid product discounts – Certain of our financial institution contracts require prepaid product discounts in the form of upfront cash payments or accruals for amounts owed to financial institution clients. These prepaid product discounts are included in other non-current assets on the consolidated balance sheets and are generally amortized as reductions of revenue on the straight-line basis over the contract term. These amounts are being amortized over periods of up to 14.5 years, with a weighted-average period of 4 years as of December 31, 2022. Whenever events or changes occur that impact the related contract, including significant declines in the anticipated profitability, we evaluate the carrying value of prepaid product discounts to determine if they are impaired. Should a financial institution cancel a contract prior to the agreement's termination date, or should the volume of orders realized through a financial institution fall below contractually-specified minimums, we generally have a contractual right to a refund of the remaining unamortized prepaid product discount.

Loans and notes receivable from distributors – We have, at times, provided loans to certain of our Promotional Solutions distributors to allow them to purchase the operations of other small business distributors. We have also sold distributors and small business customer lists that we own in exchange for notes receivable. These loans and notes receivable are included in other current assets and other non-current assets on the consolidated balance sheets. Interest rates on these receivables generally range from 6% to 7% and reflect market interest rates at the time the transactions were executed. Interest is accrued as earned. Accrued interest included in loans and notes receivable was not significant as of December 31, 2022 or December 31, 2021.

In determining the allowance for credit losses related to loans and notes receivable, we utilize a loss-rate analysis based on historical loss information, current delinquency rates, the credit quality of the loan recipients and the portfolio mix to determine an appropriate credit risk measurement, adjusted to reflect current loan-specific risk characteristics and changes in environmental conditions affecting our small business distributors. Changes in conditions that may affect our distributors include, but are not limited to, general economic conditions, changes in the markets for their products and services and changes in governmental regulations. In completing our analysis, we utilize a reversion methodology for periods beyond the reasonable and supportable forecast period, as many of our loans and notes receivable have longer terms. Allowances for impaired loans are generally determined based on collateral values or the present value of estimated cash flows. Further information regarding our allowance for credit losses can be found in Note 3.

We generally withhold commissions payable to the distributors to settle the monthly payments due on the receivables, thus somewhat mitigating the risk that the receivables will not be collected. Our notes receivable also generally allow us to acquire a distributor's customer list in the case of default. As of December 31, 2022 and December 31, 2021, past due amounts and receivables placed on non-accrual status were not significant. The determination to place receivables on non-accrual status or to resume the accrual of interest is completed on a case-by-case basis, evaluating the specifics of each situation.

Cloud computing arrangements – Implementation costs incurred in a hosting arrangement that is a service contract are recorded as non-current assets on the consolidated balance sheets. Implementation costs include activities such as integrating, configuring and customizing the related software. In evaluating whether our cloud computing arrangements include a software license, we consider whether we have the contractual right to take possession of the software at any time during the hosting period without significant penalty and whether it is feasible for us to either run the software on our own hardware or contract with another party unrelated to the vendor to host the software. If we determine that a cloud computing arrangement includes a software license, we account for the software license element of the arrangement consistent with the acquisition of other software licenses. If we determine that a cloud computing arrangement does not include a software license, we account for the implementation costs as non-current assets. In both cases, the remaining elements of the arrangement are accounted for as a service contract. The capitalized cloud computing implementation costs are amortized on the straight-line basis over the fixed, non-cancellable term of the associated hosting arrangement plus any reasonably certain renewal periods. We apply the same impairment model to these assets as we use to evaluate internally-developed software for impairment.

Advertising costs – We expense non-direct response advertising costs as incurred. Advertising costs qualifying for deferral were not significant to our consolidated financial statements. The total amount of advertising expense was \$38,731 in 2022, \$47,461 in 2021 and \$50,308 in 2020.

Litigation – We are party to legal actions and claims arising in the ordinary course of business. We record accruals for legal matters when the expected outcome of these matters is either known or considered probable and can be reasonably estimated. Our accruals do not include related legal and other costs expected to be incurred in defense of legal actions. These costs are expensed as incurred. Further information regarding litigation can be found in Note 15.

Income taxes – We estimate our income tax provision based on the various jurisdictions where we conduct business. We estimate our current tax liability and record deferred income taxes resulting from temporary differences between the financial reporting basis of assets and liabilities and their respective tax reporting bases. Deferred tax assets and liabilities are measured using enacted tax rates expected to apply to taxable income in the years in which those temporary differences reverse. Net deferred tax assets are recognized to the extent that realization of such benefits is more likely than not. To the extent that we believe realization is not likely, we establish a valuation allowance against the net deferred tax assets.

We are subject to tax audits in numerous domestic and foreign tax jurisdictions. Tax audits are often complex and can require several years to complete. In the normal course of business, we are subject to challenges from the Internal Revenue Service and other tax authorities regarding the amount of taxes due. These challenges may alter the timing or amount of taxable income or deductions, or the allocation of income among tax jurisdictions. We recognize the benefits of tax return positions in the financial statements when they are more likely than not to be sustained by the taxing authorities based solely on the technical merits of the position. If the recognition threshold is met, the tax benefit is measured and recognized as the largest amount of tax benefit that, in our judgment, is greater than 50% likely to be realized. Accrued interest and penalties related to unrecognized tax positions is included in our provision for income taxes on the consolidated statements of income.

Derivative financial instruments – We have outstanding interest rate swaps related to our variable-rate debt. Further information regarding these derivative financial instruments can be found in Note 7.

We do not use derivative financial instruments for speculative or trading purposes. Our policy is that all derivative transactions must be linked to an existing balance sheet item or firm commitment, and the notional amount cannot exceed the value of the exposure being hedged.

We recognize all derivative financial instruments in the consolidated financial statements at fair value regardless of the purpose or intent for holding the instrument. Changes in the fair value of derivative financial instruments are recognized periodically either in income or in shareholders' equity as a component of accumulated other comprehensive loss, depending on whether the derivative financial instrument qualifies for hedge accounting, and if so, whether it qualifies as a fair value hedge or a cash flow hedge and whether the hedge is effective. Generally, changes in the fair value of derivatives accounted for as fair value hedges are recorded in income along with the portion of the change in the fair value of the hedged items that relate to the hedged risk. Changes in the fair value of derivatives accounted for as cash flow hedges, to the extent they are effective as hedges, are recorded in accumulated other comprehensive loss, net of tax. We classify the cash flows from derivative instruments that have been designated as fair value or cash flow hedges in the same category as the cash flows from the items being hedged. Changes in the fair value of derivatives not qualifying as hedges and the ineffective portion of hedges are included in net income.

Revenue recognition – Product revenue is recognized when control of the goods is transferred to our customers, in an amount that reflects the consideration we expect to be entitled to in exchange for those goods. In most cases, control is transferred when products are shipped. We have elected to account for shipping and handling activities that occur after the customer has obtained control of the product as fulfillment activities and not as separate performance obligations. We recognize the vast majority of our service revenue as services are provided. The majority of our contracts are for the shipment of tangible products or the delivery of services that have a single performance obligation or include multiple performance obligations where control is transferred at the same time.

Revenue is presented on the consolidated statements of income net of rebates, discounts, amortization of prepaid product discounts, and taxes collected concurrent with revenue-producing activities. Many of our check supply contracts with financial institutions provide for rebates on certain products. We record these rebates as reductions of revenue and as accrued liabilities on the consolidated balance sheets when the related revenue is recognized. Amounts billed to customers for shipping and handling are included in revenue, while the related shipping and handling costs are reflected in cost of products and are accrued when the related revenue is recognized.

When another party is involved in providing goods or services to a customer, we must determine whether our obligation is to provide the specified good or service itself (i.e., we are the principal in the transaction) or to arrange for that good or service to be provided by the other party (i.e., we are an agent in the transaction). When we are responsible for satisfying a performance obligation, based on our ability to control the product or service provided, we are considered the principal and revenue is recognized for the gross amount of consideration. When the other party is primarily responsible for satisfying a performance obligation, we are considered the agent and revenue is recognized in the amount of any fee or commission to which we are entitled. We sell certain products and services through a network of distributors. We have determined that we are the principal in these transactions, and revenue is recorded for the gross amount of consideration.

Certain of our contracts for data-driven marketing solutions have variable consideration that is contingent on the success of the marketing campaign ("pay-for-performance"). We recognize revenue for estimated variable consideration as services are provided based on the most likely amount to be realized. Revenue is recognized to the extent that it is probable that a significant reversal of revenue will not occur when the contingency is resolved. Estimates regarding the recognition of variable consideration are updated each quarter. Typically, the amount of consideration for these contracts is finalized within 4 months.

Our payment terms vary by type of customer and the products or services offered. The time period between invoicing and when payment is due is not significant. For certain products, services and customer types, we require payment before the products or services are delivered to the customer. When a customer pays in advance, primarily for treasury management solutions and web hosting services, we defer the revenue and recognize it as the services are performed, generally over a period of less than 1 year. Deferred revenue is included in accrued liabilities and other non-current liabilities on the consolidated balance sheets.

In addition to the amounts included in deferred revenue, we will recognize revenue in future periods related to remaining performance obligations for certain of our data-driven marketing and treasury management solutions contracts. Generally, these contracts have terms of 1 year or less and many have terms of 3 months or less, and therefore, we do not consider any potential financing component. The amount of revenue related to these unsatisfied performance obligations is not significant to our annual consolidated revenue. When the revenue recognized for uncompleted contracts exceeds the amount of customer billings and the right to receive the consideration is conditional, a contract asset is recorded. These amounts are included in revenue in excess of billings on the consolidated balance sheets. Additionally, we record an asset for unbilled receivables when the revenue recognized has not been billed to customers in accordance with contractually stated billing terms and the right to receive the consideration is unconditional. These amounts are also included in revenue in excess of billings on the consolidated balance sheets.

We record sales commissions related to obtaining check supply and treasury management solution contracts, as well as contract acquisition costs within our merchant services business, as other non-current assets on the consolidated balance sheets. These contract acquisition costs are amortized as SG&A expense on the straight-line basis, which approximates the timing of the transfer of goods or services to the customer. These amounts are being amortized over periods of 2 years to 5 years. We expense contract acquisition costs as incurred when the amortization period would be 1 year or less.

Restructuring and integration expense – We incur restructuring and integration expense as a result of fundamental changes in the manner in which certain business functions are conducted, including the integration of acquired businesses into our systems and processes and the consolidation and migration of certain applications and processes. We also incur expenses resulting from our various cost management efforts, including facility closings and the relocation of business activities. These expenses consist of costs that are expensed when incurred, such as information technology consulting, project management services, internal labor, training, travel and relocation, and costs associated with facility closures. In addition, we accrue the costs of employee termination benefits payable under our ongoing severance benefit plan. We record accruals for employee termination benefits when it is probable that a liability has been incurred and the amount of the liability is reasonably estimable. We are required to make estimates and assumptions in calculating these accruals as, on some occasions, employees choose to

voluntarily leave the company prior to their termination date or they secure another position within the company. In these situations, the employees do not receive termination benefits. To the extent our assumptions and estimates differ from our actual costs, subsequent adjustments to restructuring and integration accruals have been and will be required. Restructuring and integration accruals are included in accrued liabilities on the consolidated balance sheets.

Employee share-based compensation – Our share-based compensation consists of non-qualified stock options, restricted stock units, restricted stock, performance share unit awards and an employee stock purchase plan. Employee share-based compensation expense is included in total cost of revenue and in SG&A expense on the consolidated statements of income, based on the functional areas of the employees receiving the awards, and is recognized as follows:

- The fair value of stock options is measured on the grant date using the Black-Scholes option pricing model. The related compensation expense is recognized on the straight-line basis, net of estimated forfeitures, over the options' vesting periods.
- The fair value of restricted stock and a portion of our restricted stock unit awards is measured on the grant date based on the market value of our common stock. The related compensation expense, net of estimated forfeitures, is recognized over the applicable service period.
- Certain of our restricted stock unit awards may be settled in cash if an employee voluntarily chooses to leave the company. These awards are included in accrued liabilities and other non-current liabilities on the consolidated balance sheets and are remeasured at fair value as of each balance sheet date.
- Compensation expense resulting from the 15% discount provided under our employee stock purchase plan is recognized over each 3 month purchase period.
- Our performance share unit awards specify certain performance and market-based conditions that must be achieved in order for the awards to vest. For the portion of the awards based on a performance condition, the performance target is not considered in determining the fair value of the awards and thus, fair value is measured on the grant date based on the market value of our common stock. The related compensation expense for this type of award is recognized, net of estimated forfeitures, over the related service period. The amount of compensation expense is dependent on our periodic assessment of the probability of the targets being achieved and our estimate, which may vary over time, of the number of shares that ultimately will be issued. For the portion of the awards based on a market condition, fair value is calculated on the grant date using the Monte Carlo simulation model. All compensation cost for these awards is recognized, net of estimated forfeitures, over the related service period, even if the market condition is never satisfied.

Postretirement benefit plan – We have historically provided certain health care benefits for a large number of retired U.S. employees hired prior to January 1, 2002. Our postretirement benefit income and obligation are calculated utilizing various actuarial assumptions and methodologies. These assumptions include, but are not limited to, the discount rate, the expected long-term rate of return on plan assets, estimated medical claims, the expected health care cost trend rate and the average remaining life expectancy of plan participants. We analyze the assumptions used each year when we complete our actuarial valuation of the plan. When actual events differ from our assumptions or when we change the assumptions used, an actuarial gain or loss results. The gain or loss is recognized immediately on the consolidated balance sheets within accumulated other comprehensive loss and is amortized into postretirement benefit income over the average remaining life expectancy of inactive plan participants, as a large percentage of our plan participants are classified as inactive.

The valuation of our postretirement plan requires judgment about circumstances that are inherently uncertain, including projected equity market performance, the number of plan participants, catastrophic health care events for our plan participants and a significant change in medical costs. Actual results may differ from assumed and estimated amounts.

Earnings per share – We calculate earnings per share using the two-class method, as we have unvested share-based payment awards that contain nonforfeitable rights to dividends or dividend equivalent payments. The two-class method is an earnings allocation formula that determines earnings per share for each class of common stock and participating security according to dividends declared and participation rights in undistributed earnings. Basic earnings per share is based on the weighted-average number of common shares outstanding during the year. Diluted earnings per share is based on the weighted-average number of common shares outstanding during the year, adjusted to give effect to potential common shares such as stock options and other awards that are not participating securities, calculated using the treasury stock method.

Comprehensive income – Comprehensive income includes charges and credits to shareholders' equity that are not the result of transactions with shareholders. Our total comprehensive income consists of net income, changes in the funded status and amortization of amounts related to our postretirement benefit plans, unrealized gains and losses on our cash flow hedges, unrealized gains and losses on available-for-sale debt securities, and foreign currency translation adjustments. The items of other comprehensive income are included in accumulated other comprehensive loss on the consolidated balance sheets and

statements of shareholders' equity, net of their related tax impacts. We release stranded income tax effects from accumulated other comprehensive loss when the circumstances upon which they are premised cease to exist.

NOTE 2: NEW ACCOUNTING PRONOUNCEMENTS

Accounting Standards Not Yet Adopted

Reference rate reform – In March 2020, the Financial Accounting Standards Board (FASB) issued Accounting Standards Update (ASU) No. 2020-04, *Facilitation of the Effects of Reference Rate Reform on Financial Reporting*. The Standard provides optional expedients and exceptions for applying GAAP to contracts, hedging relationships and other transactions affected by the discontinuation of the London Interbank Offered Rate (LIBOR) or by another reference rate expected to be discontinued because of reference rate reform. In January 2021, the FASB issued ASU No 2021-01, *Reference Rate Reform (Topic 848): Scope*, which clarified the scope and application of the original guidance. We are currently in the process of modifying our existing credit facility to utilize the Secured Overnight Financing Rate (SOFR) as the reference rate in the agreement, effective March 20, 2023. In accounting for this modification, we will be adopting the reference rate reform guidance on a prospective basis as allowed under the provisions of ASU No. 2022-06, *Deferral of the Sunset Date of Topic 848*. The adoption of these standards is not expected to have a material impact on our consolidated financial statements.

ASU No. 2022-02 – In March 2022, the FASB issued ASU No. 2022-02, *Troubled Debt Restructurings and Vintage Disclosures*. The standard modifies the accounting for troubled debt restructurings by creditors and modifies certain disclosure requirements. The guidance will be applied prospectively, with the exception of the recognition and measurement of troubled debt restructurings, for which we may elect to apply a modified retrospective transition method. The standard is effective for us on January 1, 2023, and we do not expect its adoption to have a significant impact on our financial position or results of operations.

NOTE 3: SUPPLEMENTAL BALANCE SHEET AND CASH FLOW INFORMATION

Trade accounts receivable – Net trade accounts receivable was comprised of the following at December 31:

<i>(in thousands)</i>	2022	2021
Trade accounts receivable – gross	\$ 210,799	\$ 202,077
Allowance for credit losses	(4,182)	(4,130)
Trade accounts receivable – net ⁽¹⁾	<u>\$ 206,617</u>	<u>\$ 197,947</u>

⁽¹⁾ Includes unbilled receivables of \$43,902 as of December 31, 2022 and \$47,420 as of December 31, 2021.

Changes in the allowance for credit losses for the years ended December 31 were as follows:

<i>(in thousands)</i>	2022	2021	2020
Balance, beginning of year	\$ 4,130	\$ 6,428	\$ 4,985
Bad debt expense	4,185	223	5,003
Write-offs and other	(4,133)	(2,521)	(3,560)
Balance, end of year	<u>\$ 4,182</u>	<u>\$ 4,130</u>	<u>\$ 6,428</u>

Inventories and supplies – Inventories and supplies were comprised of the following at December 31:

<i>(in thousands)</i>	2022	2021
Raw materials	\$ 11,563	\$ 5,316
Semi-finished goods	7,777	6,708
Finished goods	32,938	21,995
Supplies	6,389	6,041
Reserve for excess and obsolete items	(6,400)	(5,132)
Inventories and supplies, net of reserves	<u>\$ 52,267</u>	<u>\$ 34,928</u>

Changes in the reserve for excess and obsolete items for the years ended December 31 were as follows:

<i>(in thousands)</i>	2022	2021	2020
Balance, beginning of year	\$ 5,132	\$ 11,748	\$ 6,600
Amounts charged to expense	2,940	3,513	6,713
Write-offs and sales	(1,672)	(10,129)	(1,565)
Balance, end of year	<u>\$ 6,400</u>	<u>\$ 5,132</u>	<u>\$ 11,748</u>

Available-for-sale debt securities – Available-for-sale debt securities were comprised of the following:

<i>(in thousands)</i>	December 31, 2022			
	Cost	Gross unrealized gains	Gross unrealized losses	Fair value
Cash equivalents:				
Domestic money market fund	\$ 5,000	\$ —	\$ —	\$ 5,000
Funds held for customers: ⁽¹⁾				
Canadian and provincial government securities	9,190	—	(1,064)	8,126
Available-for-sale debt securities	<u>\$ 14,190</u>	<u>\$ —</u>	<u>\$ (1,064)</u>	<u>\$ 13,126</u>

⁽¹⁾ Funds held for customers, as reported on the consolidated balance sheet as of December 31, 2022, also included cash of \$294,165.

<i>(in thousands)</i>	December 31, 2021			
	Cost	Gross unrealized gains	Gross unrealized losses	Fair value
Funds held for customers: ⁽¹⁾				
Canadian and provincial government securities	\$ 9,724	\$ —	\$ (374)	\$ 9,350
Canadian guaranteed investment certificate	3,957	—	—	3,957
Available-for-sale debt securities	<u>\$ 13,681</u>	<u>\$ —</u>	<u>\$ (374)</u>	<u>\$ 13,307</u>

⁽¹⁾ Funds held for customers, as reported on the consolidated balance sheet as of December 31, 2021, also included cash of \$241,488.

Expected maturities of available-for-sale debt securities as of December 31, 2022 were as follows:

<i>(in thousands)</i>	Fair value
Due in one year or less	\$ 7,673
Due in two to five years	2,162
Due in six to ten years	3,291
Available-for-sale debt securities	<u>\$ 13,126</u>

Further information regarding the fair value of available-for-sale debt securities can be found in Note 8.

Revenue in excess of billings – Revenue in excess of billings was comprised of the following at December 31:

<i>(in thousands)</i>	2022	2021
Conditional right to receive consideration	\$ 26,520	\$ 22,780
Unconditional right to receive consideration ⁽¹⁾	12,241	7,613
Revenue in excess of billings	<u>\$ 38,761</u>	<u>\$ 30,393</u>

⁽¹⁾ Represents revenues that are earned but not currently billable under the related contract terms.

Property, plant and equipment – Property, plant and equipment was comprised of the following at December 31:

<i>(in thousands)</i>	2022			2021		
	Gross carrying amount	Accumulated depreciation	Net carrying amount	Gross carrying amount	Accumulated depreciation	Net carrying amount
Machinery and equipment	\$ 378,468	\$ (307,838)	\$ 70,630	\$ 333,383	\$ (276,914)	\$ 56,469
Buildings and improvements	111,916	(67,936)	43,980	118,219	(58,202)	60,017
Land and improvements	14,498	(4,214)	10,284	12,981	(3,501)	9,480
Property, plant and equipment	<u>\$ 504,882</u>	<u>\$ (379,988)</u>	<u>\$ 124,894</u>	<u>\$ 464,583</u>	<u>\$ (338,617)</u>	<u>\$ 125,966</u>

Intangibles – Amortizable intangibles were comprised of the following at December 31:

<i>(in thousands)</i>	2022			2021		
	Gross carrying amount	Accumulated amortization	Net carrying amount	Gross carrying amount	Accumulated amortization	Net carrying amount
Internal-use software	\$ 529,306	\$ (395,514)	\$ 133,792	\$ 456,133	\$ (342,656)	\$ 113,477
Customer lists/relationships	497,882	(312,986)	184,896	493,495	(255,178)	238,317
Technology-based intangibles	99,613	(47,478)	52,135	98,813	(38,553)	60,260
Partner relationships	74,682	(9,094)	65,588	73,095	(2,990)	70,105
Trade names	44,185	(26,510)	17,675	51,052	(31,277)	19,775
Software to be sold	36,900	(32,007)	4,893	36,900	(28,110)	8,790
Intangibles	<u>\$ 1,282,568</u>	<u>\$ (823,589)</u>	<u>\$ 458,979</u>	<u>\$ 1,209,488</u>	<u>\$ (698,764)</u>	<u>\$ 510,724</u>

Amortization expense related to intangibles was as follows for the years ended December 31:

<i>(in thousands)</i>	2022	2021	2020
Customer lists/relationships	\$ 70,712	\$ 61,805	\$ 41,377
Internal-use software	54,925	41,601	36,771
Technology-based intangibles	8,925	10,940	6,291
Partner relationships	6,104	2,990	—
Software to be sold	3,897	4,226	4,227
Trade names	1,992	1,580	1,884
Amortization of intangibles	<u>\$ 146,555</u>	<u>\$ 123,142</u>	<u>\$ 90,550</u>

Based on the intangibles in service as of December 31, 2022, estimated amortization expense for each of the next five years ending December 31 is as follows:

<i>(in thousands)</i>	Estimated amortization expense
2023	\$ 131,216
2024	91,800
2025	62,150
2026	40,686
2027	32,413

We acquire internal-use software and certain partner relationships in the normal course of business. We also purchased customer lists, and we acquired other intangible assets in conjunction with an acquisition (Note 6). The following intangible assets were acquired during the years ended December 31:

<i>(in thousands)</i>	2022		2021		2020	
	Amount	Weighted-average amortization period (in years)	Amount	Weighted-average amortization period (in years)	Amount	Weighted-average amortization period (in years)
Internal-use software	\$ 74,778	3	\$ 75,918	3	\$ 39,344	4
Customer lists/relationships ⁽¹⁾	18,267	6	149,642	8	45,470	7
Partner relationships	1,587	3	73,095	15	—	—
Technology-based intangibles	—	—	65,000	8	—	—
Trade names	—	—	21,000	10	—	—
Acquired intangibles	<u>\$ 94,632</u>	<u>4</u>	<u>\$ 384,655</u>	<u>8</u>	<u>\$ 84,814</u>	<u>6</u>

⁽¹⁾ We acquired customer lists that did not qualify as business combinations of \$18,267 during 2022, \$22,642 during 2021 and \$45,470 during 2020.

Goodwill – Changes in goodwill by reportable business segment and in total were as follows:

<i>(in thousands)</i>	Payments	Data Solutions	Promotional Solutions	Checks	Total
Balance, December 31, 2020:					
Goodwill, gross	\$ 168,165	\$ 432,984	\$ 252,864	\$ 434,812	\$ 1,288,825
Accumulated impairment charges	—	(392,168)	(193,699)	—	(585,867)
Goodwill, net of accumulated impairment charges	168,165	40,816	59,165	434,812	702,958
Goodwill resulting from acquisition (Note 6)	727,173	—	—	—	727,173
Currency translation adjustment	—	—	10	—	10
Balance, December 31, 2021	<u>\$ 895,338</u>	<u>\$ 40,816</u>	<u>\$ 59,175</u>	<u>\$ 434,812</u>	<u>\$ 1,430,141</u>
Balance, December 31, 2021:					
Goodwill, gross	\$ 895,338	\$ 432,984	\$ 252,874	\$ 434,812	\$ 2,016,008
Accumulated impairment charges	—	(392,168)	(193,699)	—	(585,867)
Goodwill, net of accumulated impairment charges	895,338	40,816	59,175	434,812	1,430,141
Measurement-period adjustment (Note 6)	1,343	—	—	—	1,343
Currency translation adjustment	—	—	(99)	—	(99)
Balance, December 31, 2022	<u>\$ 896,681</u>	<u>\$ 40,816</u>	<u>\$ 59,076</u>	<u>\$ 434,812</u>	<u>\$ 1,431,385</u>
Balance, December 31, 2022:					
Goodwill, gross	\$ 896,681	\$ 432,984	\$ 252,775	\$ 434,812	\$ 2,017,252
Accumulated impairment charges	—	(392,168)	(193,699)	—	(585,867)
Goodwill, net of accumulated impairment charges	<u>\$ 896,681</u>	<u>\$ 40,816</u>	<u>\$ 59,076</u>	<u>\$ 434,812</u>	<u>\$ 1,431,385</u>

Other non-current assets – Other non-current assets were comprised of the following at December 31:

<i>(in thousands)</i>	2022	2021
Postretirement benefit plan asset (Note 12)	\$ 79,343	\$ 87,019
Cloud computing arrangement implementation costs	71,547	63,806
Prepaid product discounts	44,824	56,527
Deferred contract acquisition costs ⁽¹⁾	21,300	17,975
Loans and notes receivable from distributors, net of allowance for credit losses ⁽²⁾	13,259	20,201
Other	30,081	33,935
Other non-current assets	<u>\$ 260,354</u>	<u>\$ 279,463</u>

⁽¹⁾ Amortization of deferred contract acquisition costs was \$8,206 for 2022, \$4,975 for 2021 and \$3,739 for 2020.

⁽²⁾ Amount includes the non-current portion of loans and notes receivable. The current portion of these receivables is included in other current assets on the consolidated balance sheets and was \$961 as of December 31, 2022 and \$1,317 as of December 31, 2021.

Changes in prepaid product discounts were as follows for the years ended December 31:

<i>(in thousands)</i>	2022	2021	2020
Balance, beginning of year	\$ 56,527	\$ 50,602	\$ 51,145
Additions ⁽¹⁾	23,014	37,882	30,346
Amortization	(34,400)	(31,784)	(29,235)
Other	(317)	(173)	(1,654)
Balance, end of year	<u>\$ 44,824</u>	<u>\$ 56,527</u>	<u>\$ 50,602</u>

⁽¹⁾ Prepaid product discounts are generally accrued upon contract execution. Cash payments made for prepaid product discounts were \$30,603 for 2022, \$40,920 for 2021 and \$33,613 for 2020.

Changes in the allowance for credit losses related to loans and notes receivable from distributors for the years ended December 31 were as follows:

<i>(in thousands)</i>	2022	2021	2020
Balance, beginning of year	\$ 2,830	\$ 3,995	\$ 284
Adoption of ASU No. 2016-13	—	—	4,749
Bad debt expense (benefit)	1,195	(1,165)	5,412
Exchange for customer lists	(402)	—	(6,402)
Write-offs	(2,599)	—	(48)
Balance, end of year	<u>\$ 1,024</u>	<u>\$ 2,830</u>	<u>\$ 3,995</u>

Bad debt expense for 2020 included loan-specific allowances primarily related to Promotional Solutions distributors that were underperforming. In calculating these reserves, we utilized various valuation techniques to determine the value of the underlying collateral. During the quarter ended September 30, 2020, these notes receivable were exchanged for the underlying collateral, which consisted of customer list intangible assets.

We categorize loans and notes receivable into risk categories based on information about the ability of the borrowers to service their debt, including current financial information, historical payment experience, current economic trends and other factors. The highest quality receivables are assigned a 1-2 internal grade. Those that have a potential weakness requiring management's attention are assigned a 3-4 internal grade.

The following table presents loans and notes receivable from distributors, including the current portion, by credit quality indicator and by year of origination, as of December 31, 2022. Write-offs of \$2,599 for the year ended December 31, 2022 related to loans and notes receivable originated in 2019.

<i>(in thousands)</i>	Loans and notes receivable from distributors amortized cost basis by origination year				Total
	2020	2019	2018	Prior	
Risk rating:					
1-2 internal grade	\$ 1,142	\$ 429	\$ 4,128	\$ 9,545	\$ 15,244
3-4 internal grade	—	—	—	—	—
Loans and notes receivable	\$ 1,142	\$ 429	\$ 4,128	\$ 9,545	\$ 15,244

Accrued liabilities – Accrued liabilities were comprised of the following at December 31:

<i>(in thousands)</i>	2022	2021
Deferred revenue ⁽¹⁾	\$ 47,012	\$ 52,645
Employee cash bonuses, including sales incentives	57,398	45,006
Wages and payroll liabilities, including vacation	20,264	24,951
Operating lease liabilities (Note 14)	12,780	14,852
Customer rebates	12,153	9,036
Prepaid product discounts due within one year	4,179	11,866
Other	64,618	58,476
Accrued liabilities	\$ 218,404	\$ 216,832

⁽¹⁾ Revenue recognized from amounts included in deferred revenue at the beginning of the period was \$47,547 for 2022, \$39,366 for 2021 and \$42,108 for 2020.

Supplemental cash flow information – Supplemental cash flow information was as follows for the years ended December 31:

<i>(in thousands)</i>	2022	2021	2020
Reconciliation of cash, cash equivalents, restricted cash and restricted cash equivalents to the consolidated balance sheets:			
Cash and cash equivalents	\$ 40,435	\$ 41,231	\$ 123,122
Restricted cash and restricted cash equivalents included in funds held for customers	294,165	241,488	106,287
Non-current restricted cash included in other non-current assets	2,815	2,772	—
Total cash, cash equivalents, restricted cash and restricted cash equivalents	\$ 337,415	\$ 285,491	\$ 229,409
Interest paid	\$ 87,108	\$ 46,621	\$ 22,853
Income taxes paid	38,629	18,761	24,701
Non-cash investing activities:			
Non-cash consideration for customer list purchases ⁽¹⁾	\$ 5,096	\$ 15,528	\$ 21,439
Non-cash financing activities:			
Liabilities for holdback payments on asset purchases	\$ 8,609	\$ 4,121	\$ 12,949
Vesting of restricted stock unit awards	13,602	16,646	7,839

⁽¹⁾ Consists of pre-acquisition amounts owed to us by the sellers.

Information regarding operating and finance leases executed in each period can be found in Note 14.

NOTE 4: EARNINGS PER SHARE

The following table reflects the calculation of basic and diluted earnings per share. During each period, certain stock options, as noted below, were excluded from the calculation of diluted earnings per share because their effect would have been antidilutive.

(in thousands, except per share amounts)

	2022	2021	2020
Earnings per share – basic:			
Net income	\$ 65,530	\$ 62,772	\$ 5,335
Net income attributable to non-controlling interest	(135)	(139)	(91)
Net income attributable to Deluxe	65,395	62,633	5,244
Income allocated to participating securities	(47)	(46)	(53)
Income attributable to Deluxe available to common shareholders	\$ 65,348	\$ 62,587	\$ 5,191
Weighted-average shares outstanding	43,025	42,378	41,931
Earnings per share – basic	\$ 1.52	\$ 1.48	\$ 0.12
Earnings per share – diluted:			
Net income	\$ 65,530	\$ 62,772	\$ 5,335
Net income attributable to non-controlling interest	(135)	(139)	(91)
Net income attributable to Deluxe	65,395	62,633	5,244
Income allocated to participating securities	(35)	(26)	(2)
Remeasurement of share-based awards classified as liabilities	(497)	(438)	(677)
Income attributable to Deluxe available to common shareholders	\$ 64,863	\$ 62,169	\$ 4,565
Weighted-average shares outstanding	43,025	42,378	41,931
Dilutive impact of potential common shares	285	449	211
Weighted-average shares and potential common shares outstanding	43,310	42,827	42,142
Earnings per share – diluted	\$ 1.50	\$ 1.45	\$ 0.11
Antidilutive options excluded from calculation	1,732	2,179	2,060

NOTE 5: OTHER COMPREHENSIVE (LOSS) INCOME

Reclassification adjustments – Information regarding amounts reclassified from accumulated other comprehensive loss to net income was as follows:

Accumulated other comprehensive loss components <i>(in thousands)</i>	Amounts reclassified from accumulated other comprehensive loss			Affected line item in consolidated statements of income
	2022	2021	2020	
Amortization of postretirement benefit plan items:				
Prior service credit	\$ 1,421	\$ 1,421	\$ 1,421	Other income
Net actuarial loss	(900)	(1,629)	(2,301)	Other income
Total amortization	521	(208)	(880)	Other income
Tax (expense) benefit	(315)	(123)	46	Income tax provision
Amortization of postretirement benefit plan items, net of tax	206	(331)	(834)	Net income
Debt securities:				
Realized (loss) gain on debt securities	(8)	—	206	Service revenue
Tax benefit (expense)	2	—	(53)	Income tax provision
Realized (loss) gain on debt securities, net of tax	(6)	—	153	Net income
Cash flow hedges:				
Realized gain (loss) on cash flow hedges	20	(1,384)	(968)	Interest expense
Tax (expense) benefit	(5)	361	249	Income tax provision
Realized gain (loss) on cash flow hedges, net of tax	15	(1,023)	(719)	Net income
Foreign currency translation adjustment ⁽¹⁾	(5,550)	—	—	Gain on sale of businesses and facility
Total reclassifications, net of tax	\$ (5,335)	\$ (1,354)	\$ (1,400)	

⁽¹⁾ Relates to the sale of our Australian web hosting business during the quarter ended June 30, 2022. Further information can be found in Note 6.

Accumulated other comprehensive loss – Changes in the components of accumulated other comprehensive loss were as follows:

<i>(in thousands)</i>	Postretirement benefit plans	Net unrealized loss on debt securities	Net unrealized loss on cash flow hedges	Foreign currency translation adjustment	Accumulated other comprehensive loss
Balance, December 31, 2019	\$ (28,406)	\$ (275)	\$ (1,097)	\$ (18,169)	\$ (47,947)
Other comprehensive income (loss) before reclassifications	5,616	338	(4,973)	4,133	5,114
Amounts reclassified from accumulated other comprehensive loss	834	(153)	719	—	1,400
Net other comprehensive income (loss)	6,450	185	(4,254)	4,133	6,514
Balance, December 31, 2020	(21,956)	(90)	(5,351)	(14,036)	(41,433)
Other comprehensive income (loss) before reclassifications	6,194	(254)	2,067	580	8,587
Amounts reclassified from accumulated other comprehensive loss	331	—	1,023	—	1,354
Net other comprehensive income (loss)	6,525	(254)	3,090	580	9,941
Balance, December 31, 2021	(15,431)	(344)	(2,261)	(13,456)	(31,492)
Other comprehensive (loss) income before reclassifications	(11,235)	(571)	4,869	(4,170)	(11,107)
Amounts reclassified from accumulated other comprehensive loss	(206)	6	(15)	5,550	5,335
Net other comprehensive (loss) income	(11,441)	(565)	4,854	1,380	(5,772)
Balance, December 31, 2022	\$ (26,872)	\$ (909)	\$ 2,593	\$ (12,076)	\$ (37,264)

NOTE 6: ACQUISITION AND DIVESTITURES

Acquisition – On June 1, 2021, we acquired all of the equity of First American Payment Systems, L.P. (First American) in a cash transaction for \$958,514, net of cash, cash equivalents, restricted cash and restricted cash equivalents acquired. First American is a large-scale payments technology company that provides partners and merchants with comprehensive in-store, online and mobile payment solutions. The transaction was funded by our revolving credit facility and additional debt we issued in June 2021 (Note 13). The acquisition resulted in non-deductible goodwill as First American provides an end-to-end payments technology platform, which provides significant leverage to accelerate organic growth. Transaction costs related to the acquisition totaled \$18,913 in 2021. The goodwill and results of operations of First American from the date of acquisition are included in the Payments segment.

Information regarding goodwill by reportable business segment and the useful lives of acquired intangibles can be found in Note 3. Information regarding the calculation of the estimated fair values of the acquired intangibles can be found in Note 8.

The acquisition was accounted for as a business combination and the allocation of the purchase price to the assets acquired and liabilities assumed was finalized during the quarter ended June 30, 2022. We recorded measurement period adjustments during 2022 that increased deferred income tax liabilities by \$1,343, with the offset to goodwill. These measurement period adjustments did not have a significant impact on the 2022 consolidated statement of income.

The following illustrates the final allocation of the purchase price, to the assets acquired and liabilities assumed:

<i>(in thousands)</i>	Purchase price allocation
Trade accounts receivable	\$ 27,296
Other current assets	8,533
Property, plant and equipment	9,873
Operating lease assets	24,396
Intangible assets:	
Customer relationships	127,000
Partner relationships	72,000
Technology-based intangibles	65,000
Trade names	21,000
Internal-use software	6,111
Total intangible assets	<u>291,111</u>
Goodwill	728,516
Other non-current assets	350
Accounts payable	(18,475)
Funds held for customers	(9,428)
Accrued liabilities	(23,460)
Operating lease liabilities, non-current	(21,316)
Deferred income taxes	(54,506)
Other non-current liabilities	<u>(4,376)</u>
Payment for acquisition, net of cash, cash equivalents, restricted cash and restricted cash equivalents acquired of \$15,841	<u>\$ 958,514</u>

Operating results for First American for the years ended December 31 were as follows:

<i>(in thousands)</i>	2022	2021
Revenue	\$ 347,709	\$ 194,976
Net income attributable to Deluxe	5,794	1,806

The above results for the year ended December 31, 2022 include restructuring and integration costs of \$5,452 in 2022.

Pro forma financial information (unaudited) – During the first quarter of 2022, we corrected errors in the previously reported unaudited pro forma results of operations related to the First American acquisition. These errors related to the amount of historical First American revenue and net income included for the pre-acquisition periods, as well as errors in the adjustments related to the amortization of intangibles, interest expense on the acquisition financing, and transaction costs. For the year ended December 31, 2021, these corrections decreased pro forma revenue by \$26,335 and increased pro forma net income attributable to Deluxe by \$10,138. For the year ended December 31, 2020, the corrections decreased pro forma revenue by \$3,027 and increased net loss attributable to Deluxe by \$9,082.

The following unaudited pro forma financial information summarizes our consolidated results of operations for the years ended December 31 as though the acquisition occurred on January 1, 2020:

<i>(in thousands)</i>	2021	2020
Revenue	\$ 2,156,313	\$ 2,079,103
Net income (loss) attributable to Deluxe	74,843	(54,489)

The unaudited pro forma financial information was prepared in accordance with the accounting policies described in Note 1. The pro forma information includes adjustments to reflect the additional amortization that would have been charged assuming the fair value adjustments to intangible assets had been applied from January 1, 2020. The pro forma information also includes adjustments to reflect the additional interest expense on the debt we issued to fund the acquisition (Note 13), and the acquisition transaction costs we incurred during 2021 are reflected in the 2020 pro forma results.

This pro forma financial information is for informational purposes only. It does not reflect the integration of the businesses or any synergies that may result from the acquisition. As such, it is not indicative of the results of operations that would have been achieved had the acquisition been consummated on January 1, 2020. In addition, the pro forma amounts are not indicative of future operating results.

2022 divestitures – In May 2022, we completed the sale of our Australian web hosting business for cash proceeds of \$17,620, net of costs of the sale. This business generated annual revenue in our Data Solutions segment of \$23,766 during 2021. During 2022, we recognized a pretax gain of \$15,166 on this sale. The assets and liabilities sold were not significant to our consolidated balance sheet.

In April 2022, we sold the assets of our Promotional Solutions strategic sourcing business, and in August 2022, we sold the assets of our Promotional Solutions retail packaging business. These businesses generated annual revenue of approximately \$29,000 during 2021. Neither the gain on these sales nor the assets and liabilities sold were significant to our consolidated financial statements.

2023 divestiture – In January 2023, we entered into an agreement for the sale of our North American web hosting and logo businesses for an aggregate sales price of \$42,000, plus up to \$10,000 of additional proceeds contingent upon performance against certain conditions following the closing. We anticipate that the sale will close by March 31, 2023 and that we will recognize a gain on the sale. These businesses generated annual revenue of approximately \$66,000 during 2022, primarily in our Data Solutions segment.

We believe that these divestitures allow us to focus our resources on the key growth areas of payments and data, while allowing us to optimize our operations.

Facility sale – In May 2022, we sold our former facility located in Lancaster, California for cash proceeds of \$6,929, net of costs of the sale, and we recognized a pretax gain on the sale of \$2,361 during 2022. The sale was a result of our continued real estate rationalization process.

NOTE 7: DERIVATIVE FINANCIAL INSTRUMENTS

As part of our interest rate risk management strategy, we have entered into interest rate swaps, which we designated as cash flow hedges, to mitigate variability in interest payments on a portion of our variable-rate debt (Note 13). Information regarding our cash flow hedges was as follows:

<i>(in thousands)</i>	Notional amount	Interest Rate	Maturity	Balance Sheet Location	December 31, 2022 Fair Value Asset / (Liability)	December 31, 2021 Fair Value Asset / (Liability)
July 2019 interest rate swap:	\$ 200,000	1.798 %	March 2023	Other current assets	\$ 1,184	\$ —
				Other non-current liabilities	—	(3,028)
September 2022 interest rate swap:	300,000	3.895 %	September 2025	Other non-current assets	2,409	—

In January 2023, we executed a \$200,000 interest rate swap that will take effect in March 2023, expires in March 2026 and carries a fixed rate of 3.91%. This agreement will replace the existing interest rate swap that matures in March 2023 and has also been designated as a cash flow hedge.

Changes in the fair values of the interest rate swaps are recorded in accumulated other comprehensive loss on the consolidated balance sheets and are subsequently reclassified into interest expense as interest payments are made on the variable-rate debt. The fair values of the derivatives are calculated based on the applicable reference rate curve on the date of measurement. The cash flow hedges were fully effective as of December 31, 2022 and December 31, 2021, and their impact on consolidated net income and our consolidated statements of cash flows was not significant. We also expect that the amount that will be reclassified to interest expense during the next 12 months will not be significant.

NOTE 8: FAIR VALUE MEASUREMENTS

Goodwill impairment analyses

We evaluate the carrying value of goodwill as of July 31 of each year and between annual evaluations if events occur or circumstances change that could indicate a possible impairment. Our policy on impairment of goodwill, which is included in Note 1, explains our methodology for assessing goodwill impairment.

2022 annual goodwill impairment analyses – In completing the 2022 annual impairment analysis of goodwill as of July 31, 2022, we elected to perform qualitative analyses for all of our reporting units, with the exception of our Data Analytics reporting unit. These qualitative analyses evaluated factors, including, but not limited to, economic, market and industry conditions, cost factors and the overall financial performance of the reporting units. We also considered the most recent quantitative analyses completed in prior periods. In completing these assessments, we noted no changes in events or circumstances that indicated that it was more likely than not that the fair value of any reporting unit was less than its carrying amount. The quantitative analysis of our Data Analytics reporting unit indicated that the estimated fair value of this reporting unit exceeded its carrying value by approximately \$46,000, or by 39% above the carrying value of its net assets. As such, no goodwill impairment charges were recorded as a result of our 2022 annual impairment analysis.

2021 annual goodwill impairment analyses – In completing the 2021 annual impairment analysis of goodwill as of July 31, 2021, we elected to perform qualitative analyses for all of our reporting units. These qualitative analyses evaluated factors, including, but not limited to, economic, market and industry conditions, cost factors and the overall financial performance of the reporting units. We also considered the most recent quantitative analyses completed in prior periods. In completing these assessments, we noted no changes in events or circumstances that indicated that it was more likely than not that the fair value of any reporting unit was less than its carrying amount. As such, no goodwill impairment charges were recorded as a result of our 2021 annual impairment analysis.

Second quarter 2021 realignment of reporting units – As a result of changes in our financial management reporting process during the second quarter of 2021, we concluded that a realignment of our reporting units was required. These changes

did not require a revision to our reportable business segments. We analyzed goodwill for impairment immediately prior to this realignment by performing qualitative analyses for the reporting units with goodwill. The qualitative analyses evaluated factors, including, but not limited to, economic, market and industry conditions, cost factors and the overall financial performance of the reporting units. We also considered the last quantitative analyses we completed. In completing these assessments, we noted no changes in events or circumstances that indicated that it was more likely than not that the fair value of any reporting unit was less than its carrying amount.

The realignment of our reporting units, effective April 1, 2021, did not change the reporting units within our Data Solutions or Checks segments. Within our Payments segment, the number of reporting units increased from 1 to 4, and within our Promotional Solutions segment, the number of reporting units increased from 1 to 2. Upon completing the realignment, we reallocated the carrying value of goodwill to our new reporting units based on their relative fair values. Immediately subsequent to the realignment, we completed qualitative analyses for the reporting units that changed and to which goodwill was assigned. We determined that it was appropriate to perform qualitative assessments, given that our analysis indicated that the change in reporting units did not mask or prevent an impairment that existed at the time of the change. In completing the qualitative assessments, we noted no changes in events or circumstances that indicated that it was more likely than not that the fair value of any reporting unit was less than its carrying amount. As such, no goodwill impairment charges were recorded as a result of these analyses.

2020 annual goodwill impairment analyses – In completing the 2020 annual impairment analysis of goodwill as of July 31, 2020, we elected to perform qualitative analyses for 2 of our reporting units: Payments and Checks. These qualitative analyses evaluated factors, including, but not limited to, economic, market and industry conditions, cost factors and the overall financial performance of the reporting units. We also considered the most recent quantitative analyses we completed, which indicated that the estimated fair values of these reporting units exceeded their carrying values by approximately \$490,000 and \$954,000, or by 189% and 180% above the carrying values of their net assets. In completing these assessments, we noted no changes in events or circumstances that indicated that it was more likely than not that the fair value of either reporting unit was less than its carrying amount.

We elected to perform quantitative analyses for our other 2 reporting units: Data Analytics and Promotional Solutions. These quantitative analyses indicated that the estimated fair values of these reporting units exceeded their carrying values by approximately \$100,000 and \$210,000, or by 63% and 132% above the carrying values of their net assets. As such, no goodwill impairment charges were recorded as a result of our 2020 annual impairment analysis.

First quarter 2020 goodwill impairment analyses – Effective January 1, 2020, we reorganized our reportable business segments to align with structural and management reporting changes in support of our growth strategy. As a result, we reassessed our previously determined reporting units and concluded that a realignment of our reporting units was required. We analyzed goodwill for impairment immediately prior to this realignment by performing qualitative analyses for the reporting units that changed, with the exception of our Direct-to-Consumer reporting unit, which is now part of our Checks reportable business segment. The qualitative analyses evaluated factors, including, but not limited to, economic, market and industry conditions, cost factors and the overall financial performance of the reporting units. We also considered the last quantitative analyses we completed. In completing these assessments, we noted no changes in events or circumstances that indicated that it was more likely than not that the fair value of any reporting unit was less than its carrying amount. The quantitative analysis of our Direct-to-Consumer reporting unit indicated that its fair value exceeded its carrying value by approximately \$35,000, or 26%, as of January 1, 2020.

In completing the realignment of our reporting units, we reallocated the carrying value of goodwill to our new reporting units based on their relative fair values. Immediately subsequent to the realignment, we completed quantitative analyses for the reporting units that changed as a result of the realignment. These quantitative analyses, as of January 1, 2020, indicated that the estimated fair values of our reporting units exceeded their carrying values by approximate amounts between \$37,000 and \$954,000, or by amounts between 121% and 189% above the carrying values of their net assets.

In March 2020, the World Health Organization classified the COVID-19 outbreak as a pandemic. Following the pandemic designation, we observed a decline in the market value of our common shares and we determined that the global response to the pandemic negatively impacted our estimates of expected future cash flows. After our consideration of economic, market and industry conditions, cost factors, the overall financial performance of our reporting units and the last quantitative analyses we completed, we concluded that a triggering event had occurred for 2 of our reporting units. As such, we completed quantitative goodwill impairment analyses for our Promotional Solutions and Data Solutions Web Hosting reporting units as of March 31, 2020. Our analyses indicated that the goodwill of our Promotional Solutions reporting unit was partially impaired and the goodwill of our Data Solutions Web Hosting reporting unit was fully impaired. We recorded goodwill impairment charges of \$67,132 and \$4,317, respectively, during the quarter ended March 31, 2020. The impairment charges were measured as the amount by which the reporting units' carrying values exceeded their estimated fair values, limited to the carrying amount of goodwill. After the impairment charges, \$59,009 of goodwill remained in the Promotional Solutions reporting unit as of the measurement date.

Other non-recurring asset impairment analyses

We evaluate the recoverability of property, plant, equipment and amortizable intangibles not held for sale whenever events or changes in circumstances indicate that an asset group's carrying amount may not be recoverable. Our policy on impairment of long-lived assets and amortizable intangibles, which is included in Note 1, explains our methodology for assessing impairment of these assets. Assets held for sale are recorded at the lower of their carrying value or estimated fair value less costs to sell.

2020 impairment analyses – As a result of the impacts of the COVID-19 pandemic, we assessed for impairment certain long-lived assets of our Data Solutions Web Hosting reporting unit as of March 31, 2020. As a result of these assessments, we recorded asset impairment charges of \$17,678 related to customer list, software and trade name intangible assets. With the exception of certain internal-use software assets, we determined that the assets were fully impaired. We utilized the discounted value of estimated future cash flows to estimate the fair value of the asset group. In our analysis, we assumed a revenue decline of 31% and a gross margin decline of 5.2 points for 2020, as well as a discount rate of 9%.

During the first quarter of 2020, we assessed for impairment the carrying value of an asset group related to a small business distributor that we had previously purchased. Our assessment was the result of customer attrition during the quarter that impacted our projections of future cash flows. Based on our estimate of future cash flows, we determined that the asset group was partially impaired as of February 29, 2020, and we recorded an asset impairment charge of \$2,752, reducing the carrying value of the related customer list intangible asset. During the third quarter of 2020, as customer attrition continued, we again assessed this asset group for impairment and recorded an additional asset impairment charge of \$2,356, bringing the total impairment charge to \$5,108 in 2020. In calculating the estimated fair value of the asset group as of September 30, 2020, we assumed no revenue growth, a 1.0 point improvement in gross margin and a discount rate of 11%.

Also during 2020, we recorded asset impairment charges of \$7,514 related primarily to the rationalization of our real estate footprint, as well as internal-use software held for sale as of December 31, 2019. These assets were written down to their estimated fair values less costs to sell. The sale of the related real estate assets was completed during the quarter ended September 30, 2020 and the sale of the internal-use software was completed on December 31, 2020.

No asset impairment charges were recorded during 2022 or 2021. Information regarding the impairment analyses completed during 2020 are as follows:

(in thousands)	Fair value measurements using				Impairment charge
	Fair value as of measurement date	Quoted prices in active markets for identical assets (Level 1)	Significant other observable inputs (Level 2)	Significant unobservable inputs (Level 3)	
2020 analyses:					
Intangible assets (Data Solutions Web Hosting reporting unit) ⁽¹⁾	\$ 2,172	\$ —	\$ —	\$ 2,172	\$ 17,678
Small business distributor	4,479	—	—	4,479	5,108
Other assets	11,210	—	—	11,210	7,514
Goodwill					71,449
Total					\$ 101,749

⁽¹⁾ The impairment charge consisted of \$8,397 related to customer lists, \$6,932 related to internal-use software and \$2,349 related to other intangible assets.

Business combinations

For all acquisitions, we are required to measure the fair value of the net identifiable tangible and intangible assets and liabilities acquired. Information regarding our 2021 acquisition can be found in Note 6 and information regarding the useful lives of acquired intangibles can be found in Note 3. The identifiable net assets acquired during 2021 were comprised primarily of intangible assets, accounts receivable and operating lease assets and liabilities. The fair value of the customer relationship intangibles acquired during 2021, as well as the partner relationship intangibles, was estimated using the multi-period excess earnings method. This valuation model estimates revenues and cash flows derived from the asset and then deducts portions of the cash flow that can be attributed to supporting assets, such as a trade name or fixed assets, that contributed to the generation of the cash flows. The resulting cash flow, which is attributable solely to the customer relationship or partner relationship asset, is then discounted at a rate of return commensurate with the risk of the asset to calculate a present value. Key assumptions used in all these calculations included same-customer revenue, merchant and partner growth rates; estimated earnings; estimated customer and partner retention rates, based on the acquirees' historical information; and the discount rate.

The estimated fair values of the acquired trade names and technology-based intangibles were estimated using the relief from royalty method, which calculates the cost savings associated with owning rather than licensing the assets. Assumed royalty rates were applied to projected revenue for the estimated remaining useful lives of the assets to estimate the royalty savings. Royalty rates are selected based on the attributes of the asset, including its recognition and reputation in the industry, and in the case of trade names, with consideration of the specific profitability of the products sold under a trade name and supporting assets.

The estimated fair value of the acquired accounts receivable approximated the gross contractual amounts receivable and we expect to collect all acquired receivables. The fair value of the acquired operating lease liabilities was estimated as if the leases were new. As such, we reassessed the lease term, the discount rate and the lease payments. The fair value of the related operating lease assets was measured at the same amount as the lease liability, adjusted to reflect favorable or unfavorable terms of the leases as compared to market terms.

Recurring fair value measurements

Funds held for customers and cash and cash equivalents included available-for-sale debt securities (Note 3). These securities included a mutual fund investment that invests in Canadian and provincial government securities, an investment in a Canadian guaranteed investment certificate (GIC) with an original maturity of 2 years, and a domestic money market fund. The mutual fund investment is not traded in an active market and its fair value is determined by obtaining quoted prices in active markets for the underlying securities held by the fund. The cost of the GIC, which matured during 2022, approximated its fair value, based on estimates using current market rates offered for deposits with similar remaining maturities. The cost of the money market fund held at December 31, 2022, which is traded in an active market, approximated its fair value because of the short-term nature of the investment. Unrealized gains and losses, net of tax, are included in accumulated other comprehensive loss on the consolidated balance sheets. The cost of securities sold is determined using the average cost method. Realized gains and losses are included in revenue on the consolidated statements of income and were not significant during the past 3 years.

Information regarding the fair values of our financial instruments was as follows:

		Fair value measurements using					
		December 31, 2022		Quoted prices in active markets for identical assets (Level 1)	Significant other observable inputs (Level 2)	Significant unobservable inputs (Level 3)	
(in thousands)	Balance sheet location	Carrying value	Fair value				
<i>Measured at fair value through comprehensive income:</i>							
Available-for-sale debt securities	Cash and cash equivalents	\$ 5,000	\$ 5,000	\$ 5,000	\$ —	\$ —	
Available-for-sale debt securities	Funds held for customers	8,126	8,126	—	8,126	—	
Derivative assets (Note 7)	Other current and non-current assets	3,593	3,593	—	3,593	—	
<i>Amortized cost:</i>							
Cash	Cash and cash equivalents	35,435	35,435	35,435	—	—	
Cash	Funds held for customers	294,165	294,165	294,165	—	—	
Cash	Other non-current assets	2,815	2,815	2,815	—	—	
Loans and notes receivable from distributors	Other current and non-current assets	14,220	13,315	—	—	13,315	
Long-term debt	Current portion of long-term debt and long-term debt	1,644,276	1,574,417	—	1,574,417	—	

Fair value measurements using

<i>(in thousands)</i>	Balance sheet location	December 31, 2021		Quoted prices in active markets for identical assets (Level 1)	Significant other observable inputs (Level 2)	Significant unobservable inputs (Level 3)
		Carrying value	Fair value			
<i>Measured at fair value through comprehensive income:</i>						
Available-for-sale debt securities	Funds held for customers	\$ 13,307	\$ 13,307	\$ —	\$ 13,307	\$ —
Derivative liability (Note 7)	Other non-current liabilities	(3,028)	(3,028)	—	(3,028)	—
<i>Amortized cost:</i>						
Cash	Cash and cash equivalents	41,231	41,231	41,231	—	—
Cash	Funds held for customers	241,488	241,488	241,488	—	—
Cash	Other non-current assets	2,772	2,772	2,772	—	—
Loans and notes receivable from distributors	Other current and non-current assets	21,518	22,344	—	—	22,344
Long-term debt	Current portion of long-term debt and long-term debt	1,682,949	1,728,515	—	1,728,515	—

NOTE 9: RESTRUCTURING AND INTEGRATION EXPENSE

Restructuring and integration expense consists of costs related to the consolidation and migration of certain applications and processes, including our financial and sales management systems. It also includes costs related to the integration of acquired businesses into our systems and processes. These costs primarily consist of information technology consulting, project management services and internal labor, as well as other costs associated with our initiatives, such as training, travel, relocation and costs associated with facility closures. In addition, we recorded employee severance costs related to these initiatives, as well as our ongoing cost reduction initiatives across functional areas. We are currently pursuing several initiatives designed to focus on our growth strategy and to increase our efficiency. Restructuring and integration expense is not allocated to our reportable business segments.

Restructuring and integration expense is reflected on the consolidated statements of income as follows for the years ended December 31:

<i>(in thousands)</i>	2022	2021	2020
Total cost of revenue	\$ 607	\$ 4,197	\$ 3,465
Operating expenses	62,529	54,750	75,874
Restructuring and integration expense	\$ 63,136	\$ 58,947	\$ 79,339

Restructuring and integration expense was comprised of the following for the years ended December 31:

<i>(in thousands)</i>	2022	2021	2020
External consulting fees	\$ 32,067	\$ 26,676	\$ 44,096
Employee severance benefits	12,829	9,076	17,628
Internal labor	7,989	7,948	7,568
Other	10,251	15,247	10,047
Restructuring and integration expense	<u>\$ 63,136</u>	<u>\$ 58,947</u>	<u>\$ 79,339</u>

Our restructuring and integration accruals are included in accrued liabilities on the consolidated balance sheets and represent expected cash payments required to satisfy the remaining severance obligations to those employees already terminated and those expected to be terminated under our various initiatives. The majority of the employee reductions, as well as the related severance payments, are expected to be completed by mid-2023, utilizing cash from operations.

Changes in our restructuring and integration accruals were as follows:

<i>(in thousands)</i>	Employee severance benefits
Balance, December 31, 2019	\$ 3,459
Charges	19,025
Reversals	(1,397)
Payments	(14,289)
Balance, December 31, 2020	6,798
Charges	10,897
Reversals	(1,821)
Payments	(10,202)
Balance, December 31, 2021	5,672
Charges	13,782
Reversals	(953)
Payments	(9,973)
Balance, December 31, 2022	<u>\$ 8,528</u>

The charges and reversals presented in the rollforward of our restructuring and integration accruals do not include items charged directly to expense as incurred, as those items are not reflected in accrued liabilities on the consolidated balance sheets.

NOTE 10: INCOME TAX PROVISION

Income before income taxes was comprised of the following for the years ended December 31:

<i>(in thousands)</i>	2022	2021	2020
U.S.	\$ 51,640	\$ 62,361	\$ 7,130
Foreign	32,738	31,442	19,673
Income before income taxes	<u>\$ 84,378</u>	<u>\$ 93,803</u>	<u>\$ 26,803</u>

The components of the income tax provision were as follows for the years ended December 31:

<i>(in thousands)</i>	2022	2021	2020
Current tax provision:			
Federal	\$ 27,789	\$ (61)	\$ 17,643
State	8,507	2,389	4,502
Foreign	11,081	10,945	4,779
Total current tax provision	<u>47,377</u>	<u>13,273</u>	<u>26,924</u>
Deferred tax provision:			
Federal	(21,368)	15,889	(4,480)
State	(5,710)	1,958	(1,232)
Foreign	(1,451)	(89)	256
Total deferred tax provision	<u>(28,529)</u>	<u>17,758</u>	<u>(5,456)</u>
Income tax provision	<u>\$ 18,848</u>	<u>\$ 31,031</u>	<u>\$ 21,468</u>

The effective tax rate on pretax income reconciles to the U.S. federal statutory tax rate for the years ended December 31 as follows:

	2022	2021	2020
Income tax at federal statutory rate	21.0 %	21.0 %	21.0 %
Goodwill impairment charges (Note 8)	—	—	46.8 %
Change in valuation allowances	7.2 %	0.1 %	0.9 %
Tax impact of share-based compensation	3.2 %	0.9 %	8.5 %
State income tax expense, net of federal income tax benefit	2.7 %	2.4 %	2.1 %
Tax on repatriation of foreign earnings	2.2 %	4.9 %	—
Non-deductible executive compensation	2.2 %	1.7 %	2.2 %
Foreign tax rate differences	1.9 %	1.7 %	4.3 %
Change in unrecognized tax benefits, including interest and penalties	0.2 %	(0.6 %)	(3.3 %)
Non-deductible acquisition costs	0.1 %	1.5 %	—
Sale of business (Note 6)	(15.8 %)	—	—
Return to provision adjustments	(1.9 %)	—	(2.6 %)
Research and development tax credit	(1.2 %)	(0.9 %)	(3.7 %)
Payables and receivables for prior year tax returns	(0.3 %)	0.2 %	3.2 %
Non-taxable income from employee life insurance policies	(0.3 %)	(0.3 %)	(1.1 %)
Other	1.1 %	0.5 %	1.8 %
Effective tax rate	<u>22.3 %</u>	<u>33.1 %</u>	<u>80.1 %</u>

In May 2022, we completed the sale of our Australian web hosting business (Note 6), and we recognized a capital loss on the transaction for tax purposes. We recorded a valuation allowance for the portion of this capital loss carryover that we do not currently expect to realize. During the fourth quarter of 2022, we identified and recorded an out-of-period correcting adjustment related to the income tax provision recorded on this sale in the second quarter of 2022. The income tax provision and accrued income taxes were overstated by \$5,900 in the second quarter of 2022, and the income tax provision was understated by the same amount in the fourth quarter. There was no impact to the full year 2022 income tax provision, and this adjustment was not material to our results of operations for the periods ended June 30, 2022, September 30, 2022 or December 31, 2022.

During 2022, we repatriated current year foreign earnings of \$25,526 held in cash by our Canadian subsidiaries. The associated tax expense of \$1,818 was included in the income tax provision for the year ended December 31, 2022. We believe the accumulated and remaining cash of our Canadian subsidiaries is sufficient to meet their working capital needs. The historical unremitted Canadian earnings as of December 31, 2021, as well as the accumulated and future unremitted earnings of our European subsidiaries, will continue to be reinvested indefinitely in the operations of those subsidiaries. Deferred income taxes have not been recognized on these earnings as of December 31, 2022. If we were to repatriate our foreign cash and cash equivalents into the U.S. at one time, the tax effects would generally be limited to foreign withholding taxes on any such

distribution. As of December 31, 2022, the amount of cash and cash equivalents held by our foreign subsidiaries was \$33,615, primarily in Canada.

During the fourth quarter of 2021, we repatriated accumulated foreign earnings of \$85,285 held in cash by our Canadian subsidiaries. We decided to complete the repatriation due, in part, to changes in Canadian law announced during 2021 and the reorganization of our capital structure in June 2021 in conjunction with the First American acquisition (Note 6). The associated tax expense of \$4,555 was included in the income tax provision for the fourth quarter of 2021.

A reconciliation of the beginning and ending amount of unrecognized tax benefits, excluding accrued interest and penalties and the federal benefit of deductible state income tax, was as follows:

<i>(in thousands)</i>	2022	2021	2020
Balance, beginning of year	\$ 2,551	\$ 3,361	\$ 4,169
Additions for tax positions of current year	250	169	237
Additions for tax positions of prior years	270	8	30
Reductions for tax positions of prior years	(45)	(673)	(414)
Lapse of statutes of limitations	(391)	(314)	(661)
Balance, end of year	<u>\$ 2,635</u>	<u>\$ 2,551</u>	<u>\$ 3,361</u>

If the unrecognized tax benefits as of December 31, 2022 were recognized in the consolidated financial statements, income tax expense would decrease \$2,635. Accruals for interest and penalties, excluding the tax benefits of deductible interest, were \$731 as of December 31, 2022 and \$635 as of December 31, 2021. Our income tax provision included expense for interest and penalties of \$97 in 2022 and \$84 in 2021 and included a reduction for interest and penalties of \$384 in 2020. We believe that it is reasonably possible that a decrease of up to \$1,500 in unrecognized tax benefits related to state tax exposures may be necessary within the next 12 months, with the majority related to the lapse of statutes of limitations. We believe it is reasonably possible that an increase of up to \$2,000 in unrecognized tax benefits may be necessary within the next 12 months, related to legislative and regulatory changes in certain state and local jurisdictions. Due to the nature of the underlying liabilities and the extended time frame often needed to resolve income tax uncertainties, we cannot provide reliable estimates of the amount or timing of cash payments that may be required to settle these liabilities.

The statute of limitations for federal tax assessments for 2018 and prior years has expired. Our 2019 through 2021 returns and our 2022 return, when filed, are subject to IRS examination. In general, income tax returns for the years 2019 through 2022 remain subject to examination by foreign, state and city tax jurisdictions. In the event that we have determined not to file income tax returns with a particular state or city, all years remain subject to examination by the tax jurisdiction.

The ultimate outcome of tax matters may differ from our estimates and assumptions. Unfavorable settlement of any particular issue would require the use of cash and could result in increased income tax expense. Favorable resolution would result in reduced income tax expense.

Tax-effected temporary differences that gave rise to deferred tax assets and liabilities as of December 31 were as follows:

<i>(in thousands)</i>	2022		2021	
	Deferred tax assets	Deferred tax liabilities	Deferred tax assets	Deferred tax liabilities
Goodwill	\$ —	\$ 30,848	\$ —	\$ 21,190
Intangible assets	—	16,901	—	37,170
Cloud computing arrangements	—	13,969	—	16,646
Employee benefit plans	—	11,009	—	10,093
Revenue recognition	—	7,312	—	5,496
Prepaid assets	—	5,474	—	4,844
Operating leases	16,681	12,387	18,388	14,996
Net operating loss, tax credit and capital loss carryforwards	16,720	—	8,083	—
Deductible interest carryforward	16,403	—	8,352	—
Reserves and accruals	6,935	—	7,320	—
Payroll tax deferral under the CARES Act	—	—	2,175	—
Property, plant and equipment	3,139	—	1,347	—
Inventories	2,018	—	1,661	—
All other	2,946	2,500	3,780	2,619
Total deferred taxes	64,842	100,400	51,106	113,054
Valuation allowances	(7,996)	—	(10,993)	—
Net deferred taxes	\$ 56,846	\$ 100,400	\$ 40,113	\$ 113,054

The valuation allowances as of December 31, 2022 and December 31, 2021 related primarily to capital loss carryforwards in the U.S and Canada and net operating loss carryforwards in various state jurisdictions that we do not currently expect to fully realize. In addition, as of December 31, 2021, the valuation allowances also related to deferred tax assets of our Australian operations. Changes in our valuation allowances for the years ended December 31 were as follows:

<i>(in thousands)</i>	2022	2021	2020
Balance, beginning of year	\$ (10,993)	\$ (11,453)	\$ (10,349)
Expense from change in allowances	(6,086)	(65)	(244)
Sale of business (Note 6)	8,745	—	—
Foreign currency translation	338	525	(860)
Balance, end of year	\$ (7,996)	\$ (10,993)	\$ (11,453)

As of December 31, 2022, we had the following net operating loss, deductible interest, capital loss and tax credit carryforwards:

- state net operating loss carryforwards and tax credit carryforwards of \$118,646 that expire at various dates between 2023 and 2050;
- federal deductible interest carryforwards of \$61,696 that do not expire;
- federal capital loss carryforwards of \$34,112 that expire in 2027; and
- foreign capital loss carryforwards of \$4,688 that do not expire.

NOTE 11: SHARE-BASED COMPENSATION PLANS

Our employee share-based compensation plans consist of our employee stock purchase plan and our long-term incentive plan. Effective April 27, 2022, our shareholders approved the Deluxe Corporation 2022 Stock Incentive Plan, simultaneously terminating our previous plan. Under the current plan, 1.5 million shares of common stock plus any shares released as a result of the forfeiture or termination of awards issued under our prior plan are reserved for issuance, with 2.0 million shares remaining available for issuance as of December 31, 2022. Under our current and previous plans, we have granted non-qualified stock options, restricted stock units, restricted shares and performance share unit awards. Our current plan also allows for the

issuance of stock appreciation rights, none of which have been granted as of December 31, 2022. Our policy regarding the recognition of compensation expense for employee share-based awards can be found in Note 1.

The following amounts were recognized in our consolidated statements of income for share-based compensation awards for the years ended December 31:

<i>(in thousands)</i>	2022	2021	2020
Restricted shares and restricted stock units	\$ 16,632	\$ 20,407	\$ 15,066
Performance share unit awards	3,840	4,338	2,590
Stock options	2,665	4,187	3,689
Employee stock purchase plan	539	545	479
Total share-based compensation expense	<u>\$ 23,676</u>	<u>\$ 29,477</u>	<u>\$ 21,824</u>
Income tax benefit	<u>\$ (6,853)</u>	<u>\$ (7,714)</u>	<u>\$ (5,779)</u>

As of December 31, 2022, the total compensation expense for unvested awards not yet recognized in our consolidated statements of income was \$27,221, net of the effect of estimated forfeitures. This amount is expected to be recognized over a weighted-average period of 2.2 years.

Non-qualified stock options – All options allow for the purchase of shares of common stock at prices equal to the stock's market value at the date of grant. Options become exercisable beginning 1 year after the grant date, with one-fourth vesting each year over 4 years. Options granted under the current plan may be exercised up to 10 years following the grant date. Awards granted prior to 2019 have a 7 year life. Beginning 1 year after the grant date, in the case of qualified retirement, death or disability, options vest immediately and the period over which the options can be exercised is shortened. Beginning 1 year after the grant date, in the case of involuntary termination without cause, a pro-rata portion of the options vest immediately and the period over which the options can be exercised is shortened. Employees forfeit unvested options when they voluntarily terminate their employment with the company, and they have up to 3 months to exercise vested options before they are canceled. In the case of involuntary termination with cause, the entire unexercised portion of the award is canceled. All options may vest immediately upon a change of control, as defined in the award agreement.

No stock options were granted during 2022. The weighted-average grant-date fair value of options granted was \$11.57 per option for 2021 and \$6.39 per option for 2020. The following weighted-average assumptions were used in the Black-Scholes option pricing model to determine the fair value of these stock option grants:

	2021	2020
Risk-free interest rate	0.7 %	1.3 %
Dividend yield	2.9 %	3.2 %
Expected volatility	42.0 %	25.8 %
Weighted-average option life (in years)	4.8	5.4

The risk-free interest rate for periods within the expected option life is based on the U.S. Treasury yield curve in effect at the grant date. The dividend yield is estimated over the expected life of the option based on historical dividends paid. Expected volatility is based on the historical volatility of our stock over the most recent historical period equivalent to the expected life of the option. The expected option life is the average length of time over which we expect the employee groups will exercise their options, based on historical experience with similar grants.

Each option is convertible into 1 share of common stock upon exercise. Information regarding options issued under the current and all previous plans was as follows:

	Number of options <i>(in thousands)</i>	Weighted-average exercise price per option	Aggregate intrinsic value <i>(in thousands)</i>	Weighted-average remaining contractual term <i>(in years)</i>
Outstanding, December 31, 2019	1,347	\$ 53.92		
Granted	1,030	38.13		
Exercised	(12)	38.80		
Forfeited or expired	(231)	54.87		
Outstanding, December 31, 2020	2,134	46.28		
Granted	440	41.50		
Exercised	(31)	27.56		
Forfeited or expired	(357)	44.87		
Outstanding, December 31, 2021	2,186	45.81		
Forfeited or expired	(454)	49.78		
Outstanding, December 31, 2022	1,732	44.77	\$ —	6.0
Exercisable at December 31, 2020	654	\$ 57.68		
Exercisable at December 31, 2021	1,015	51.48		
Exercisable at December 31, 2022	1,144	46.98	\$ —	5.2

The intrinsic value of a stock award is the amount by which the fair value of the underlying stock exceeds the exercise price of the award. The total intrinsic value of options exercised was \$510 for 2021 and \$118 for 2020.

Restricted stock units – We grant restricted stock unit awards to all North American employees and during 2021 and 2020, we paid a portion of employee bonuses in restricted stock units. We also grant certain other restricted stock unit awards under our long-term incentive plan. These awards generally vest over periods of 3 years or 4 years.

Additionally, certain management employees have the option to receive a portion of their bonus payment in the form of restricted stock units. When employees elect this payment method, we provide an additional matching amount of restricted stock units equal to 50% of the restricted stock units earned under the bonus plan. These awards vest 2 years from the date of grant. In the case of qualified retirement, death, disability or change of control, the awards vest immediately. In the case of involuntary termination without cause or voluntary termination, employees receive a cash payment for the units earned under the bonus plan, but forfeit the company-provided matching amount. We made cash payments of \$123 during 2022, \$64 during 2021 and \$58 during 2020 to settle share-based liabilities.

In addition to awards granted to employees, non-employee members of our board of directors can elect to receive all or a portion of their fees in the form of restricted stock units. Directors are issued shares in exchange for the units upon the earlier of the tenth anniversary of February 1st of the year following the year in which the non-employee director ceases to serve on the board or such other objectively determinable date pre-elected by the director.

Each restricted stock unit is convertible into 1 share of common stock upon completion of the vesting period. Information regarding our restricted stock units was as follows:

	Number of units <i>(in thousands)</i>	Weighted-average grant date fair value per unit	Weighted-average remaining vesting period <i>(in years)</i>
Outstanding at December 31, 2019	664	\$ 44.35	
Granted	628	37.25	
Vested	(282)	45.18	
Forfeited	(83)	40.44	
Outstanding at December 31, 2020	927	39.68	
Granted	642	42.90	
Vested	(425)	40.50	
Forfeited	(112)	39.78	
Outstanding at December 31, 2021	1,032	41.37	
Granted	770	30.52	
Vested	(475)	42.00	
Forfeited	(282)	37.96	
Outstanding at December 31, 2022	1,045	34.10	2.9

Of the awards outstanding at December 31, 2022, 45 thousand restricted stock units with a value of \$766 were included in accrued liabilities and other non-current liabilities on the consolidated balance sheet. As of December 31, 2022, these units had a fair value of \$16.98 per unit and a weighted-average remaining contractual term of 10 months.

The value of restricted stock units that vested was \$13,602 for 2022, \$16,646 for 2021 and \$7,839 for 2020.

Restricted shares – For restricted share awards granted to employees under our current long-term incentive plan, in most cases one-fourth of the shares vested each year over 4 years. No restricted share awards were granted during 2022 or 2021, and no restricted share awards were outstanding as of December 31, 2021 or December 31, 2022.

Information regarding unvested restricted shares was as follows:

	Number of shares <i>(in thousands)</i>	Weighted-average grant date fair value per share
Unvested at December 31, 2019	26	\$ 71.61
Vested	(16)	72.79
Forfeited	(2)	61.43
Unvested at December 31, 2020	8	71.02
Vested	(8)	71.02
Unvested at December 31, 2021	—	—

The total fair value of restricted shares that vested was \$332 for 2021 and \$600 for 2020.

Performance share unit awards – Our performance share unit awards have a 3 year vesting period. Shares will be issued at the end of the vesting period if performance targets relating to revenue and total shareholder return are achieved. If employment is terminated for any reason prior to the 1 year anniversary of the commencement of the performance period, the award is forfeited. On or after the 1 year anniversary of the commencement of the performance period, a pro-rata portion of the shares awarded at the end of the performance period is issued in the case of qualified retirement, death, disability, involuntary termination without cause or resignation for good reason, as defined in the agreement.

The following weighted-average assumptions were used in the Monte Carlo simulation model in determining the fair value of market-based performance share units granted:

	2022	2021	2020
Risk-free interest rate	1.8 %	0.3 %	1.4 %
Dividend yield	3.7 %	4.4 %	2.4 %
Expected volatility	54.9 %	55.6 %	28.6 %

The risk-free interest rate for periods within the expected award life is based on the U.S. Treasury yield curve in effect at the grant date. The dividend yield is estimated over the expected life of the award based on historical dividends paid. Expected volatility is based on the historical volatility of our stock over the expected life of the award.

Information regarding unvested performance share units was as follows:

	Performance share units <i>(in thousands)</i>	Weighted-average grant date fair value per unit	Weighted-average remaining contractual term <i>(in years)</i>
Unvested at December 31, 2019	252	\$ 57.64	
Granted ⁽¹⁾	127	36.06	
Vested	(61)	71.03	
Forfeited	(23)	62.18	
Unvested at December 31, 2020	295	45.20	
Granted ⁽¹⁾	208	32.46	
Forfeited	(68)	67.77	
Unvested at December 31, 2021	435	35.56	
Granted ⁽¹⁾	203	37.47	
Vested	(93)	44.69	
Forfeited	(119)	39.08	
Adjustment for performance results achieved ⁽²⁾	35	44.69	
Unvested at December 31, 2022	461	34.35	1.1

⁽¹⁾ Reflects awards granted assuming achievement of performance goals at target.

⁽²⁾ Reflects the difference between the awards earned at the end of the performance period and the target number of shares.

Employee stock purchase plan – During 2022, 149 thousand shares were issued under this plan at prices ranging from \$15.62 to \$25.59. During 2021, 108 thousand shares were issued under this plan at prices ranging from \$18.84 to \$37.32. During 2020, 125 thousand shares were issued under this plan at prices ranging from \$18.22 to \$40.97.

NOTE 12: POSTRETIREMENT BENEFITS

We have historically provided certain health care benefits for a large number of retired U.S. employees. Employees hired prior to January 1, 2002 become eligible for benefits if they attain the appropriate years of service and age prior to retirement. Employees hired on January 1, 2002 or later are not eligible to participate in the plan. In addition to our retiree health care plan, we also have a U.S. supplemental executive retirement plan (SERP). The SERP is no longer an active plan. It is not adding new participants and all of the current participants are retired. The SERP has no plan assets, but our obligation is fully funded by investments in company-owned life insurance policies.

Obligations and funded status – Changes in our benefit obligation, plan assets and funded status for the years ended December 31 were as follows:

<i>(in thousands)</i>	Postretirement benefit plan	Pension plan⁽¹⁾
Change in benefit obligation:		
Benefit obligation, December 31, 2020	\$ 68,164	\$ 3,343
Interest cost	929	39
Net actuarial (gain) loss	(5,721)	2
Benefits paid from plan assets and company funds	(5,591)	(324)
Benefit obligation, December 31, 2021	57,781	3,060
Interest cost	1,069	52
Net actuarial gain	(13,839)	(414)
Benefits paid from plan assets and company funds	(5,302)	(324)
Benefit obligation, December 31, 2022	<u>\$ 39,709</u>	<u>\$ 2,374</u>
Change in plan assets:		
Fair value of plan assets, December 31, 2020	\$ 139,372	\$ —
Return on plan assets	10,159	—
Benefits paid	(4,731)	—
Fair value of plan assets, December 31, 2021	144,800	—
Loss on plan assets	(22,116)	—
Benefits paid	(3,632)	—
Fair value of plan assets, December 31, 2022	<u>\$ 119,052</u>	<u>\$ —</u>
Funded status, December 31, 2021	\$ 87,019	\$ (3,060)
Funded status, December 31, 2022	<u>\$ 79,343</u>	<u>\$ (2,374)</u>

⁽¹⁾ The accumulated benefit obligation equals the projected benefit obligation.

The funded status of our plans was recognized on the consolidated balance sheets as of December 31 as follows:

<i>(in thousands)</i>	Postretirement benefit plan		Pension plan	
	2022	2021	2022	2021
Other non-current assets	\$ 79,343	\$ 87,019	\$ —	\$ —
Accrued liabilities	—	—	324	324
Other non-current liabilities	—	—	2,050	2,736

Amounts included in accumulated other comprehensive loss as of December 31 that have not been recognized as components of postretirement benefit income were as follows:

<i>(in thousands)</i>	2022	2021
Unrecognized prior service credit	\$ 8,493	\$ 9,914
Unrecognized net actuarial loss	(39,871)	(25,445)
Tax effect	4,506	100
Amount recognized in accumulated other comprehensive loss, net of tax	<u>\$ (26,872)</u>	<u>\$ (15,431)</u>

The unrecognized prior service credit relates to our postretirement benefit plan and is a result of previous plan amendments that reduced the accumulated postretirement benefit obligation. A reduction is first used to reduce any existing unrecognized prior service cost, then to reduce any remaining unrecognized transition obligation. The excess is the unrecognized prior service credit. The prior service credit is amortized on the straight-line basis over the remaining life expectancy of plan participants at the time of each plan amendment.

Unrecognized net actuarial gains and losses result from experience different from that assumed and from changes in assumptions. The net actuarial gain recognized during 2022 was primarily due to the increase in the discount rate used to discount the benefit obligation and a reduction in the number of plan participants. The net actuarial gain recognized during 2021 was primarily due to the increase in the discount rate used to discount the benefit obligation, as well as favorable claims experience. Unrecognized actuarial gains and losses for our postretirement benefit plan are amortized over the average remaining life expectancy of inactive plan participants, as a large percentage of the plan participants are classified as inactive. This amortization period is currently 12.4 years.

Postretirement benefit income – Postretirement benefit income for the years ended December 31 consisted of the following components:

<i>(in thousands)</i>	2022	2021	2020
Interest cost	\$ 1,121	\$ 968	\$ 1,911
Expected return on plan assets	(7,462)	(7,498)	(7,619)
Amortization of prior service credit	(1,421)	(1,421)	(1,421)
Amortization of net actuarial losses	900	1,629	2,301
Net periodic benefit income	<u>\$ (6,862)</u>	<u>\$ (6,322)</u>	<u>\$ (4,828)</u>

Actuarial assumptions – In measuring the benefit obligations as of December 31, the following discount rate assumptions were used:

	Postretirement benefit plan		Pension plan	
	2022	2021	2022	2021
Discount rate	5.09 %	2.61 %	5.00 %	2.26 %

In measuring net periodic benefit income for the years ended December 31, the following assumptions were used:

	Postretirement benefit plan			Pension plan		
	2022	2021	2020	2022	2021	2020
Discount rate	2.61 %	2.16 %	3.03 %	2.26 %	1.74 %	2.76 %
Expected return on plan assets	5.25 %	5.50 %	6.00 %	—	—	—

The discount rate assumption is based on the rates of return on high-quality, fixed-income instruments currently available whose cash flows approximate the timing and amount of expected benefit payments. In determining the expected long-term rate of return on plan assets, we utilize our historical returns and then adjust these returns for estimated inflation and projected market returns. Our inflation assumption is primarily based on analysis of historical inflation data.

In measuring the benefit obligation as of December 31 for our postretirement benefit plan, the following assumptions for health care cost trend rates were used. These rates are utilized to determine our periodic benefit income for the following year.

	2022		2021		2020	
	Participants under age 65	Participants age 65 and older	Participants under age 65	Participants age 65 and older	Participants under age 65	Participants age 65 and older
Health care cost trend rate assumed for next year	6.6 %	7.3 %	6.9 %	7.6 %	7.2 %	8.0 %
Rate to which the cost trend rate is assumed to decline (the ultimate trend rate)	4.5 %	4.5 %	4.5 %	4.5 %	4.5 %	4.5 %
Year that the rate reaches the ultimate trend rate	2030	2030	2030	2030	2030	2030

Plan assets – The allocation of plan assets by asset category as of December 31 was as follows:

	Postretirement benefit plan	
	2022	2021
U.S. corporate debt securities	55 %	19 %
International equity securities	20 %	20 %
U.S. large capitalization equity securities	17 %	17 %
Mortgage-backed securities	5 %	41 %
U.S. small and mid-capitalization equity securities	3 %	3 %
Total	100 %	100 %

Our postretirement benefit plan has assets that are intended to meet long-term obligations. In order to meet these obligations, we employ a total return investment approach that considers cash flow needs and balances long-term projected returns against expected asset risk, as measured using projected standard deviations. Risk tolerance is established through consideration of projected plan liabilities, the plan's funded status, projected liquidity needs and our financial condition.

The target asset allocation percentages for our postretirement benefit plan are based on our liability and asset projections. The targeted allocation of plan assets is 60% fixed income securities, 20% international equity securities, 17% large capitalization equity securities and 3% small and mid-capitalization equity securities.

Information regarding fair value measurements of plan assets was as follows as of December 31, 2022:

	Fair value measurements using				
	Quoted prices in active markets for identical assets (Level 1)	Significant other observable inputs (Level 2)	Significant unobservable inputs (Level 3)	Investments measured at net asset value	Fair value as of December 31, 2022
<i>(in thousands)</i>					
U.S. corporate debt securities	\$ —	\$ 65,700	\$ —	\$ —	\$ 65,700
International equity securities	—	23,835	—	—	23,835
U.S. large capitalization equity securities	—	20,496	—	—	20,496
Mortgage-backed securities	—	5,959	—	—	5,959
U.S. small and mid-capitalization equity securities	—	3,062	—	—	3,062
Plan assets	\$ —	\$ 119,052	\$ —	\$ —	\$ 119,052

Information regarding fair value measurements of plan assets was as follows as of December 31, 2021:

	Fair value measurements using				
	Quoted prices in active markets for identical assets (Level 1)	Significant other observable inputs (Level 2)	Significant unobservable inputs (Level 3)	Investments measured at net asset value	Fair value as of December 31, 2021
<i>(in thousands)</i>					
Mortgage-backed securities	\$ (94)	\$ 58,893	\$ —	\$ —	\$ 58,799
International equity securities	285	28,708	—	—	28,993
U.S. corporate debt securities	22	27,836	—	—	27,858
U.S. large capitalization equity securities	(15)	25,410	—	—	25,395
U.S. small and mid-capitalization equity securities	26	3,729	—	—	3,755
Plan assets	\$ 224	\$ 144,576	\$ —	\$ —	\$ 144,800

The Level 2 investments relate to investment funds that publish daily net asset value ("NAV") per unit. The daily NAV is available to participants in the funds and redemptions can be made daily at the current NAV. The fair value and units are determined and published, and are the basis for current transactions. The investments are not eligible for the NAV practical expedient. However, they are measured at the published NAV because the quoted NAV per unit represents the price at which the investment would be sold in a transaction between independent market participants. Our policy is to recognize transfers between fair value levels as of the end of the reporting period in which the transfer occurred.

Cash flows – We made no contributions to plan assets during the past 3 years.

We have fully funded the SERP obligation with investments in company-owned life insurance policies. The cash surrender value of these policies is included in long-term investments on the consolidated balance sheets and totaled \$7,429 as of December 31, 2022 and \$7,370 as of December 31, 2021.

The following benefit payments are expected to be paid during the years indicated:

<i>(in thousands)</i>	Postretirement benefit plan	Pension plan
2023	\$ 5,187	\$ 320
2024	4,779	300
2025	4,324	290
2026	3,904	270
2027	3,592	250
2028 - 2032	14,462	980

401(k) plan – We maintain a 401(k) plan to provide retirement benefits for certain employees. The plan covers a majority of full-time employees, as well as some part-time employees. Employees generally become eligible to participate in the plan after completing 30 days of service.

401(k) contributions are made by both employees and Deluxe. Employees may contribute up to 50% of eligible wages, subject to IRS limitations and the terms and conditions of the plan. For the majority of employees, we typically match 100% of the first 1% of wages contributed and 50% of the next 5% of wages contributed, beginning after 30 days of employment. Effective April 1, 2020, we suspended the company matching contribution to maintain liquidity during the COVID-19 pandemic. The company match was reinstated on January 1, 2022. Expense recognized for the 401(k) plan matching contribution was \$3,095 for 2022, \$763 for 2021 and \$2,823 for 2020. The expense recognized during 2021 related to First American, which was acquired on June 1, 2021 (Note 6). All employee and employer contributions are remitted to the plan's trustee. Benefits provided by the plan are paid from accumulated funds of the trust.

Employees are provided a broad range of investment options to choose from when investing their 401(k) plan funds. Investing in our common stock is not one of these options, although funds selected by employees may at times hold our common stock.

NOTE 13: DEBT

Debt outstanding was comprised of the following at December 31:

<i>(in thousands)</i>	2022	2021
Senior, secured term loan facility	\$ 987,375	\$ 1,072,125
Senior, unsecured notes	475,000	500,000
Amounts drawn on senior, secured revolving credit facility	197,000	130,000
Total principal amount	1,659,375	1,702,125
Less: unamortized discount and debt issuance costs	(15,099)	(19,176)
Total debt, net of discount and debt issuance costs	1,644,276	1,682,949
Less: current portion of long-term debt, net of debt issuance costs	(71,748)	(57,197)
Long-term debt	\$ 1,572,528	\$ 1,625,752

Maturities of long-term debt were as follows as of December 31, 2022:

<i>(in thousands)</i>	Debt obligations
2023	\$ 72,188
2024	86,625
2025	101,062
2026	924,500
2027	—
Thereafter	475,000
Total principal amount	\$ 1,659,375

Credit facility – In June 2021, we executed a senior, unsecured credit facility consisting of a revolving credit facility with commitments of \$500,000 and a \$1,155,000 term loan facility. The revolving credit facility includes a \$40,000 swingline sub-facility and a \$25,000 letter of credit sub-facility. Proceeds from the credit facility were used to terminate our previous credit facility agreement and to fund the acquisition of First American (Note 6). Loans under the revolving credit facility may be borrowed, repaid and re-borrowed until June 1, 2026, at which time all amounts borrowed must be repaid. The term loan facility will be repaid in equal quarterly installments of \$14,438 through June 30, 2023, \$21,656 from September 30, 2023 through June 30, 2025, and \$28,875 from September 30, 2025 through March 31, 2026. The remaining balance is due on June 1, 2026. The term loan facility also includes mandatory prepayment requirements related to asset sales, new debt (other than permitted debt) and excess cash flow, subject to certain limitations. No premium or penalty is payable in connection with any mandatory or voluntary prepayment of the term loan facility.

Interest is payable on the credit facility at a fluctuating rate of interest determined by reference to the eurodollar rate (derived from LIBOR) plus an applicable margin ranging from 1.5% to 2.5%, depending on our consolidated total leverage ratio, as defined in the credit agreement. We are currently in the process of modifying our existing credit facility to utilize SOFR, replacing LIBOR as the reference rate in the agreement, effective March 20, 2023. Subsequent to this modification, interest will be payable based on SOFR plus an applicable margin. A commitment fee is payable on the unused portion of the revolving credit facility at a rate ranging from 0.25% to 0.35%, depending on our consolidated total leverage ratio. Amounts outstanding under our credit facilities had a weighted-average interest rate of 6.07% as of December 31, 2022 and 2.67% as of December 31, 2021, including the impact of interest rate swaps that effectively convert \$500,000 of our variable-rate debt to fixed rate debt. Further information regarding the interest rate swaps can be found in Note 7.

Borrowings under the credit facility are collateralized by substantially all of the present and future tangible and intangible personal property held by us and our subsidiaries that have guaranteed our obligations under the credit facility, subject to certain exceptions. The credit agreement contains customary covenants regarding limits on levels of indebtedness, liens, mergers, certain asset dispositions, changes in business, advances, investments, loans and restricted payments. The covenants are subject to a number of limitations and exceptions set forth in the credit agreement. The credit agreement also includes requirements regarding our consolidated total leverage ratio and our consolidated secured leverage ratio, as defined in the credit agreement. These ratios may not equal or exceed the following amounts during the periods indicated:

Fiscal Quarter Ending	Consolidated total leverage ratio	Consolidated secured leverage ratio
March 31, 2023	4.75 to 1:00	3.75 to 1:00
June 30, 2023 through March 31, 2024	4.50 to 1:00	3.50 to 1:00
June 30, 2024 and each fiscal quarter thereafter	4.25 to 1:00	3.50 to 1:00

In addition, we must maintain a minimum interest coverage ratio of at least 3.00 to 1.00 throughout the remaining term of the credit facility. Failure to meet any of the above requirements would result in an event of default that would allow lenders to declare amounts outstanding immediately due and payable and would allow the lenders to enforce their interests against collateral pledged if we were unable to settle the amounts outstanding. We were in compliance with all debt covenants as of December 31, 2022.

The credit agreement contains customary representations and warranties and as a condition to borrowing, requires that all such representations and warranties be true and correct in all material respects on the date of each borrowing, including representations as to no material adverse change in our business, assets, operations or financial condition. If our consolidated total leverage ratio exceeds 2.75 to 1.00, the aggregate annual amount of permitted dividends and share repurchases is limited to \$60,000.

Daily average amounts outstanding under our current and previous credit facility were as follows for the years ended December 31:

<i>(in thousands)</i>	2022	2021	2020
Daily average amount outstanding	\$ 1,191,517	\$ 1,109,819	\$ 1,016,896
Weighted-average interest rate	4.04 %	2.43 %	2.12 %

As of December 31, 2022, amounts were available for borrowing under our revolving credit facility as follows:

<i>(in thousands)</i>	Total available
Revolving credit facility commitment	\$ 500,000
Amount drawn on revolving credit facility	(197,000)
Outstanding letters of credit ⁽¹⁾	(7,823)
Net available for borrowing as of December 31, 2022	\$ 295,177

⁽¹⁾ We use standby letters of credit primarily to collateralize certain obligations related to our self-insured workers' compensation claims, as well as claims for environmental matters, as required by certain states. These letters of credit reduce the amount available for borrowing under our revolving credit facility.

Senior unsecured notes – In June 2021, we issued \$500,000 of 8.0% senior, unsecured notes that mature in June 2029. The notes were issued via a private placement under Rule 144A of the Securities Act of 1933. Proceeds from the offering, net of discount and offering costs, were \$490,741, resulting in an effective interest rate of 8.3%. The net proceeds from the notes were used to fund the acquisition of First American in June 2021 (Note 6). Interest payments are due each June and December. During the quarter ended September 30, 2022, we settled \$25,000 of these notes via open market purchases. We realized a pretax gain of \$1,726 on these debt retirements that is included in interest expense in the consolidated statement of income.

The indenture governing the notes contains covenants that limit our ability and the ability of our restricted subsidiaries to, among other things, incur additional indebtedness and liens, issue redeemable stock and preferred stock, pay dividends and distributions, make loans and investments and consolidate or merge or sell all or substantially all of our assets.

NOTE 14: LEASES

We have entered into operating leases for the majority of our facilities. These real estate leases have remaining terms of up to 9 years, with a weighted-average remaining term of 5.1 years as of December 31, 2022. We utilize leases for these facilities to limit our exposure to risks related to ownership, such as fluctuations in real estate prices, and to maintain flexibility in our real estate utilization. We have also entered into operating leases for certain equipment, primarily production printers and data center equipment. Certain of our leases include options to extend the lease term. The impact of renewal periods was not significant to the amounts recorded for operating lease assets and liabilities. We have also entered into finance leases for our corporate headquarters and for certain information technology hardware.

Leases were reflected on the consolidated balance sheets as follows at December 31:

<i>(in thousands)</i>	2022	2021
Operating leases:		
Operating lease assets	\$ 47,132	\$ 58,236
Accrued liabilities	\$ 12,780	\$ 14,852
Operating lease liabilities	48,925	56,444
Total operating lease liabilities	<u>\$ 61,705</u>	<u>\$ 71,296</u>
Weighted-average remaining lease term (in years)	5.1	5.6
Weighted-average discount rate	5.2 %	4.7 %
Finance leases:		
Property, plant and equipment, gross	\$ 33,060	\$ 33,359
Accumulated depreciation	(8,630)	(7,076)
Property, plant and equipment, net	<u>\$ 24,430</u>	<u>\$ 26,283</u>
Accrued liabilities	\$ 1,050	\$ 531
Other non-current liabilities	27,287	27,406
Total finance lease liabilities	<u>\$ 28,337</u>	<u>\$ 27,937</u>
Weighted-average remaining lease term (in years)	14.6	15.6
Weighted-average discount rate	6.0 %	6.0 %

The components of lease expense for the years ended December 31 were as follows:

<i>(in thousands)</i>	2022	2021	2020
Operating lease expense	\$ 20,480	\$ 17,485	\$ 20,928
Finance lease expense:			
Amortization of right-of-use assets	\$ 1,853	\$ 1,283	\$ 751
Interest on lease liabilities	1,697	829	20
Total finance lease expense	<u>\$ 3,550</u>	<u>\$ 2,112</u>	<u>\$ 771</u>

Supplemental cash flow information related to leases for the years ended December 31 was as follows:

<i>(in thousands)</i>	2022	2021	2020
Lease assets obtained in exchange for lease obligations:			
Operating leases ⁽¹⁾	\$ 6,294	\$ 38,630	\$ 11,000
Finance leases ⁽²⁾	—	26,941	—
Cash paid for amounts included in lease obligations:			
Operating cash flows from operating leases ⁽³⁾	\$ 19,015	\$ 8,444	\$ 19,026
Operating cash flows from finance leases	1,697	8	20
Financing cash flows from finance leases	1,290	421	735

⁽¹⁾ Operating lease assets obtained during 2021 included \$24,396 acquired in conjunction with the acquisition of First American in June 2021 (Note 6).

⁽²⁾ Finance lease assets obtained during 2021 consisted of a lease on our corporate headquarters located in Minnesota that commenced in July 2021.

⁽³⁾ Cash paid for operating leases during 2021 was reduced by lease incentives received of \$9,410.

Maturities of lease liabilities were as follows at December 31, 2022:

<i>(in thousands)</i>	Operating lease obligations	Finance lease obligations
2023	\$ 15,190	\$ 2,709
2024	14,826	2,743
2025	12,203	2,777
2026	11,257	2,812
2027	8,110	2,847
Thereafter	9,645	29,032
Total lease payments	71,231	42,920
Less lease incentive receivable	(867)	—
Less imputed interest	(8,659)	(14,583)
Present value of lease payments	\$ 61,705	\$ 28,337

We have executed an operating lease on a facility located in Chicago, Illinois that has not yet commenced and thus, is not reflected on our consolidated balance sheet as of December 31, 2022. The lease has a term of 12 years and increases our cash obligations by approximately \$16,000, payable through early 2036.

NOTE 15: OTHER COMMITMENTS AND CONTINGENCIES

Indemnifications – In the normal course of business, we periodically enter into agreements that incorporate general indemnification language. These indemnification provisions generally encompass third-party claims arising from our products and services, including, without limitation, service failures, breach of security, intellectual property rights, governmental regulations and/or employment-related matters. Performance under these indemnities would generally be triggered by our breach of the terms of the contract. In disposing of assets or businesses, we often provide representations, warranties and/or indemnities to cover various risks including, for example, unknown damage to the assets, environmental risks involved in the sale of real estate, liability to investigate and remediate environmental contamination at waste disposal sites and manufacturing facilities, and unidentified tax liabilities and legal matters related to periods prior to disposition. We do not have the ability to estimate the potential liability from such indemnities because they relate to unknown conditions. However, we do not believe that any liability under these indemnities would have a material adverse effect on our financial position, annual results of operations or annual cash flows. We have recorded liabilities for known indemnifications related to environmental matters. These liabilities were not significant as of December 31, 2022 or December 31, 2021.

First American indemnification – Pursuant to the First American acquisition agreement, we are entitled to limited indemnification for certain expenses and losses, if any, that may be incurred after the consummation of the transaction that arise out of certain matters, including a Federal Trade Commission ("FTC") investigation initiated in December 2019 seeking

information to determine whether certain subsidiaries of First American may have engaged in conduct prohibited by the Federal Trade Commission Act, the Fair Credit Reporting Act or the Duties of Furnishers of Information. As fully set forth in the merger agreement, our rights to indemnification for any such expenses and losses are limited to the amount of an indemnity holdback, which will be our sole recourse for any such losses.

The First American subsidiaries entered into a Stipulated Order for Permanent Injunction, Monetary Judgment, and Other Relief (the "Order") with the FTC, which was approved by the FTC on July 29, 2022. The parties subsequently entered into an amended Order. Pursuant to the Order, among other things, the First American defendants are required to pay \$4,900 to the FTC within 7 days of the entry of the Order. The First American defendants also agreed to certain injunctive relief. The payment of the above-referenced amount, together with post-closing expenses that we and First American incurred in connection with this matter, will be withdrawn from the holdback referenced above. As such, the payment of such amount will not have a material impact on our consolidated financial statements.

Self-insurance – We are self-insured for certain costs, primarily workers' compensation claims and medical and dental benefits for active employees and those employees on long-term disability. The liabilities associated with these items represent our best estimate of the ultimate obligations for reported claims plus those incurred, but not reported, and totaled \$9,661 as of December 31, 2022 and \$7,401 as of December 31, 2021. These accruals are included in accrued liabilities and other non-current liabilities on the consolidated balance sheets. Our workers' compensation liability is recorded at present value. The difference between the discounted and undiscounted liability was not significant as of December 31, 2022 or December 31, 2021.

Our self-insurance liabilities are estimated, in part, by considering historical claims experience, demographic factors and other actuarial assumptions. The estimated accruals for these liabilities could be significantly affected if future events and claims differ from these assumptions and historical trends.

Litigation – Recorded liabilities for legal matters, as well as related charges recorded in each of the past 3 years, were not material to our financial position, results of operations or liquidity during the periods presented, and we do not believe that any of the currently identified claims or litigation will materially affect our financial position, results of operations or liquidity upon resolution. However, litigation is subject to inherent uncertainties, and unfavorable rulings could occur. If an unfavorable ruling were to occur, it may cause a material adverse impact on our financial position, results of operations or liquidity for the period in which the ruling occurs or in future periods.

NOTE 16: SHAREHOLDERS' EQUITY

In October 2018, our board of directors authorized the repurchase of up to \$500,000 of our common stock. This authorization has no expiration date. We suspended share repurchases in March 2020 to maintain liquidity during the COVID-19 pandemic, and we have not purchased any shares since that time. During the first quarter of 2020, we repurchased 499 thousand shares for \$14,000 under this authorization. As of December 31, 2022, \$287,452 remained available for repurchase. During the second quarter of 2021, we issued 294 thousand shares to employees of First American in conjunction with the acquisition (Note 6), providing cash proceeds of \$13,000 during the quarter.

NOTE 17: BUSINESS SEGMENT INFORMATION

We operate 4 reportable business segments, generally organized by product type. In conjunction with the anticipated sale of our North American web hosting and logo businesses in 2023, we changed the name of our Cloud Solutions segment to Data Solutions. Information regarding this pending sale can be found in Note 6. Our segments are as follows:

- **Payments** – This segment includes our merchant in-store, online and mobile payment solutions; treasury management solutions, including remittance and lockbox processing, remote deposit capture, receivables management, payment processing and paperless treasury management; payroll and disbursement services, including Deluxe Payment Exchange; and fraud and security services.
- **Data Solutions** – This segment includes data-driven marketing solutions; hosted solutions, including digital engagement, logo design, financial institution profitability reporting and business incorporation services; and web hosting and design services.
- **Promotional Solutions** – This segment includes business forms, accessories, advertising specialties and promotional apparel.
- **Checks** – This segment includes printed business and personal checks.

The accounting policies of the segments are the same as those described in Note 1. We allocate corporate costs for our shared services functions to our business segments when the costs are directly attributable to a segment. This includes certain sales and marketing, human resources, supply chain, real estate, finance, information technology and legal costs. Costs that are not directly attributable to a business segment are reported as Corporate operations and consist primarily of marketing, accounting, information technology, facilities, executive management and legal, tax and treasury costs that support the corporate function. Corporate operations also includes other income. All of our segments operate primarily in the U.S., with some operations in Canada. In addition, Data Solutions has operations in portions of Europe, as well as partners in Central and South America, and had operations in Australia until May 2022 when this business was sold (Note 6). No single customer accounted for more than 10% of consolidated revenue during the past 3 years.

Our chief operating decision maker (i.e., our Chief Executive Officer) reviews earnings before interest, taxes, depreciation and amortization (EBITDA) on an adjusted basis for each segment when deciding how to allocate resources and to assess segment operating performance. Adjusted EBITDA for each segment excludes depreciation and amortization expense, interest expense, net income attributable to non-controlling interest, income tax expense and certain other amounts, which include, when applicable: asset impairment charges; restructuring and integration costs; CEO transition costs; share-based compensation expense; acquisition transaction costs; certain legal-related expense; and gains or losses on sales of businesses and long-lived assets. Our Chief Executive Officer does not review segment asset information when making investment or operating decisions regarding our reportable business segments.

Our segment information for the years ended December 31 was as follows:

<i>(in thousands)</i>	2022	2021	2020
Payments:			
Revenue	\$ 678,580	\$ 510,359	\$ 301,901
Adjusted EBITDA	144,605	105,576	68,117
Data Solutions:			
Revenue	267,525	262,310	252,773
Adjusted EBITDA	68,214	70,172	61,580
Promotional Solutions:			
Revenue	562,917	546,473	529,649
Adjusted EBITDA	79,549	85,384	66,620
Checks:			
Revenue	728,988	703,055	706,458
Adjusted EBITDA	320,498	324,224	341,705
Total segments:			
Revenue	\$ 2,238,010	\$ 2,022,197	\$ 1,790,781
Adjusted EBITDA	612,866	585,356	538,022

The following table presents a reconciliation of total segment adjusted EBITDA to consolidated income before income taxes:

<i>(in thousands)</i>	2022	2021	2020
Total segment adjusted EBITDA	\$ 612,866	\$ 585,356	\$ 538,022
Corporate operations	(194,736)	(177,591)	(173,480)
Depreciation and amortization	(172,552)	(148,767)	(110,792)
Interest expense	(94,454)	(55,554)	(23,140)
Net income attributable to non-controlling interest	135	139	91
Asset impairment charges	—	—	(101,749)
Restructuring and integration costs	(63,136)	(58,947)	(80,665)
CEO transition costs	—	—	30
Share-based compensation expense	(23,676)	(29,477)	(21,824)
Acquisition transaction costs	(130)	(18,913)	(8)
Certain legal-related benefit (expense)	730	(2,443)	2,164
Gain (loss) on sale of businesses and facility	19,331	—	(1,846)
Income before income taxes	<u>\$ 84,378</u>	<u>\$ 93,803</u>	<u>\$ 26,803</u>

The following tables present revenue disaggregated by our product and service offerings:

	Year Ended December 31, 2022				
<i>(in thousands)</i>	Payments	Data Solutions	Promotional Solutions	Checks	Consolidated
Checks	\$ —	\$ —	\$ —	\$ 728,988	\$ 728,988
Merchant services and other payment solutions	437,395	—	—	—	437,395
Forms and other products	—	—	289,920	—	289,920
Marketing and promotional solutions	—	—	272,997	—	272,997
Treasury management solutions	241,185	—	—	—	241,185
Data-driven marketing solutions	—	177,598	—	—	177,598
Web and hosted solutions	—	89,927	—	—	89,927
Total revenue	\$ 678,580	\$ 267,525	\$ 562,917	\$ 728,988	\$ 2,238,010

	Year Ended December 31, 2021				
<i>(in thousands)</i>	Payments	Data Solutions	Promotional Solutions	Checks	Consolidated
Checks	\$ —	\$ —	\$ —	\$ 703,055	\$ 703,055
Merchant services and other payment solutions	276,118	—	—	—	276,118
Forms and other products	—	—	296,993	—	296,993
Marketing and promotional solutions	—	—	249,480	—	249,480
Treasury management solutions	234,241	—	—	—	234,241
Data-driven marketing solutions	—	150,772	—	—	150,772
Web and hosted solutions	—	111,538	—	—	111,538
Total revenue	\$ 510,359	\$ 262,310	\$ 546,473	\$ 703,055	\$ 2,022,197

	Year Ended December 31, 2020				
<i>(in thousands)</i>	Payments	Data Solutions	Promotional Solutions	Checks	Consolidated
Checks	\$ —	\$ —	\$ —	\$ 706,458	\$ 706,458
Merchant services and other payment solutions	75,796	—	—	—	75,796
Forms and other products	—	—	316,245	—	316,245
Marketing and promotional solutions	—	—	213,404	—	213,404
Treasury management solutions	226,105	—	—	—	226,105
Data-driven marketing solutions	—	119,155	—	—	119,155
Web and hosted solutions	—	133,618	—	—	133,618
Total revenue	\$ 301,901	\$ 252,773	\$ 529,649	\$ 706,458	\$ 1,790,781

The following table presents revenue disaggregated by geography, based on where items are shipped or services are performed. Substantially all of our long-lived assets reside in the U.S. Long-lived assets of our foreign subsidiaries are located primarily in Canada and are not significant to our consolidated financial position.

<i>(in thousands)</i>	Payments	Data Solutions	Promotional Solutions	Checks	Consolidated
Year ended December 31, 2022:					
U.S.	\$ 634,945	\$ 248,227	\$ 537,643	\$ 700,170	\$ 2,120,985
Foreign, primarily Canada	43,635	19,298	25,274	28,818	117,025
Total revenue	\$ 678,580	\$ 267,525	\$ 562,917	\$ 728,988	\$ 2,238,010
Year ended December 31, 2021:					
U.S.	\$ 469,102	\$ 227,091	\$ 522,966	\$ 678,229	\$ 1,897,388
Foreign, primarily Canada and Australia	41,257	35,219	23,507	24,826	124,809
Total revenue	\$ 510,359	\$ 262,310	\$ 546,473	\$ 703,055	\$ 2,022,197
Year ended December 31, 2020:					
U.S.	\$ 266,920	\$ 220,699	\$ 506,240	\$ 684,328	\$ 1,678,187
Foreign, primarily Canada and Australia	34,981	32,074	23,409	22,130	112,594
Total revenue	\$ 301,901	\$ 252,773	\$ 529,649	\$ 706,458	\$ 1,790,781

ITEM 9. CHANGES IN AND DISAGREEMENTS WITH ACCOUNTANTS ON ACCOUNTING AND FINANCIAL DISCLOSURE

None.

ITEM 9A. CONTROLS AND PROCEDURES

Disclosure Controls and Procedures – As of the end of the period covered by this report, December 31, 2022 (the "Evaluation Date"), we carried out an evaluation, under the supervision and with the participation of management, including the Chief Executive Officer and the Chief Financial Officer, of the effectiveness of the design and operation of our disclosure controls and procedures (as defined in Rule 13a-15(e) of the Securities Exchange Act of 1934, as amended (the "Exchange Act")). Based upon that evaluation, the Chief Executive Officer and the Chief Financial Officer concluded that, as of the Evaluation Date, our disclosure controls and procedures were effective to ensure that information required to be disclosed in the reports that we file or submit under the Exchange Act is (i) recorded, processed, summarized and reported within the time periods specified in applicable rules and forms, and (ii) accumulated and communicated to our management, including our Chief Executive Officer and Chief Financial Officer, to allow timely decisions regarding required disclosure.

Internal Control Over Financial Reporting – There were no changes in our internal control over financial reporting identified in connection with our evaluation during the quarter ended December 31, 2022 that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

Management's Report on Internal Control over Financial Reporting – Our management is responsible for establishing and maintaining adequate internal control over financial reporting. Internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles in the U.S.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

Our management assessed the effectiveness of our internal control over financial reporting as of December 31, 2022. In making this assessment, we used the criteria set forth by the Committee of Sponsoring Organizations of the Treadway Commission (COSO) in *Internal Control - Integrated Framework* (2013). Based on this assessment, we have concluded that, as of December 31, 2022, our internal control over financial reporting was effective based on those criteria.

The attestation report on our internal control over financial reporting issued by PricewaterhouseCoopers LLP appears in Item 8 of this report.

ITEM 9B. OTHER INFORMATION

None.

ITEM 9C. DISCLOSURE REGARDING FOREIGN JURISDICTIONS THAT PREVENT INSPECTIONS

Not applicable.

PART III

Except where otherwise noted, the information required by Items 10 through 14 is incorporated by reference from our definitive proxy statement, to be filed with the Securities and Exchange Commission within 120 days of our fiscal year-end, with the exception of the executive officers section of Item 10, which is included in Part I, Item 1 of this report.

ITEM 10. DIRECTORS, EXECUTIVE OFFICERS AND CORPORATE GOVERNANCE

See Part I, Item 1 of this report "Information About Our Executive Officers." The sections of the proxy statement entitled "Item 1: Election of Directors," "Board Structure and Governance-Director Selection Process," "Board Structure and Governance-Audit Committee Financial Expertise; Complaint-Handling Procedures," "Board Structure and Governance-Committee Membership and Responsibilities-Audit Committee," and "Board Structure and Governance-Code of Business Ethics" are incorporated by reference into this report.

The full text of our Code of Business Ethics is posted on our investor relations website, www.investors.deluxe.com. We intend to satisfy the disclosure requirement under Item 5.05 of Form 8-K regarding an amendment to, or waiver from, a provision of the Code of Business Ethics that applies to our principal executive officer, principal financial officer, principal accounting officer or controller or persons performing similar functions by posting such information on our website at the address and location specified above.

ITEM 11. EXECUTIVE COMPENSATION

The sections of the proxy statement entitled "Executive Compensation Discussion and Analysis" and "Board Structure and Governance-Non-Employee Director Compensation" are incorporated by reference into this report.

ITEM 12. SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT AND RELATED STOCKHOLDER MATTERS

The section of the proxy statement entitled "Stock Ownership and Reporting-Security Ownership of Certain Beneficial Owners and Management" is incorporated by reference into this report.

The following table provides information concerning all of our equity compensation plans as of December 31, 2022:

Equity Compensation Plan Information

Plan category	Number of securities to be issued upon exercise of outstanding options, warrants and rights	Weighted-average exercise price of outstanding options, warrants and rights	Number of securities remaining available for future issuance under equity compensation plans (excluding securities reflected in the first column)
Equity compensation plans approved by shareholders	3,160,743 (1)	\$ 44.77 (1)	5,001,593 (2)
Equity compensation plans not approved by shareholders	77,716 (3)	—	—
Total	3,238,459	\$ 44.77	5,001,593

(1) Includes awards granted under our 2022 Stock Incentive Plan and our previous stock incentive plans. The number of securities to be issued upon exercise of outstanding options, warrants and rights includes outstanding stock options of 1,732,092, restricted stock unit awards of 983,828 and 444,823 shares subject to outstanding performance share unit awards. The number of performance share units reflects the target amount for awards outstanding as of December 31, 2022. The actual number of shares issued under our performance share unit awards will range between 0% and 200% of the target amount based on our performance relative to the applicable performance goals as determined by our Compensation Committee following the end of the performance period. The performance share unit and restricted stock unit awards are not included in the weighted-average exercise price of outstanding options, warrants and rights because they require no consideration upon vesting.

(2) Includes 2,987,045 shares reserved for issuance under our Amended and Restated 2000 Employee Stock Purchase Plan and 2,014,548 shares available for issuance under our 2022 Stock Incentive Plan.

(3) Includes awards granted pursuant to an inducement award of shares registered in the Registration Statement on Form S-8 filed August 5, 2022. The number of securities to be issued upon vesting includes outstanding restricted stock unit awards of 61,062 and 16,654 shares subject to outstanding performance share unit awards. The number of performance share units reflects the target amount for awards outstanding as of December 31, 2022. The actual number of shares issued under our performance share unit awards will range between 0% and 200% of the target amount based on our performance relative to the applicable performance goals as determined by our Compensation Committee following the end of the performance period. The performance share unit and restricted stock unit awards are not included in the weighted-average exercise price of outstanding options, warrants and rights because they require no consideration upon vesting.

ITEM 13. CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS, AND DIRECTOR INDEPENDENCE

The sections of the proxy statement entitled “Board Structure and Governance-Board Oversight and Director Independence” and “Board Structure and Governance-Policies and Procedures with Respect to Related Person Transactions” are incorporated by reference into this report.

ITEM 14. PRINCIPAL ACCOUNTANT FEES AND SERVICES

The sections of the proxy statement entitled “Item 5: Ratification of the Appointment of Independent Registered Public Accounting Firm-Fees Paid to Independent Registered Public Accounting Firm” and “Item 5: Ratification of the Appointment of Independent Registered Public Accounting Firm-Policy on Audit Committee Pre-Approval of Accounting Firm Fees and Services” are incorporated by reference into this report.

PART IV

ITEM 15. EXHIBITS AND FINANCIAL STATEMENT SCHEDULES

(a) Financial Statements and Schedules

The financial statements are set forth under Item 8 of the Annual Report on Form 10-K. Financial statement schedules have been omitted since they are either not required or are not applicable, or the required information is shown in the consolidated financial statements or notes.

(b) Exhibit Listing

The following exhibits are filed as part of or are incorporated into this report by reference:

Exhibit Number	Description
2.1	Agreement and Plan of Merger, dated as of April 21, 2021, by and among us, Fox Acquirer Sub, Inc., FAPS Holdings, Inc. and Applepoint FAPS Holdings LP (solely in its capacity as the stockholder representative), (incorporated by reference to Exhibit 2.1 to the Current Report on Form 8-K filed with the Commission on April 22, 2021)
2.2	Share Sale Agreement, dated as of March 8, 2022, between us and Web.com AUS Holdco Pty Ltd (incorporated by reference to Exhibit 2.1 to the Quarterly Report on Form 10-Q for the quarter ended March 31, 2022)
2.3	Amendment Agreement, dated as of April 29, 2022, to the Share Sale Agreement between us and Web.com AUS Holdco Pty Ltd (incorporated by reference to Exhibit 2.2 to the Quarterly Report on Form 10-Q for the quarter ended March 31, 2022)
3.1	Amended and Restated Articles of Incorporation (incorporated by reference to Exhibit 3.1 to the Quarterly Report on Form 10-Q for the quarter ended September 30, 2010)
3.2	Bylaws, as amended on February 16, 2023 (incorporated by reference to Exhibit 3.1 to the Current Report on Form 8-K filed with the Commission on February 21, 2023)
4.1	Description of Deluxe Corporation Common Stock Registered Under Section 12 of the Exchange Act of 1934 (incorporated by reference to Exhibit 4.2 to the Annual Report on Form 10-K for the year ended December 31, 2019)
4.2	Indenture, dated as of June 1, 2021, by and among us, certain of our subsidiaries and U.S. Bank National Association (incorporated by reference to Exhibit 4.1 to the Current Report on Form 8-K filed with the Commission on June 1, 2021)
4.3	Supplemental Indenture, dated as of June 1, 2021, by and among us, FAPS Holdings, Inc., all of the domestic subsidiaries of FAPS Holdings, Inc. and U.S. Bank National Association (incorporated by reference to Exhibit 4.2 to the Current Report on Form 8-K filed with the Commission on June 1, 2021)
10.1	Deluxe Corporation 2022 Stock Incentive Plan (incorporated by reference to Annex B of the definitive proxy statement filed with the Commission on March 14, 2022)*
10.2	Deluxe Corporation 2020 Long-Term Incentive Plan (incorporated by reference to Annex B of the definitive proxy statement filed with the Commission on March 20, 2020)*
10.3	Deluxe Corporation 2017 Long-Term Incentive Plan (incorporated by reference to Appendix B of the definitive proxy statement filed with the Commission on March 17, 2017)*
10.4	Amended and Restated 2000 Employee Stock Purchase Plan (incorporated by reference to Exhibit 10.3 to the Annual Report on Form 10-K for the year ended December 31, 2020)*
10.5	Deluxe Corporation Deferred Compensation Plan (2020 Restatement) (incorporated by reference to Exhibit 10.4 to the Annual Report on Form 10-K for the year ended December 31, 2020)*
10.6	Deluxe Corporation Deferred Compensation Plan Trust (incorporated by reference to Exhibit 4.3 to the Form S-8 filed with the Commission on January 7, 2002)*
10.7	Deluxe Corporation Executive Deferred Compensation Plan for Employee Retention and Other Eligible Arrangements (incorporated by reference to Exhibit 10.24 to the Quarterly Report on Form 10-Q for the quarter ended June 30, 2000)*

Exhibit Number	Description
10.8	Deluxe Corporation Severance Plan for Certain Executive Level Employees, effective July 30, 2019 (incorporated by reference to Exhibit 10.1 to the Quarterly Report on Form 10-Q for the quarter ended September 30, 2019)*
10.9	Employment Agreement, dated October 14, 2018, between us and Barry C. McCarthy and related forms of Restricted Stock Unit Award Agreement and Non-Qualified Stock Option Agreement (incorporated by reference to Exhibit 10.1 to the Current Report on Form 8-K filed with the Commission on November 6, 2018)*
10.10	First Amendment to Employment Agreement, dated October 14, 2018, between us and Barry C. McCarthy (incorporated by reference to Exhibit 10.1 to the Current Report on Form 8-K filed with the Commission on March 26, 2020)*
10.11	Second Amendment to Employment Agreement, dated August 6, 2021, between us and Barry C. McCarthy (incorporated by reference to Exhibit 10.1 to the Current Report on Form 8-K filed with the Commission on August 6, 2021)*
10.12	Separation and Release Agreement, dated January 2, 2023, between us and Christopher L. Thomas*
10.13	Form of U.S. Employee Restricted Stock Unit Award Agreement (Bonus Deferral) (version 2/22)*
10.14	Form of Restricted Stock Unit Award Agreement (Bonus Deferral) (version 1/21) (incorporated by reference to Exhibit 10.10 to the Annual Report on Form 10-K for the year ended December 31, 2020)*
10.15	Form of U.S. Employee Restricted Stock Unit Award Agreement (version 2/22)*
10.16	Form of U.S. Employee Restricted Stock Unit Award Agreement (version 3/21) (incorporated by reference to Exhibit 10.3 to the Quarterly Report on Form 10-Q for the quarter ended March 31, 2021)*
10.17	Form of U.S. Employee Restricted Stock Unit Award Agreement (version 4/19) (incorporated by reference to Exhibit 10.4 to the Quarterly Report on Form 10-Q for the quarter ended March 31, 2019)*
10.18	Form of U.S. Employee Non-Qualified Stock Option Agreement (version 3/21) (incorporated by reference to Exhibit 10.2 to the Quarterly Report on Form 10-Q for the quarter ended March 31, 2021)*
10.19	Form of CEO Non-Qualified Stock Option Agreement (version 4/19) (incorporated by reference to Exhibit 10.6 to the Quarterly Report on Form 10-Q for the quarter ended March 31, 2019)*
10.20	Form of U.S. Employee Non-Qualified Stock Option Agreement (version 4/19) (incorporated by reference to Exhibit 10.7 to the Quarterly Report on Form 10-Q for the quarter ended March 31, 2019)*
10.21	Form of Non-Qualified Stock Option Agreement (version 12/17) (incorporated by reference to Exhibit 10.19 to the Annual Report on Form 10-K for the year ended December 31, 2017)*
10.22	Form of U.S. Employee Performance Share Unit Award Agreement (version 2/22)*
10.23	Form of U.S. Employee Performance Share Unit Award Agreement (version 3/21) (incorporated by reference to Exhibit 10.4 to the Quarterly Report on Form 10-Q for the quarter ended March 31, 2021)*
10.24	Description of modification to the Deluxe Corporation Non-Employee Director Retirement and Deferred Compensation Plan (incorporated by reference to Exhibit 10.23 to the Annual Report on Form 10-K for the year ended December 31, 2017)*

Exhibit Number	Description
10.25	First Amendment to the Deluxe Corporation Non-Employee Director Stock and Deferral Plan (incorporated by reference to Exhibit 10.3 to the Annual Report on Form 10-K for the year ended December 31, 2008)*
10.26	Form of Non-Employee Director Restricted Stock Unit Award Agreement (version 4/22)*
10.27	Restricted Stock Unit Agreement (Two-Year Ratable), dated May 13, 2022, by and between us and Yogaraj Jayaprakasam (incorporated by reference to Exhibit 10.1 to the Registration Statement on Form S-8 filed with the Commission on August 5, 2022)*
10.28	Restricted Stock Unit Agreement (Four-Year Ratable), dated May 13, 2022, by and between us and Yogaraj Jayaprakasam (incorporated by reference to Exhibit 10.2 to the Registration Statement on Form S-8 filed with the Commission on August 5, 2022)*
10.29	Performance Share Unit Agreement (Total Revenue), dated May 13, 2022, by and between us and Yogaraj Jayaprakasam (incorporated by reference to Exhibit 10.3 to the Registration Statement on Form S-8 filed with the Commission on August 5, 2022)*
10.30	Performance Share Unit Agreement (TSR), dated May 13, 2022, by and between us and Yogaraj Jayaprakasam (incorporated by reference to Exhibit 10.4 to the Registration Statement on Form S-8 filed with the Commission on August 5, 2022)*
10.31	Credit Agreement, dated as of June 1, 2021, by and among us, as borrower, the several lenders from time to time party thereto, and JPMorgan Chase Bank, N.A., as Administrative Agent (incorporated by reference to Exhibit 10.1 to the Current Report on Form 8-K filed with the Commission on June 1, 2021)
10.32	Stipulated Order for Permanent Injunction, Monetary Judgment and Other Relief, as amended (incorporated by reference to Exhibit 10.1 to the Quarterly Report on Form 10-Q for the quarter ended September 30, 2022)
21.1	Subsidiaries of the Registrant
23.1	Consent of Independent Registered Public Accounting Firm
31.1	CEO Certification of Periodic Report pursuant to Section 302 of the Sarbanes-Oxley Act of 2002
31.2	CFO Certification of Periodic Report pursuant to Section 302 of the Sarbanes-Oxley Act of 2002
32.1	CEO and CFO Certification of Periodic Report pursuant to Section 906 of the Sarbanes-Oxley Act of 2002
101.INS	XBRL Instance Document – the instance document does not appear in the Interactive Data File because its XBRL tags are embedded within the Inline XBRL document
101.SCH	XBRL Taxonomy Extension Schema Document
101.CAL	XBRL Taxonomy Extension Calculation Linkbase Document
101.DEF	XBRL Taxonomy Extension Definition Linkbase Document

Exhibit Number	Description
101.LAB	XBRL Taxonomy Extension Label Linkbase Document
101.PRE	XBRL Taxonomy Extension Presentation Linkbase Document
104	Cover page interactive data file (formatted as Inline XBRL and contained in Exhibit 101)

* Denotes compensatory plan or management contract

Note to recipients of Form 10-K: Copies of exhibits will be furnished upon written request and payment of reasonable expenses in furnishing such copies.

ITEM 16. FORM 10-K SUMMARY

We have elected not to include an optional Form 10-K Summary.

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned thereunto duly authorized.

Date: February 24, 2023

DELUXE CORPORATION
/s/ Barry C. McCarthy
Barry C. McCarthy, President and Chief Executive Officer

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed below by the following persons on behalf of the registrant and in the capacities indicated on February 24, 2023.

<u>Signature</u>	<u>Title</u>
<u>/s/ Barry C. McCarthy</u> Barry C. McCarthy	President and Chief Executive Officer (Principal Executive Officer)
<u>/s/ William C. Zint</u> William C. Zint	Senior Vice President, Chief Financial Officer (Principal Financial Officer)
<u>/s/ Chad P. Kurth</u> Chad P. Kurth	Vice President, Chief Accounting Officer (Principal Accounting Officer)
<u>/s/ William C. Cobb</u> William C. Cobb	Director
<u>/s/ Paul R. Garcia</u> Paul R. Garcia	Director
<u>/s/ Cheryl Mayberry McKissack</u> Cheryl Mayberry McKissack	Director
<u>/s/ Don J. McGrath</u> Don J. McGrath	Director
<u>/s/ Thomas J. Reddin</u> Thomas J. Reddin	Director
<u>/s/ Martyn R. Redgrave</u> Martyn R. Redgrave	Director
<u>/s/ John L. Stauch</u> John L. Stauch	Director
<u>/s/ Telisa L. Yancy</u> Telisa L. Yancy	Director

SEPARATION AND RELEASE AGREEMENT

This SEPARATION AND RELEASE AGREEMENT (“Separation Agreement”) is made and entered into by and between Christopher L. Thomas (“Thomas”) and Deluxe Corporation (“Deluxe”).

WHEREAS, Thomas has been employed by Deluxe, most recently as Deluxe’s Senior Vice President, Chief Revenue Officer (“CRO”);

WHEREAS, on the terms set forth herein, Thomas will cease to be Deluxe’s CRO;

WHEREAS, Deluxe and Thomas would like Thomas to provide certain transition services to Deluxe for a period of time following the end of Thomas’ employment as CRO;

WHEREAS, Thomas and Deluxe wish to fully and finally settle all issues, differences, and claims, whether potential or actual, between Thomas and Deluxe, including, but not limited to, any claims that might arise out of Thomas’ employment with Deluxe or the termination of Thomas’ employment with Deluxe;

WHEREAS, based on the foregoing, Deluxe and Thomas desire to enter into this Separation Agreement to effect the termination of Thomas’ employment with Deluxe on the terms and conditions set forth herein.

NOW, THEREFORE, the parties agree as follows:

1. Continued Employment and Separation Date. Provided Thomas signs and does not revoke this Separation Agreement, as described in Section 6, the following will occur:

- a. Transition Period. Thomas’ employment as CRO will end on January 6, 2023 (the “Transition Date”). Thereafter, Thomas will provide transition services to Deluxe from the Transition Date through April 28, 2023 (the “Separation Date”). From the Transition Date through the Separation Date (the “Transition Period”), Thomas will be employed by Deluxe in the capacity of Special Advisor to Deluxe’s CEO. During the Transition Period, Thomas (i) will perform such duties as are reasonably requested by Deluxe’s CEO, including assisting with transitioning the CRO functional duties, and (ii) will not enter into any agreements on behalf of Deluxe without first receiving approval from Deluxe’s CEO or CAO. Until the Transition Date and during the Transition Period, Thomas’ compensation and benefits will continue as in effect as of December 1, 2022.
- b. Separation Date. Except as provided in this Separation Agreement, all benefits and privileges of Thomas’ employment with Deluxe will end as of close of business on the Separation Date

2. Consideration by Thomas. As consideration for Deluxe’s promises and obligations under this Separation Agreement, Thomas agrees to the following:

- a. First Release of Claims. Thomas hereby acknowledges that he first received this Separation Agreement on December 2, 2022. On or before
-

January 2, 2023, Thomas will sign this Separation Agreement containing the release of claims in Section 4.

- b. Second Release of Claims. On or within 21 days after the Separation Date, Thomas will sign a second release in the form attached to this Separation Agreement as **Exhibit A** (the “Second Release”).

3. Consideration by Deluxe. In addition to the opportunity to provide transition services as described in Section 1, and in accordance with the Deluxe Corporation Severance Plan for Certain Executive Level Employees dated July 30, 2019 (the “Executive Severance Plan”), as consideration for Thomas’ promises and obligations under this Separation Agreement, Deluxe will provide Thomas or, as applicable, his successor(s) or heir(s), with the following benefits to which Thomas is not otherwise entitled, provided Thomas signs and does not revoke this Separation Agreement, as described in Section 6, and does not revoke the Second Release.

a. Severance. Deluxe will pay Thomas an amount equal to twelve (12) months of his base salary as of December 1, 2022, less applicable deductions and withholdings, to be paid in a lump sum within thirty (30) days of the end of the 7-day revocation period of the Second Release.

b. Fiscal 2023 Cash Bonus. Deluxe will pay Thomas an amount equal to one-third of his target annual bonus for 2023. Any such bonus will be calculated in the same manner that Deluxe calculates similar bonuses, and any such bonus will be paid to Thomas in 2024 when Deluxe otherwise pays such bonuses to similarly situated employees. In early 2024, when Deluxe knows the amount of any such bonus, Deluxe will communicate the same to Thomas.

c. One-Time Payment. Deluxe will pay Thomas a one-time lump sum payment of Forty-Five Thousand Dollars (\$45,000), to be paid within thirty (30) days of the end of the 7-day revocation period of the Second Release.

4. Release of Claims. As an inducement to Deluxe to enter into this Separation Agreement and in exchange for the consideration provided for in this Separation Agreement, Thomas hereby settles any and all claims that he has or may have against Deluxe and its predecessors, successors, assigns, parents, affiliates, subsidiaries and related companies, and its and their respective officers, employees, agents, assigns, insurers, representatives, counsel, administrators, successors, shareholders, directors and/or other representatives (collectively, the “Released Parties”) as a result of Deluxe’s hiring of Thomas, Thomas’ employment with Deluxe, the cessation of Thomas’ employment with Deluxe, or any act, occurrence, or omission occurring prior to the date of this Separation Agreement.

For the consideration expressed herein, Thomas, on behalf of himself and his heirs, successors, representatives and assigns, hereby releases and discharges the Released Parties from any and all claims, causes of action, liabilities, damages, and right to relief of any kind that Thomas has or ever had against the Released Parties, known or unknown, by reason of any matter or fact giving rise to this Separation Agreement. Thomas’ release of claims is intended to extend to and includes, among other things, claims of any kind arising under or based upon the Age Discrimination in Employment Act, as Amended by the Older Worker’s Benefits Protection Act; Title VII of the Civil Rights Act of 1964; the Americans with Disabilities Act; the Family and Medical Leave Act; the Employee Retirement Income Security Act; the Fair Credit Reporting Act; the Individual Retirement Income Security Act of 1974; the Equal Pay Act; the Worker Adjustment and Retraining Notification Act; 42 U.S.C. § 1981, the Sarbanes-Oxley Act, the Dodd–Frank Wall Street Reform and Consumer Protection Act, the Fair Credit Reporting Act, the Vocational Rehabilitation Act, the Family and Medical Leave Act, the Worker

Adjustment and Retraining Notification Act, the Lily Ledbetter Fair Pay Act of 2009, the Americans With Disabilities Act, the Rehabilitation Act of 1973, the Genetic Information Nondiscrimination Act, the Immigration Reform and Control Act of 1986, the Civil Rights Act of 1991, the Occupational Safety and Health Act, the Consumer Credit Protection Act, the American Recovery and Reinvestment Act of 2009, the Families First Coronavirus Response Act, the Uniformed Services Employment and Reemployment Rights Act; Or. Rev. Stat. §§ 659A.001–659A.990 (employment discrimination); Or. Rev. Stat. §§ 652.210–652.230 (equal pay); Or. Rev. Stat. §§ 659A.199–659A.236 (whistleblower protection for private employees for disclosure of state or federal law violation), 659A.200–659A.236, 659A.820, 659A.865, 659A.870, 659A.885 (whistleblower protection for public and private employees), 654.062 (whistleblower protection for disclosure of health and safety violations); Or. Rev. Stat. §§ 659A.150–659A.186 (family leave); Or. Rev. Stat. §§ 653.601–653.661 (sick leave); Or. Rev. Stat. § 10.090 (jury duty), and any other federal, state, or local law, rule, or regulation prohibiting employment discrimination or otherwise relating to employment; and any claims based upon any other theory, whether legal or equitable, arising from or related to any matter or fact arising out the events giving rise to this Separation Agreement.

Thomas also agrees and understands that he is giving up any and all other claims, whether grounded in contract or tort theories, including, but not limited to: wrongful discharge; breach of contract (including, without limitation, any claims for unpaid compensation); tortious interference with contractual relations; promissory estoppel; detrimental reliance; breach of the implied covenant of good faith and fair dealing; breach of express or implied promise; breach of manuals or other policies; breach of fiduciary duty; assault; battery; fraud; false imprisonment; invasion of privacy; intentional or negligent misrepresentation; defamation, including libel, slander, discharge defamation and self-publication defamation; discharge in violation of public policy; whistleblower; intentional or negligent infliction of emotional distress; and claims for punitive damages or attorneys’ fees or any other theory, whether legal or equitable.

Additionally, nothing in this Separation Agreement purports to release or waive claims that may not be released or waived as a matter of law; claims based on events, occurrences, or omissions that occur after the date of the Separation Agreement; or claims related to any already vested benefits under the terms of any of Deluxe’s benefit plans. Similarly, nothing in this Separation Agreement prevents Thomas from challenging the validity of this agreement or from filing any non-legally waivable claim with the Equal Employment Opportunity Commission (“EEOC”), National Labor Relations Board (“NLRB”), the Occupational Safety and Health Administration (“OSHA”) or comparable state or local agency or participating in any investigation or proceeding conducted by the EEOC, NLRB, OSHA or comparable state or local agency; however, Thomas agrees and understands that the Separation Agreement waives all claims and rights to monetary or other recovery for any legal claims to the fullest extent permitted by law.

This Release of Claims does not prohibit Thomas from reporting possible violations of federal law or regulation to any governmental agency or entity, including, but not limited to, the Department of Justice, the Securities and Exchange Commission (“SEC”), Congress, and any agency Inspector General, or making other disclosures that are protected under the whistleblower provisions of federal law or regulation. Nothing in this Separation Agreement requires Thomas to seek prior authorization of Deluxe to make any such reports or disclosures and Thomas does not need and is not required to notify Deluxe that he has made any such reports or disclosures. This Separation Agreement is not intended to and does not restrict Thomas from seeking or obtaining an SEC whistleblower award.

Finally, Thomas understands that under the U.S. Defend Trade Secrets Act of 2016, he will not be held criminally or civilly liable under any U.S. federal or state trade secret law for the disclosure of a trade secret that is made in confidence to government officials, either directly or

indirectly, or to an attorney, in each case solely for the purpose of reporting or investigating a suspected violation of law, or in a complaint or other document filed in a lawsuit or other proceeding, provided such filing is made under seal. Thomas hereby represents that he is not aware of any violation of law as outlined in this Section 4.

5. Consideration Period and Advice to Consult with Counsel. Thomas hereby acknowledges that he first received this Separation Agreement on December 2, 2022. The terms of this Separation Agreement shall be open for acceptance and execution by Thomas until 5:00 PM Central Time on January 2, 2023 (the period between December 2, 2022 and 5:00 PM Central Time on January 2, 2023 being referred to as the "Consideration Period"). During the Consideration Period, Thomas may consult with an attorney and consider whether to accept this Separation Agreement. Changes to this Separation Agreement, whether material or immaterial, will not restart the running of the Consideration Period. During the Consideration Period, Deluxe advises and encourages Thomas to consult with an attorney of his choice. To receive the consideration provided for in this Separation Agreement, Thomas must return a signed and dated copy of this Separation Agreement to: Jeffrey L. Cotter, SVP, CAO and General Counsel, Deluxe Corporation, 801 South Marquette Avenue, Minneapolis, MN 55402; jeff.cotter@deluxe.com by mail or electronic mail.

6. Right to Revoke. Thomas is hereby informed of his right to revoke this Separation Agreement as far as it extends to potential claims under the Age Discrimination in Employment Act ("ADEA"), 29 U.S.C. § 621 *et seq.*, by written notice to Deluxe within seven (7) calendar days following Thomas' execution of this Separation Agreement. Any such revocation must be made in writing and delivered by hand or by certified mail, return receipt requested, postmarked on or before the last day of the applicable revocation period to the representative identified in Section 5.

If Thomas exercises his right to revoke his release of claims under the ADEA, Deluxe may, at its option, either nullify this Separation Agreement in its entirety, or keep it in effect in all respects other than as to that portion of the release of claims that Thomas has revoked or rescinded. Thomas agrees and understands that if Deluxe chooses to nullify the Separation Agreement in its entirety, Deluxe will have no obligations under this Separation Agreement or the Executive Severance Plan.

7. Continuation of Benefits. Beginning on the Separation Date, provided Thomas qualifies for COBRA continuation coverage, Thomas may elect to continue medical and dental insurance benefits under COBRA at Thomas' own expense by paying the premium for such coverage. If Thomas does not elect or is not eligible for COBRA continuation coverage, Thomas' group health plan coverage will cease as of the Separation Date. Except as provided in this Separation Agreement, Thomas will cease to be and will cease to be treated as an employee of Deluxe for all purposes under all employee retirement and welfare benefit plans and all other plans, programs, policies, and arrangements maintained for employees of Deluxe as of the Separation Date.

8. Unpaid or Unvested Awards; Bonus. Thomas' rights with respect to any unvested or unpaid awards, whether cash or equity, shall be governed by the terms of the corresponding agreements. Deluxe will also pay Thomas any bonus earned for fiscal 2022, the same to be paid when Deluxe pays such bonuses to other similarly situated employees. With regard to any future payouts of PSUs, when Deluxe knows the amount of any such payouts, Deluxe will communicate the same to Thomas, it being understood that any such payouts will be prorated as of the Separation Date pursuant to the terms of the related award agreements.

9. Continuing Restrictions and Obligations. Thomas acknowledges and agrees that the post-employment restrictions contained in the Non-Competition, Non-Solicitation,

Confidentiality, and Intellectual Property Agreement entered into by Thomas and Deluxe dated June 28, 2019, attached hereto as **Exhibit B** (collectively the “Post-Employment Restrictions”) are reasonable and shall remain in full force and effect according to their terms.

10. Claims Warranties. Thomas represents and warrants that he is not aware of any facts that would establish, tend to establish or in any way support an allegation that any of the Released Parties has engaged in conduct that Thomas believes could violate (1) any provision of federal law relating to fraud, including, but not limited to, the Sarbanes-Oxley Act, the Dodd-Frank Wall Street Reform and Consumer Protection Act and/or any state or local counterpart; (2) any rule or regulation of the SEC; (3) the federal False Claims Act and/or any state or local or municipal qui tam counterpart (which prohibit the presentation by Deluxe or any affiliate of false claims and statements or the creation of false records or statements in order to obtain payment of federal, state, county or municipal funds, or to avoid refunds of such government funds); and (4) any other federal, state or local law.

11. Representations and Warranties Regarding the FMLA and FLSA. Thomas represents and warrants that he is not aware of any facts or circumstances that might justify a claim against the Released Parties for any violation of the Family and Medical Leave Act (“FMLA”) or the Fair Labor Standards Act (“FLSA”) or comparable state statutes. Thomas further represents and warrants that he has received any and all wages and/or commissions for work performed and any and all FMLA leave to which Thomas may have been entitled.

12. Non-Disparagement. Except in the context of a proceeding with the EEOC, NLRB, SEC, or other comparable state or local government agency; in compelled sworn testimony; or as otherwise may be required by law, Thomas agrees that he will not disparage or defame the Released Parties of any of the Released Parties’ current or former employees, directors, officers, agents, or contractors, or Deluxe’s management or services. Likewise, on behalf of itself and its officers and directors, Deluxe agrees it will not disparage or defame Thomas, subject to an exception for communications with any federal, state or local government or administrative agency; in connection with communications undertaken for a legitimate legal reason; or otherwise as required by law.

13. Cooperation. Thomas agrees to cooperate with Deluxe with respect to any claims or lawsuits brought or threatened to be brought against the Released Parties, which relate to or involve Thomas’ employment with Deluxe or any transactions, decisions, or actions of Deluxe in which Thomas was involved or had knowledge of while a Deluxe employee (the “Covered Subjects”). As part of Thomas’ agreement to cooperate, Thomas agrees to be available upon reasonable notice at mutually-agreeable times to discuss with Deluxe and its counsel issues related to litigation or potential litigation exposure with respect to the Covered Subjects. Thomas also agrees to appear without subpoena for deposition or testimony at the request of Deluxe in connection with claims or lawsuits relating to Covered Subjects. Deluxe will reimburse Thomas for all reasonable and customary expenses he incurs while cooperating with Deluxe pursuant to this Section 13, in accordance with Deluxe’s regular expense reimbursement practices.

14. Return of Information and Property. Thomas affirms that he will return all originals and all copies of Deluxe’s records, correspondence and documents, and all other property and assets of Deluxe, created or obtained by Thomas as a result of or in the course of or in connection with his employment with Deluxe which are in his possession or control, whether confidential or not, including, but not limited to, any notes, diaries, computer files or other documents containing information regarding Thomas’ experiences or knowledge of Deluxe business or employee matters, prior to the Separation Date.

15. Passwords and Password-Protected Documents. Thomas agrees that, prior to the Separation Date, he will deliver to Deluxe all passwords in use by Thomas at the time of his

termination, a list of any documents that Thomas has created or of which Thomas is otherwise aware are password-protected, and the password(s) necessary to access such password-protected documents.

16. Non-Assignability. Thomas understands and agrees that this Separation Agreement is personal to him. The duties, rights, and obligations set forth herein may not be delegated or assigned by Thomas to any other person without prior written consent of Deluxe. Deluxe's rights and obligations hereunder may be assigned to any successor following a sale of Deluxe or of Deluxe's assets, or any other transaction involving a change in control.

17. Governing Law; Severability. This Separation Agreement shall be governed by the laws of the State of Minnesota without regard to the choice of law provisions of any jurisdiction. If any part of this Separation Agreement is construed to be invalid and/or unenforceable, such part shall be modified to achieve the objective of the parties to the fullest extent permitted and the balance of this Separation Agreement shall remain in full force and effect. The language of all parts of this Separation Agreement shall be construed as a whole, according to its fair meaning, and not strictly for or against any of the parties.

18. Choice of Venue. The parties agree that any and all legal actions or proceedings brought to interpret or enforce this Separation Agreement or in any other way arising out of or in relation to this Separation Agreement shall be brought exclusively in the state or federal courts of the State of Minnesota and hereby consent to the jurisdiction of such courts for any such action and further waive any objection to the convenience of the forum or venue.

19. Entire Agreement. This Separation Agreement, the documents referenced herein or attached hereto, and the award and similar agreements entered into between Thomas and Deluxe with respect to various equity, bonus, retention and similar compensation (collectively, "Incentive Award Agreements") contain the entire agreement between Thomas and Deluxe with respect to Thomas' employment and separation from employment and there are no promises or understandings outside of this Separation Agreement, the documents referenced herein or attached hereto, and the Incentive Award Agreements, with respect to Thomas' employment or separation from employment with Deluxe. The Incentive Award Agreements will function in accordance with their respective terms, notwithstanding the entry by the parties into this Separation Agreement. Any modification of or addition to this Separation Agreement must be in a writing signed by Thomas and an appropriate representative of Deluxe.

20. Waiver. The waiver by either party of a breach by the other party of any provision of this Separation Agreement shall not operate or be construed as a waiver of any subsequent breach.

21. Section 409A Compliance. The right to a series of payments under this Separation Agreement will be treated as a right to a series of separate payments. Each payment under this Separation Agreement that is made within 2-1/2 months following the end of the year that contains the Separation Date is intended to be exempt from Section 409A of the Internal Revenue Code ("Section 409A") as a short-term deferral within the meaning of the final regulations under Section 409A. Each payment under this Separation Agreement that is made later than 2-1/2 months following the end of the year that contains the Separation Date is intended to be exempt from Section 409A under the two-times exception of Treasury Reg. § 1.409A-1(b)(9)(iii), up to the limitation on the availability of that exception specified in the regulation. If the timing of any payment subject to Section 409A could occur in one or more tax years depending on Thomas' employment-related actions, such as the signing of a release, then such payment will be made as soon as possible in the later tax year.

22. Enforcement. The remedies below are in addition to any other rights and remedies that Deluxe may have at law or in equity.

a. Injunctive Relief and Other Damages. Thomas acknowledges and agrees that the Post-Employment Restrictions are reasonable and necessary in order to protect and maintain the legitimate business interests of Deluxe, and that their enforcement would not prevent him from earning a livelihood. Thomas recognizes that his breach of Sections 12, 13 or 14 of this Separation Agreement or the Post-Employment Restrictions, would result in irreparable injury to Deluxe, that in the event of their breach, Deluxe's remedy at law for damages will be inadequate, and that Deluxe shall be entitled to seek an injunction to restrain the continuing breach by Thomas, Thomas' partners, agents, servants, or employees, or any other persons or entities acting for or with Thomas as provided by law and/or equity. Deluxe may further be entitled to damages in connection with the enforcement of this Separation Agreement as provided by law and/or equity and including the recovery of any profits and revenues obtained by Thomas while engaging in violations of the Post-Employment Restrictions or Sections 12, 13 or 14 of this Separation Agreement. Thomas agrees that if he violates the Post-Employment Restrictions or the terms of this Separation Agreement, he will reimburse the Released Parties for any attorneys' fees, costs, or other damages arising from his breach, other than Thomas challenging his waiver of claims under the Age Discrimination in Employment Act.

b. Liquidated Damages. In addition to, and without limiting, Deluxe's right to other damages, if Thomas violates his confidentiality obligations pursuant to the Post-Employment Restrictions, Deluxe will be entitled to liquidated damages in the amount of Ten Thousand dollars (\$10,000) per occurrence and Deluxe's attorney's fees and costs in enforcing this Section. In any claim under this Section, both parties waive their right to a jury trial.

23. Counterparts and Electronic Signatures. This Separation Agreement may be executed in any number of counterparts, each of which when so executed shall be deemed an original, and the counterparts together shall constitute one and the same agreement. A copied, scanned, or faxed signature shall be treated the same as an original.

24. Thomas Representation. THOMAS AFFIRMS THAT HE HAS READ THIS SEPARATION AGREEMENT. THOMAS ACKNOWLEDGES THAT HE WAS PROVIDED WITH A REASONABLE AND SUFFICIENT PERIOD OF TIME TO CONSIDER WHETHER TO ACCEPT THIS SEPARATION AGREEMENT PRIOR TO SIGNING IT. THOMAS AGREES THAT THE PROVISIONS OF THIS SEPARATION AGREEMENT ARE UNDERSTANDABLE TO HIM, THAT HE HAS ENTERED INTO THIS SEPARATION AGREEMENT FREELY AND VOLUNTARILY, AND THAT HE HEREBY WAS ADVISED TO CONSULT WITH AN ATTORNEY PRIOR TO SIGNING THIS SEPARATION AGREEMENT.

[Signature Page to Follow]

IN WITNESS WHEREOF, the parties have executed this Separation Agreement by their signatures below.

Dated: January 2, 2023

/s/ Christopher L. Thomas

Christopher L. Thomas

Dated: 2 January 2023

Deluxe Corporation

By /s/ Jeffrey L. Cotter

Its GC, CAO

EXHIBIT A

SECOND RELEASE OF CLAIMS

WHEREAS, on December 2, 2022 Christopher L. Thomas (“Thomas”) and Deluxe Corporation (“Deluxe”) entered into a Separation and Release Agreement to effect the termination of Thomas’ employment with Deluxe (the “Separation Agreement”);

WHEREAS, as consideration for Deluxe’s promises and obligations under the Separation Agreement, Thomas agreed to sign a second release of claims on or after he finishes providing transitional services to Deluxe pursuant to the Separation Agreement (the “Second Release”);

NOW, THEREFORE, Thomas agrees as follows:

1. Release of Claims. As an inducement to Deluxe to enter into the Separation Agreement, and in exchange for the consideration provided for in the Separation Agreement, Thomas hereby settles any and all claims that he has or may have against Deluxe and its predecessors, successors, assigns, parents, affiliates, subsidiaries and related companies, and its and their officers, employees, agents, assigns, insurers, representatives, counsel, administrators, successors, shareholders, directors and/or other representatives (collectively, the “Released Parties”) as a result of Deluxe’s hiring of Thomas, Thomas’ employment with Deluxe, the cessation of Thomas’ employment with Deluxe, or any act, occurrence, or omission occurring prior to the date of this Second Release.

For the consideration expressed in the Separation Agreement, Thomas, on behalf of himself and his heirs, successors, representatives and assigns, hereby releases and discharges the Released Parties from any and all claims, causes of action, liabilities, damages, and right to relief of any kind that Thomas has or ever had against the Released Parties, known or unknown, by reason of any matter or fact giving rise to this Second Release. Thomas’ release of claims is intended to extend to and includes, among other things, claims of any kind arising under or based upon the Age Discrimination in Employment Act, as Amended by the Older Worker’s Benefits Protection Act; Title VII of the Civil Rights Act of 1964; the Americans with Disabilities Act; the Family and Medical Leave Act; the Employee Retirement Income Security Act; the Fair Credit Reporting Act; the Individual Retirement Income Security Act of 1974; the Equal Pay Act; the Worker Adjustment and Retraining Notification Act; 42 U.S.C. § 1981, the Sarbanes-Oxley Act, the Dodd–Frank Wall Street Reform and Consumer Protection Act, the Fair Credit Reporting Act, the Vocational Rehabilitation Act, the Family and Medical Leave Act, the Worker Adjustment and Retraining Notification Act, the Lily Ledbetter Fair Pay Act of 2009, the Americans With Disabilities Act, the Rehabilitation Act of 1973, the Genetic Information Nondiscrimination Act, the Immigration Reform and Control Act of 1986, the Civil Rights Act of 1991, the Occupational Safety and Health Act, the Consumer Credit Protection Act, the American Recovery and Reinvestment Act of 2009, the Families First Coronavirus Response Act, the Uniformed Services Employment and Reemployment Rights Act; Or. Rev. Stat. §§ 659A.001–659A.990 (employment discrimination); Or. Rev. Stat. §§ 652.210–652.230 (equal pay); Or. Rev. Stat. §§ 659A.199–659A.236 (whistleblower protection for private employees for disclosure of state or federal law violation), 659A.200–659A.236, 659A.820, 659A.865, 659A.870, 659A.885 (whistleblower protection for public and private employees), 654.062 (whistleblower protection for disclosure of health and safety violations); Or. Rev. Stat. §§ 659A.150–659A.186 (family leave); Or. Rev. Stat. §§ 653.601–653.661 (sick leave); Or. Rev. Stat. § 10.090 (jury duty), and any other federal, state, or local law, rule, or regulation prohibiting employment discrimination or otherwise relating to employment; and any claims based upon any other theory, whether legal or equitable, arising from or related to any matter or fact arising out the events giving rise to this Second Release.

Thomas also agrees and understands that he is giving up any and all other claims, whether grounded in contract or tort theories, including, but not limited to: wrongful discharge; breach of contract (including, without limitation, any claims for unpaid compensation); tortious interference with contractual relations; promissory estoppel; detrimental reliance; breach of the implied covenant of good faith and fair dealing; breach of express or implied promise; breach of manuals or other policies; breach of fiduciary duty; assault; battery; fraud; false imprisonment; invasion of privacy; intentional or negligent misrepresentation; defamation, including libel, slander, discharge defamation and self-publication defamation; discharge in violation of public policy; whistleblower; intentional or negligent infliction of emotional distress; and claims for punitive damages or attorneys' fees or any other theory, whether legal or equitable.

Additionally, nothing in this Second Release purports to release or waive claims that may not be released or waived as a matter of law; claims based on events, occurrences, or omissions that occur after the date of the Second Release; or claims related to any already vested benefits under the terms of any of Deluxe's benefit plans. Similarly, nothing in this Second Release prevents Thomas from challenging the validity of this agreement or from filing any non-legally waivable claim with the Equal Employment Opportunity Commission ("EEOC"), National Labor Relations Board ("NLRB") or comparable state or local agency or participating in any investigation or proceeding conducted by the EEOC, NLRB, or comparable state or local agency; however, Thomas agrees and understands that the Second Release waives all claims and rights to monetary or other recovery for any legal claims to the fullest extent permitted by law.

This Second Release does not prohibit Thomas from reporting possible violations of federal law or regulation to any governmental agency or entity, including, but not limited to, the Department of Justice, the Securities and Exchange Commission ("SEC"), the Congress, and any agency Inspector General, or making other disclosures that are protected under the whistleblower provisions of federal law or regulation. Nothing in this Second Release requires Thomas to seek prior authorization of Deluxe to make any such reports or disclosures and Thomas does not need and is not required to notify Deluxe that he has made any such reports or disclosures. This Second Release is not intended to and does not restrict Thomas from seeking or obtaining an SEC whistleblower award.

Finally, Thomas understands that under the U.S. Defend Trade Secrets Act of 2016, he will not be held criminally or civilly liable under any U.S. federal or state trade secret law for the disclosure of a trade secret that is made in confidence to government officials, either directly or indirectly, or to an attorney, in each case solely for the purpose of reporting or investigating a suspected violation of law, or in a complaint or other document filed in a lawsuit or other proceeding, provided such filing is made under seal. Thomas hereby represents that he is not aware of any violation of law as outlined in this Section.

2. Consideration Period and Advice to Consult with Counsel. Thomas is hereby informed that he has a period of twenty-one (21) days from Thomas' date of receipt to sign this Second Release, during which time Thomas may consult with an attorney and consider whether to sign Second Release. Changes to this Second Release, whether material or immaterial, will not restart the running of this twenty-one (21) day acceptance period. During this time, Deluxe advises and encourages Thomas to consult with an attorney of his choice. To receive the consideration provided for in the Separation Agreement, Thomas must return a signed and dated original copy of this Second Release to: Jeffrey L. Cotter, Chief Administrative Officer, General Counsel and Senior Vice President, Deluxe Corporation, 801 South Marquette Avenue, Minneapolis, MN 55402.

3. Right to Revoke. Thomas is hereby informed of his right to revoke this Second Release as far as it extends to potential claims under the Age Discrimination in Employment Act ("ADEA"), 29 U.S.C. §§ 621 *et seq.*, by written notice to Deluxe within seven (7) calendar days

following Thomas' execution of this Second Release. Any such revocation must be made in writing and delivered by hand or by certified mail, return receipt requested, postmarked on or before the last day of the applicable revocation period to the representative identified in Section 2.

If Thomas exercises his right to revoke his release of claims under the ADEA, Deluxe may, at its option, either nullify the Separation Agreement in its entirety, or keep it in effect in all respects other than as to that portion of the release of claims that Thomas has revoked. Thomas agrees and understands that if Deluxe chooses to nullify the Separation Agreement in its entirety, Deluxe will have no obligations under the Separation Agreement or the Deluxe Corporation Severance Plan for Certain Executive Level Employees dated July 30, 2019.

[Signature page to follow.]

4. Thomas Representation. THOMAS AFFIRMS THAT HE HAS READ THIS SECOND RELEASE. THOMAS ACKNOWLEDGES THAT HE WAS PROVIDED WITH A REASONABLE AND SUFFICIENT PERIOD OF TIME TO CONSIDER WHETHER TO SIGN THIS SECOND RELEASE PRIOR TO SIGNING IT. THOMAS AGREES THAT THE PROVISIONS OF THIS SECOND RELEASE ARE UNDERSTANDABLE TO HIM, THAT HE HAS ENTERED INTO THIS SECOND RELEASE FREELY AND VOLUNTARILY, AND THAT HE HEREBY WAS ADVISED TO CONSULT WITH AN ATTORNEY PRIOR TO SIGNING THIS SECOND RELEASE.

Do not sign before April 28, 2023.

Dated: _____

Christopher L. Thomas

EXHIBIT B

DELUXE CORPORATION

RESTRICTED STOCK UNIT AWARD AGREEMENT
(Bonus Deferral - US)

AWARDED TO	AWARD DATE	TOTAL NUMBER OF RESTRICTED STOCK UNITS

1. **The Award.** Deluxe Corporation, a Minnesota corporation ("Deluxe"), hereby grants to you as of the above Award Date the above number of restricted stock units ("Units") on the terms and conditions contained in this Restricted Stock Unit Award Agreement (including the Addendum attached hereto, the "Agreement"), Deluxe's 2017 Annual Incentive Plan (the "AIP") and Deluxe's 2022 Stock Incentive Plan (the "Plan"), a copy of each of which has been provided to you. Pursuant to and in accordance with the AIP, you have elected to receive all or a portion of your annual incentive award payment for the [] plan year (if and when declared and awarded,) in Units. Each Unit will entitle you to acquire one share of Deluxe common stock, par value \$1.00 ("Common Stock"), when the restrictions applicable to each Unit expire or terminate as provided below. Any capitalized term used but not defined in this Agreement shall have the meaning given to the term in the Plan as it currently exists or may hereafter be amended.
2. **Restricted Period and Vesting.** The Units are subject to the restrictions contained in this Agreement, the AIP and the Plan for the Restricted Period (as defined below). As used herein, "Restricted Period," shall mean a period commencing on the Award Date and, subject to Section 4, ending on the second anniversary of the Award Date (the "Expiration Date"). Subject to Sections 4 and 5 below, on the Expiration Date the restrictions will lapse, and the Units will vest, so long as your service to Deluxe has not previously ended.
3. **Restrictions.** The Units shall be subject to the following restrictions during the Restricted Period:
 - (a) The Units shall be subject to forfeiture to Deluxe as provided in this Agreement, the AIP, and the Plan.
 - (b) The Units may not be sold, assigned, transferred or pledged during the Restricted Period. You may not transfer the right to receive the Units, other than by will or the laws of descent and distribution, and any such attempted transfer shall be void.
 - (c) Shares of Common Stock to be issued in settlement of the Units will not be issued until the restrictions lapse and the Units vest.
 - (d) If cash or non-cash dividends or distributions are declared and paid by Deluxe with respect to its Common Stock, then at the same time that such dividends or distributions are paid to the shareholders you will have dividend equivalents credited to your account with respect to your Units. All such dividend equivalents shall be held by Deluxe until the Expiration Date, at which time Deluxe will pay you all such dividends and other distributions, less applicable income tax and social security tax withholding. Any dividend equivalent payments paid with respect to any Units shall be paid when, and only to the extent that, the underlying Units actually vest and are settled in shares of Common Stock. If the Units are forfeited, then all rights to such dividend and distribution payments shall also be forfeited. If you voluntarily resign or are terminated for Cause prior to the Expiration Date all dividend equivalents credited to your account with respect to your Units will be forfeited.
4. **Acceleration of Vesting.** Except as provided below, your rights in and to the Units shall terminate on the termination date of your employment by any company in a group of companies consisting of Deluxe and its Affiliates, which is not followed by your immediate re-employment by any other member of said group, for any reason if that termination occurs prior to the Expiration Date. If your employment is terminated prior to the Expiration Date by action of Deluxe or any Affiliate other than for Cause (as hereinafter defined), you will receive a cash payment from Deluxe equal to the portion of your cash incentive award that you elected to apply to the acquisition of Units ("Base Amount") (less any applicable tax withholding), made as expeditiously as practicable, but not more than 75 days, following the date of termination. If you voluntarily resign or are terminated for Cause prior to the Expiration Date, you will receive a cash payment from Deluxe equal to the lesser of (a) the Base Amount or (b) an amount equal to the number of Units attributable to the Base Amount as of the issue date multiplied by the closing price of the Common Stock on the effective date of your resignation or termination for Cause, which payment (less

any applicable tax withholding) will be made as expeditiously as practicable, but not more than 75 days, following the effective date of your resignation.

In order to satisfy the requirements of Section 409A of the Internal Revenue Code and the IRS regulations thereunder ("Section 409A"), the following provisions will apply. If your employment is terminated prior to the Expiration Date, but the termination does not constitute a "separation from service" as defined in Section 409A, then you will have the right to receive the payment described in the preceding paragraph, but the payment will be deferred until the earliest of the date on which you incur a separation from service as defined in Section 409A, the Expiration Date, or the date on which a change in control event occurs as defined in Section 409A (as described below). This could occur if, for example, your employment is terminated but you are retained as a consultant or independent contractor to provide services to Deluxe or an Affiliate at a rate which is at least 50% of the rate at which you were providing services as an employee. It is also possible that you may incur a separation from service as defined in Section 409A even though your employment has not been terminated, for example if you become a part-time employee and are providing services at a rate that is less than 50% of the rate at which you provided services as a full-time employee. If this were to occur, you would receive a payment as described in the preceding paragraph calculated as if your employment had been terminated by Deluxe without Cause. The provisions of this paragraph shall also apply to the issuance of shares to which you are entitled upon your Approved Retirement as provided in the next paragraph if your Approved Retirement does not constitute a separation from service.

Prior to the Expiration Date, all restrictions applicable to the Units shall lapse and the Units shall vest fully and the shares of Common Stock represented thereby will be issued to you or your heirs, executors, administrators, estate or representatives, as applicable as expeditiously as practicable, but not more than 75 days, after your death, Disability or Approved Retirement (as such terms are defined in the Addendum).

Prior to the Expiration Date, all restrictions applicable to the Units shall lapse and the Units shall vest fully and the shares of Common Stock represented thereby will be issued to you, subject to the limitations provided herein, if there shall occur a Change of Control (as hereinafter defined) of Deluxe. Such issuance shall be made as expeditiously as practicable, but not more than 75 days, following the Change of Control, subject to the following. If the Change of Control does not constitute a "change in control event" as defined in Section 409A, then your right to receive shares of Common Stock described above will become fully vested, but issuance of the shares shall not occur until the earliest of the date on which you incur a separation from service as defined in Section 409A, the Expiration Date, the date of your Disability or the date on which a change in control event as defined in Section 409A occurs. If as a result of the Change of Control shares of Common Stock are converted into another form of property, such as stock of a company with which Deluxe is merged, or into the right to a cash payment, then in lieu of the shares of Common Stock you will receive the cash or other property that you would have received had you owned the shares of Common Stock immediately prior to the Change of Control.

Notwithstanding any other provision of this Agreement, if you are a "specified employee" as defined in Section 409A at the time any amount would otherwise become payable to you by reason of a separation from service as defined in Section 409A (including any shares of Common Stock that become issuable upon an Approved Retirement, or upon the occurrence of a Change of Control, but the issuance of which is deferred until a separation from service because the Change of Control did not constitute a change in control event), such payment shall not occur until the first business day that is more than six months following the date of such separation from service (or, if earlier, the date of your death). In general, "specified employees" are the 50 most highly compensated officers and policy making personnel of Deluxe and its Affiliates.

5. **Forfeiture.** The awards granted under this Agreement shall be subject to the recoupment provisions of the AIP as well as the Plan, and any recoupment policy dealing with recoupment of awards, which are incorporated into this Agreement by reference.
6. **Delivery of Shares of Common Stock.** Subject to Section 5, after any Units vest pursuant to Section 2 or Section 4, as applicable, Deluxe shall, as soon as practicable (but no later than 75 days after the applicable vesting date) cause to be issued and delivered to you (or to your personal representative or your designated beneficiary or estate in the event of your death, as applicable) one share of Common Stock in payment and settlement of each vested Unit. Delivery of shares of Common Stock shall be effected by the issuance of a stock certificate to you, by an appropriate entry in the stock register maintained by Deluxe's transfer agent with a notice of issuance provided to you, or by the electronic delivery of the shares of Common Stock to a brokerage account for your benefit, and shall be subject to the tax withholding provisions of Section 8 and compliance with all applicable legal requirements as provided in the Plan, and shall be in complete satisfaction and settlement of such vested Units. Deluxe will pay any original issue or transfer taxes with respect to the issue and transfer of shares of Common Stock to you pursuant to this Agreement, and all fees and expenses incurred by it in connection therewith. If the Units that vest include a fractional Unit, Deluxe shall round the number of vested Units to the nearest whole Unit prior to issuance of shares of Common Stock as provided herein.
7. **Rights.** The Units subject to this award do not entitle you to any rights of a holder of Common Stock. You will not have any of the rights of a shareholder of Deluxe in connection with the grant of Units

subject to this Agreement unless and until shares of Common Stock are issued to you upon settlement of the Units as provided in Section 2.

8. **Income Taxes.** You are liable for any federal and state income or other taxes applicable upon the distribution to you of any shares of Common Stock in settlement of vested Units or other payments under this Agreement, and you acknowledge that you should consult with your own tax advisor regarding the applicable tax consequences. Upon the distribution of shares of Common Stock, you shall promptly pay to Deluxe the amount of all applicable taxes required by Deluxe to be withheld or collected upon the distribution of the shares of Common Stock in settlement of the vested Units, such amount to be paid in cash or in previously acquired shares of Deluxe common stock having a fair market value equal to the tax withholding amount. In the alternative, you may direct Deluxe to withhold from shares of Common Stock otherwise to be distributed the number of Deluxe shares having a fair market value equal to the amount of all applicable taxes required by Deluxe to be withheld upon the distribution of the shares of Common Stock. You acknowledge that no shares of Common Stock will be distributed to you unless and until you have satisfied any obligation for withholding taxes as provided in this Agreement.
9. **Terms and Conditions.** This Agreement and the award of Units and the issuance of shares of Common Stock hereunder are subject to and governed by the provisions of the Plan and the AIP. In the event there are any inconsistencies between this Agreement and those plans, the provisions of the applicable plan shall govern, as it may be amended or interpreted at Deluxe's discretion, to meet any applicable requirements of Section 409A of the Internal Revenue Code.

By your acceptance of this restricted stock unit award, you agree to all of the terms and conditions contained in this Agreement and in the Plan and AIP documents. You acknowledge that you have received and reviewed these documents and that they set forth the entire agreement between you and Deluxe regarding the Units.

DELUXE CORPORATION

By: _____

ADDENDUM TO RESTRICTED STOCK UNIT AWARD AGREEMENT

For the purposes hereof, the terms used herein shall have the following meanings:

"Approved Retirement" shall mean any voluntary termination of employment that occurs on or after the date on which the sum of your age and years of employment with Deluxe and/or its Affiliates equals at least seventy-five (75) and that is approved by the Compensation Committee of the Board.

"Beneficial Owner" shall have the meaning defined in Rule 13d-3 promulgated under the Securities Exchange Act of 1934, as amended.

"Board" means the Board of Directors of the Company.

"Cause" shall mean:

- (i) You have breached your obligations of confidentiality to Deluxe or any of its Affiliates;
- (ii) You have otherwise failed to perform your employment duties and do not cure such failure within thirty (30) days after receipt of written notice thereof;
- (iii) You commit an act, or omit to take action, in bad faith which results in material detriment to Deluxe or any of its Affiliates;
- (iv) You have had excessive absences unrelated to illness or vacation ("excessive" shall be defined in accordance with local employment customs);
- (v) You have committed fraud, misappropriation, embezzlement or other act of dishonesty in connection with Deluxe or any of its Affiliates or its or their businesses;
- (vi) You have been convicted or have pleaded guilty or nolo contendere to a felony or a gross misdemeanor, which gross misdemeanor involves a breach of ethics, moral turpitude, or immoral or other conduct reflecting adversely upon the reputation or interest of Deluxe or its Affiliates;
- (vii) Your unlawful conduct or gross misconduct that is or is reasonably likely to be injurious to the business, finances or reputation of Deluxe; or
- (viii) You are in default under any agreement between you and Deluxe or any of its Affiliates following any applicable notice and cure period.

A "Change of Control" shall be deemed to have occurred if the conditions set forth in any one of the following paragraphs shall have been satisfied:

- (i) any Person becomes the Beneficial Owner, directly or indirectly, of securities of Deluxe representing 30% or more of the combined voting power of Deluxe's then outstanding securities, excluding, at the time of their original acquisition, from the calculation of securities beneficially owned by such Person any securities acquired directly from Deluxe or its Affiliates or in connection with a transaction described in paragraph (iii) below; or
- (ii) the individuals who at the date of your award election hereunder constitute the Board and any new director (other than a director whose initial assumption of office occurs within a year of and is in connection with an actual or threatened election contest, including but not limited to a consent solicitation, relating to the election of directors of Deluxe) whose appointment or election by the Board or nomination for election by Deluxe's shareholders was approved or recommended by a vote of a majority of the directors then still in office who either were directors at the date of your award election hereunder or whose appointment, election or nomination for election was previously so approved or recommended, cease for any reason to constitute a majority thereof; or
- (iii) the shareholders of Deluxe approve a plan of complete liquidation of Deluxe or there is consummated (A) a merger, consolidation, share exchange or similar transaction involving Deluxe, regardless of whether Deluxe is the surviving corporation or (B) the sale or disposition by Deluxe of all or substantially all Deluxe's assets, other than a sale or disposition by Deluxe of all or substantially all of Deluxe's assets to an entity, unless, immediately following such corporate transaction, all or substantially all of the individuals and entities who were the beneficial owners of Deluxe's voting securities immediately prior to such corporate transaction beneficially own, directly or indirectly, more than 50% of the combined voting power of the then outstanding voting securities of the surviving or acquiring entity resulting from such corporate transaction (including

beneficial ownership through any parent of such entity) in substantially the same proportions as their ownership, immediately prior to such corporate transaction, of Deluxe's voting securities.

Notwithstanding the foregoing, a "Change of Control" shall not be deemed to have occurred by virtue of the consummation of any transaction or series of integrated transactions immediately following which the record holders of Common Stock of Deluxe immediately prior to such transaction or series of transactions continue to have substantially the same proportionate ownership in an entity which owns all or substantially all of the assets of Deluxe immediately following such transaction or series of transactions.

"Disability" shall mean that you are suffering from a medically determinable physical or mental impairment that can be expected to result in death or can be expected to last for a continuous period of not less than twelve months, and that as a result of such impairment either: (i) you have received disability benefits for a period of not less than three months under a long or short-term disability plan or policy (or both), and are eligible for benefits under the long-term disability plan of Deluxe or any Affiliate of which you are employed at the time of such disability; or (ii) in the event that your employer does not have a long-term disability plan in effect at such time, you are unable to engage in any substantial gainful activity.

"Person" shall have the meaning defined in Section 3(a)(9) and 13(d) of the Securities Exchange Act of 1934, as amended, except that such term shall not include (i) Deluxe or any of its subsidiaries, (ii) a trustee or other fiduciary holding securities under an employee benefit plan of Deluxe or any of its Affiliates, (iii) an underwriter temporarily holding securities pursuant to an offering of such securities, or (iv) a corporation owned, directly or indirectly, by the shareholders of Deluxe in substantially the same proportions as their ownership of Common Stock of Deluxe.

For all purposes of this Award Agreement "separation from service", "specified employee", and "change in control event" shall have the meanings set forth in Treasury Regulations §1.409A-1(h), §1.409A-1(i), and §1.409A-3(i)(5), respectively, without regard to any of the optional provisions set forth in such regulations, except that

- (i) for purposes of Treas. Reg. §1.409A-1(h)(1)(ii), an employee shall be considered to have incurred a separation from service on the date on which it is reasonably anticipated that the level of bona fide services the employee will perform after such date (whether as an employee or as an independent contractor) will permanently decrease to less than 50 percent of the average level of bona fide services performed (whether as an employee or an independent contractor) over the immediately preceding 36-month period (or the full period of services to the employer if the employee has been providing services to the employer less than 36 months); and
- (ii) for purposes of identifying specified employees the safe harbor definition of compensation contained in Treas. Reg. §1.415(c)-2(d)(4) (compensation required to be reported on Form W-2 plus elective deferrals) shall be used, and compensation paid to a nonresident alien that is not effectively connected with the conduct of a trade or business within the United States shall be excluded.

DELUXE CORPORATION

**RESTRICTED STOCK UNIT AWARD AGREEMENT
(US Employees)**

AWARDED TO	AWARD DATE	TOTAL NUMBER OF RESTRICTED STOCK UNITS

1. **The Award.** Deluxe Corporation, a Minnesota corporation ("Deluxe"), hereby grants to you as of the above Award Date the above number of restricted stock units ("Units") on the terms and conditions contained in this Restricted Stock Unit Award Agreement (including the Addendum attached hereto, the "Agreement") and Deluxe's 2022 Stock Incentive Plan (the "Plan"), a copy of each of which has been provided to you. Deluxe hereby confirms the grant to you, as of the Award Date and subject to the terms and conditions in this Agreement and the Plan, of the number of Restricted Stock Units specified above (the "Units"). Each Unit represents the right to receive one share of Deluxe's common stock par value \$1.00 ("Common Stock"), when the restrictions applicable to each Unit expire or terminate as provided below. Prior to their settlement or forfeiture in accordance with the terms of this Agreement, the Units granted to you will be credited to an account in your name maintained by Deluxe. This account shall be unfunded and maintained for book-keeping purposes only, with the Units simply representing an unfunded and unsecured contingent obligation of Deluxe. Any capitalized term used but not defined in this Agreement shall have the meaning given to the term in the Plan as it currently exists or may hereafter be amended.
2. **Restricted Period and Vesting.** The Units are subject to the restrictions contained in this Agreement and the Plan for the Restricted Period (as defined below). As used herein, "Restricted Period," shall mean, with respect to each of the [] equal segments of [] percent of the Units each, a period commencing on the Award Date and, subject to Section 4, ending with respect to each segment on its respective vesting date. Subject to Sections 4 and 5, with respect to the Units, the restrictions on a segment will lapse and the applicable segment will vest and become non-forfeitable on each of the [] anniversary of the Award Date, so long as your service to Deluxe has not previously ended.
3. **Restrictions.** The Units shall be subject to the following restrictions during the Restricted Period:
 - (a) The Units shall be subject to forfeiture to Deluxe until they vest as provided in this Agreement and the Plan.
 - (b) The Units may not be sold, assigned, transferred or pledged during the Restricted Period. You may not transfer the right to receive the Units, other than by will or the laws of descent and distribution, and any such attempted transfer shall be void.
 - (c) Shares of Common Stock to be issued in settlement of vested Units will not be issued until the applicable time specified in Section 6 or 8.
 - (d) If cash or non-cash dividends or distributions are declared and paid by Deluxe with respect to its Common Stock, then at the same time that such dividends or distributions are paid to the shareholders you will have dividend equivalents credited to your account with respect to your Units. All such dividend equivalents shall be held by Deluxe without interest accruing thereon until the end of the Restricted Period, at which time Deluxe will pay you all such dividends and other distributions, less applicable income tax and social security tax withholding. Any dividend equivalent payments paid with respect to any Units shall be paid when, and only to the extent that, the underlying Units actually vest and are settled in shares of Common Stock. If the Units are forfeited, then all rights to such dividend and distribution payments shall also be forfeited.
4. **Acceleration of Vesting.**
 - (a) In the event your employment with Deluxe is terminated by reason of death, Disability (as defined in the Addendum), or Approved Retirement (as defined in the Addendum) any time during the Restricted Period, all of the yet unvested Units will vest and the Units shall become non-forfeitable as of the date of such termination.
 - (b) Subject to Section 4(c), in the event your employment is terminated during the Restricted Period after the first anniversary of the Award Date by reason of involuntary termination without Cause, a pro rata portion of the next segment of Units scheduled to vest after the termination date (based on the number of completed days between the termination date and the scheduled vesting date immediately

prior to the termination date (or the Award Date if there was no such scheduled vesting date) divided by 365) shall vest and become non-forfeitable as of the date of such termination.

(c) Notwithstanding any provision contained in this Agreement that would result in Units vesting in full or in part at a later date, if, in connection with any Change of Control, the acquiring Person, surviving or acquiring corporation or entity, or an Affiliate of such corporation or entity, elects to assume the obligations of Deluxe under this Agreement and to replace the Shares issuable upon settlement of the Units with other equity securities that are listed on a national securities exchange (including by use of American Depository Receipts or any similar method) and are freely transferable under all applicable federal and state securities laws and regulations ("Replacement Equity Securities"), the Units then subject to restriction shall continue to vest as set forth in Section 2, provided, however, the Units shall vest in full and become non-forfeitable if, within twelve months of the date of the Change of Control:

- (i) Your employment with the Company is terminated by the Company without Cause,
- (ii) Your employment with the Company is terminated by you for Good Reason, or
- (iii) Vesting would otherwise occur on any earlier date as provided under this Agreement.

In the event of any such Change of Control, the number of Replacement Equity Securities issuable under this Agreement shall be determined by the Committee in accordance with Section 4(c) of the Plan. In the event of any such Change of Control, all references herein to the Shares shall thereafter be deemed to refer to the Replacement Equity Securities, references to Deluxe or the Company shall thereafter be deemed to refer to the issuer of such Replacement Equity Securities, and all other terms of this Agreement shall continue in effect except as and to the extent modified by this subparagraph.

(d) If the Change of Control does not meet the continuation or replacement criteria specified in Section 4(c) above, all Units then subject to restriction shall vest in full immediately and become non-forfeitable upon the Change of Control.

(e) The provisions of this Section 4 shall be subject to Sections 5(b) and 8.

5. Forfeiture.

(a) Subject to the provisions of Section 4, in the event your employment is terminated during the Restricted Period, your rights to all of the unvested Units shall be immediately and irrevocably forfeited.

(b) Notwithstanding any other provisions of this Agreement, in the event you engage in a Forfeiture Activity (as defined below) during the Restricted Period, your rights to all of the Units that have not yet been settled, whether or not vested, shall be immediately and irrevocably forfeited.

(c) If, at any time within 12 months after the date any portion of this Award has vested and settled as provided in Sections 6 or 8, you engage in any Forfeiture Activity (as defined below), then the value of the Shares (and the amount of any associated dividend equivalents) received by you pursuant to such vesting and settlement must be paid to Deluxe within 30 days of demand by Deluxe. For purposes hereof, the value of the Shares received by you in settlement of the vested Units shall be determined by utilizing the closing price on the New York Stock Exchange of a share of Deluxe's Common Stock on the vesting date (without regard to any subsequent increase or decrease in the fair market value of such Shares).

(d) As used herein, you shall be deemed to have engaged in a Forfeiture Activity if you (i) directly or indirectly, engage in any business activity on your own behalf or as a partner, shareholder, director, trustee, principal, agent, employee, consultant or otherwise of any person or entity which is in any respect in competition with or competitive with Deluxe or you solicit, entice or induce any employee or representative of Deluxe to engage in any such activity, (ii) directly or indirectly solicit, entice or induce (or assist any other person or entity in soliciting, enticing or inducing) any customer or potential customer (or agent, employee or consultant of any customer or potential customer) with whom you had contact in the course of your employment with Deluxe to deal with a competitor of Deluxe, (iii) fail to hold in a fiduciary capacity for the benefit of Deluxe all confidential information, knowledge and data, including customer lists and information, business plans and business strategy ("Confidential Data") relating in any way to the business of Deluxe for so long as such Confidential Data remains confidential, or (iv) are terminated by Deluxe for Cause.

(e) If any court of competent jurisdiction shall determine that the foregoing forfeiture provisions are invalid in any respect, the court so holding may limit such provisions in any manner which the court determines such that the provision shall be enforceable against you.

(f) By accepting this Agreement, you consent to a deduction from any amounts Deluxe owes you from time to time (including amounts owed to you as wages or other compensation, fringe benefits, or vacation pay, as well as any other amounts owed to you by Deluxe), to the extent of the amount you owe Deluxe under the foregoing provisions. Whether or not Deluxe elects to make any set-off in whole or in part, if Deluxe does not recover by means of set-off the full amount you owe, calculated as set forth above, you agree to pay immediately the unpaid balance to Deluxe.

(g) You will be released from the forfeiture provisions of Section 5(d)(i) in the event your employment with Deluxe has been involuntarily terminated without Cause. Otherwise, you may be

released from the foregoing forfeiture provisions only if the Committee (or is duly appointed agent) determines in its sole discretion that such action is in the best interests of Deluxe.

(h) Nothing contained in this Section 5 shall be construed to limit the provisions of the Plan or any recoupment policy dealing with recoupment of awards, which are incorporated into this Agreement by reference.

6. Settlement of Units and Delivery of Shares of Common Stock.

(a) Subject to Section 5 and except as otherwise provided in Sections 6(b), 8, and 9, after any Units vest pursuant to Section 2 or Section 4, as applicable, Deluxe shall, as soon as practicable (but no later than 74 days after the applicable vesting date) cause to be issued and delivered to you (or to your personal representative or your designated beneficiary or estate in the event of your death, as applicable) one share of Common Stock in payment and settlement of each vested Unit along with any dividends or distributions referenced in Section 3(d). Delivery of shares of Common Stock shall be effected by the issuance of a stock certificate to you, by an appropriate entry in the stock register maintained by Deluxe's transfer agent with a notice of issuance provided to you, or by the electronic delivery of the shares of Common Stock to a brokerage account for your benefit, and shall be subject to the tax withholding provisions of Section 9 and compliance with all applicable legal requirements as provided in the Plan, and shall be in complete satisfaction and settlement of such vested Units. If the Units that vest include a fractional Unit, Deluxe shall round the number of vested Units to the nearest whole Unit prior to issuance of shares of Common Stock as provided herein.

(b) Notwithstanding the foregoing, in the event your employment with Deluxe is terminated by reason of death, Disability or involuntary termination without Cause any time during the Restricted Period, and if either (i) the aggregate number of vested Units under this Award is five (5) or fewer, or (ii) the aggregate value of all of your vested Units under all awards then outstanding is less than five hundred dollars (\$500), Deluxe may, in its sole discretion, deliver cash in lieu of shares of Common Stock. For purposes hereof, the cash payable in settlement of the vested Units (prior to applicable withholding under Section 9) shall be determined by utilizing the closing price on the New York Stock Exchange of a share of Deluxe's Common Stock on the settlement date under Section 6(a) or Section 8, as applicable.

7. Rights. The Units subject to this award do not entitle you to any rights of a holder of Common Stock. You will not have any of the rights of a shareholder of Deluxe in connection with the grant of Units subject to this Agreement unless and until shares of Common Stock are issued to you upon settlement of the Units as provided in Section 6 or 8.

8. 409A Compliance. This Section 8 will apply only if the Award evidenced by this Agreement provides for the deferral of compensation within the meaning of Section 409A of the Internal Revenue Code and the IRS regulations thereunder ("Section 409A"). If your employment is terminated prior to the end of the Restricted Period, but the termination does not constitute a "separation from service" as defined in Section 409A, then you will have the right to receive the applicable payment described in Section 4, but such payment will be delayed until the earliest of the date on which you incur a separation from service as defined in Section 409A, the end of the Restricted Period, or if Section 4(d) is applicable, the date on which a change in control event occurs as defined in Section 409A (as described in the Addendum). This could occur if, for example, your employment is terminated but you are retained as a consultant or independent contractor to provide services to Deluxe or an Affiliate at a rate which is at least 50% of the rate at which you were providing services as an employee. It is also possible that you may incur a separation from service as defined in Section 409A even though your employment has not been terminated, for example if you become a part-time employee and are providing services at a rate that is less than 50% of the rate at which you provided services as a full-time employee. If this were to occur you would receive a payment as described in Section 4(b) calculated as if your employment had been terminated by Deluxe without Cause. The provisions of this paragraph shall also apply to the issuance of Shares to which you are entitled upon your Approved Retirement as provided in Section 4(a) if your Approved Retirement does not constitute a separation from service.

If the Change of Control described in Section 4(c) or Section 4(d) does not constitute a "change in control event" as defined in Section 409A, then your Units will become fully vested as provided therein, but settlement of the Units and issuance of the equity shall not occur until the earliest of the date on which you incur a separation from service as defined in Section 409A, the end of the Restricted Period, the date of your termination due to Disability or the date on which a change in control event as defined in Section 409A occurs

Notwithstanding any other provision of this Agreement, if you are a "specified employee" as defined in Section 409A at the time any amount would otherwise become payable to you by reason of a separation from service as defined in Section 409A (including any shares of Common Stock that become issuable upon an Approved Retirement, or upon the occurrence of a Change of Control, but the issuance of which is deferred until a separation from service because the Change of Control did not constitute a change in control event), such payment shall not occur until the first business day that is more than six months following the date of such separation from service (or, if earlier, the date of your death). In general, "specified employees" are the 50 most highly compensated officers and policy making personnel of Deluxe and its Affiliates.

9. **Income Taxes.** You are liable for any federal, state and local income taxes as well as payroll taxes applicable upon the vesting or settlement of the Units subject to this Agreement, and you acknowledge that you should consult with your own tax advisor regarding the applicable tax consequences. Upon the distribution of shares of Common Stock and payment of any associated dividend equivalents, you shall promptly pay to Deluxe the amount of all applicable taxes required by Deluxe to be withheld or collected upon the distribution of the shares of Common Stock in settlement of the vested Units and payment of any dividend equivalents, such amount to be paid in cash or in previously acquired shares of Common Stock having a fair market value equal to the tax withholding amount. In the alternative, you may direct Deluxe to withhold from shares of Common Stock otherwise to be distributed the number of Deluxe shares having a fair market value equal to the amount of all applicable taxes required by Deluxe to be withheld upon the distribution of the shares of Common Stock, and to withhold from any dividend equivalent payments an amount equal to the applicable taxes associated therewith, and to withhold from any dividend equivalent payments an amount equal to the applicable taxes associated therewith. You acknowledge that no shares of Common Stock will be distributed to you or dividend equivalent payments made unless and until you have satisfied any obligation for withholding taxes as provided in this Agreement.
10. **Terms and Conditions.** This Agreement and the award of Units and the issuance of shares of Common Stock hereunder are subject to and governed by the provisions of the Plan. In the event there are any inconsistencies between this Agreement and the Plan, the provisions of the Plan shall govern, as it may be amended or interpreted at Deluxe's discretion, to meet any applicable requirements of Section 409A of the Internal Revenue Code.

By your acceptance of this restricted stock unit award, you agree to all of the terms and conditions contained in this Agreement and in the Plan documents. You acknowledge that you have received and reviewed these documents and that they set forth the entire agreement between you and Deluxe regarding the Units.

DELUXE CORPORATION

By: _____

ADDENDUM TO RESTRICTED STOCK UNIT AWARD AGREEMENT

For the purposes hereof, the terms used herein shall have the following meanings:

"Approved Retirement" shall mean any voluntary termination of employment that occurs on or after the date on which the sum of your age and years of employment with Deluxe and/or its Affiliates equals at least seventy-five (75) and that is approved by the Compensation Committee of the Board.

"Beneficial Owner" shall have the meaning defined in Rule 13d-3 promulgated under the Securities Exchange Act of 1934, as amended.

"Cause" shall mean (i) you have breached your obligations of confidentiality to Deluxe or its Affiliates; (ii) you have failed to perform your duties; (iii) you commit an act, or omit to take action, in bad faith which results in material detriment to Deluxe or its Affiliates or their respective businesses; (iv) you have had excessive absences unrelated to illness or vacation ("excessive" shall be defined in accordance with local employment customs); (v) you have engaged in misconduct or have otherwise violated an employment policy; (vi) you commit fraud, misappropriation, embezzlement or other act of dishonesty in connection with your job or otherwise against Deluxe, its Affiliates or their respective businesses; (vii) you have been convicted or have pleaded guilty or nolo contendere to a felony or a gross misdemeanor, which gross misdemeanor involves a breach of ethics, moral turpitude, or immoral or other conduct reflecting adversely upon the respective reputation, interests or businesses of Deluxe or its Affiliates; (viii) your engage in unlawful conduct or gross misconduct that is or is reasonably likely to be injurious to the respective business, finances, interests or reputation of Deluxe or its Affiliates; or (ix) you are in default under any agreement between you and Deluxe or any of its Affiliates.

A "Change of Control" shall be deemed to have occurred if the conditions set forth in any one of the following paragraphs shall have been satisfied:

- (i) any Person becomes the Beneficial Owner, directly or indirectly, of securities of Deluxe representing 30% or more of the combined voting power of Deluxe's then outstanding securities, excluding, at the time of their original acquisition, from the calculation of securities beneficially owned by such Person any securities acquired directly from Deluxe or its Affiliates or in connection with a transaction described in paragraph (iii) below; or
- (ii) the individuals who at the date of your award election hereunder constitute the Board and any new director (other than a director whose initial assumption of office occurs within a year of and is in connection with an actual or threatened election contest, including but not limited to a consent solicitation, relating to the election of directors of Deluxe) whose appointment or election by the Board or nomination for election by Deluxe's shareholders was approved or recommended by a vote of a majority of the directors then still in office who either were directors at the date of your award election hereunder or whose appointment, election or nomination for election was previously so approved or recommended, cease for any reason to constitute a majority thereof; or
- (iii) the shareholders of Deluxe approve a plan of complete liquidation of Deluxe or there is consummated (A) a merger, consolidation, share exchange or similar transaction involving Deluxe, regardless of whether Deluxe is the surviving corporation or (B) the sale or disposition by Deluxe of all or substantially all of Deluxe's assets, other than a sale or disposition by Deluxe of all or substantially all of Deluxe's assets to an entity, unless, immediately following such corporate transaction, all or substantially all of the individuals and entities who were the beneficial owners of Deluxe's voting securities immediately prior to such corporate transaction beneficially own, directly or indirectly, more than 50% of the combined voting power of the then outstanding voting securities of the surviving or acquiring entity resulting from such corporate transaction (including beneficial ownership through any Parent of such entity) in substantially the same proportions as their ownership, immediately prior to such corporate transaction, of Deluxe's voting securities.

Notwithstanding the foregoing, a "Change of Control" shall not be deemed to have occurred by virtue of the consummation of any transaction or series of integrated transactions immediately following which the record holders of Common Stock of Deluxe immediately prior to such transaction or series of transactions continue to have substantially the same proportionate ownership in an entity which owns all or substantially all of the assets of Deluxe immediately following such transaction or series of transactions.

"Disability" shall mean that you are suffering from a medically determinable physical or mental impairment that can be expected to result in death or can be expected to last for a continuous period of not less than twelve months, and that as a result of such impairment either: (i) you have received disability benefits for a period of not less than three months under a long or short-term disability plan or policy (or both), and are eligible for benefits under the long-term disability plan of Deluxe or any Affiliate of which you are employed at

the time of such disability; or (ii) in the event that your employer does not have a long-term disability plan in effect at such time, you are unable to engage in any substantial gainful activity.

"Good Reason" shall mean:

- (i) except with your written consent given in your discretion, (a) the assignment to you of any position and/or duties which represent or otherwise entail a material diminution in your position, authority, duties or responsibilities, or (b) any other action by the Company which results in a material diminution in your position (or positions) with the Company, excluding any diminution attributable to Deluxe's bankruptcy or insolvency or to the fact that Deluxe is no longer a public company;
- (ii) any material reduction in your aggregate compensation and incentive opportunities, or any material failure by the Company to comply with any other written agreement between you and the Company;
- (iii) the Company's requiring you to be based at any location more than 50 miles from your then current location; or
- (iv) any request or requirement by the Company that you take any action or omit to take any action that is inconsistent with or in violation of the Company's ethical guidelines and policies as the same existed within the 120-day period prior to the termination date or any professional ethical guidelines or principles that may be applicable to you,

provided, however, that such events shall constitute Good Reason only if (A) within thirty (30) days following the occurrence of an event claimed to constitute Good Reason, you give Deluxe written notice of such event, (B) Deluxe fails to cure such event within thirty (30) days after receipt of such written notice, and (C) the effective date of your termination of employment is within 180 days following expiration of such cure period.

"Person" shall have the meaning defined in Section 3(a)(9) and 13(d) of the Securities Exchange Act of 1934, as amended, except that such term shall not include (i) Deluxe or any of its subsidiaries, (ii) a trustee or other fiduciary holding securities under an employee benefit plan of Deluxe or any of its Affiliates, (iii) an underwriter temporarily holding securities pursuant to an offering of such securities, or (iv) a corporation owned, directly or indirectly, by the shareholders of Deluxe in substantially the same proportions as their ownership of Common Stock of Deluxe.

For all purposes of this Award Agreement "separation from service", "specified employee", and "change in control event" shall have the meanings set forth in Treasury Regulations §1.409A-1(h), §1.409A-1(i), and §1.409A-3(i)(5), respectively, without regard to any of the optional provisions set forth in such regulations, except that

- (i) for purposes of Treas. Reg. §1.409A-1(h)(1)(ii), an employee shall be considered to have incurred a separation from service on the date on which it is reasonably anticipated that the level of bona fide services the employee will perform after such date (whether as an employee or as an independent contractor) will permanently decrease to less than 50 percent of the average level of bona fide services performed (whether as an employee or an independent contractor) over the immediately preceding 36-month period (or the full period of services to the employer if the employee has been providing services to the employer less than 36 months); and
- (ii) for purposes of identifying specified employees the safe harbor definition of compensation contained in Treas. Reg. §1.415(c)-2(d)(4) (compensation required to be reported on Form W-2 plus elective deferrals) shall be used, and compensation paid to a nonresident alien that is not effectively connected with the conduct of a trade or business within the United States shall be excluded.

**DELUXE
CORPORATION**

**PERFORMANCE SHARE UNIT
AWARD AGREEMENT**
[Performance Metric] (US)

AWARDED TO	AWARD DATE	TARGET NUMBER OF SHARES

1. **The Award.** Deluxe Corporation, a Minnesota corporation ("Deluxe"), hereby grants to you as of the above Award Date the right to receive shares of Deluxe common stock, par value \$1.00 per share (the "Shares"), in an amount initially equal to the Target Number of Shares specified above (the "Target Award") on the terms and conditions contained in this Performance Share Unit Award Agreement (including the Addendum and Schedules attached hereto, this "Agreement") and Deluxe's 2022 Stock Incentive Plan (the "Plan"), a copy of which has been provided to you. Any capitalized term used but not defined in this Agreement shall have the meaning given to the term in the Plan as it currently exists or may hereafter be amended. The number of Shares that may actually be earned and become eligible to vest pursuant to this Agreement can be between 0% and 200% of the Target Number of Shares, but may not exceed 200% of the Target Number of Shares.
2. **Performance Period.** The performance period for purposes of determining whether and to what extent Shares will be issued under a Performance Award (as defined below) shall be the three-year period commencing on January 1 of the year in which this Award was granted (the "Performance Period").
3. **Performance Goals.** The performance goals for purposes of determining whether and to what extent Shares will be issued under a Performance Award are set forth in the attached Performance Goals Schedule.
4. **Vesting.** Vesting of the Target Award shall occur if and to the extent that performance goals are achieved, as set forth in the attached Performance Goals Schedule and as determined and certified by the Committee in accordance with the Plan after the end of the Performance Period. The number of Shares that vest, if any, may be adjusted by the Committee to the extent permitted by this Agreement and the Plan. The final vested award certified by the Committee is referred to as the "Performance Award."
5. **Distribution.** Any Shares to be distributed under this Agreement shall be distributed as soon as administratively practicable after certification of a Performance Award by the Compensation Committee, but no later than two and one-half months following the end of the Performance Period for which such certification occurred. The Committee may, in its sole discretion, elect to pay you the value of all or any portion of the Performance Award in cash, based upon the closing price of a Share on the business day immediately prior to the date of vesting. The Shares distributed to you under this Section, Section 7 or Section 8 are referred to, collectively, as the "Distributed Shares."
6. **Restrictions.** Your rights in any Shares covered by this Agreement shall be subject to the following restrictions during and after the Performance Period:
 - (a) All Distributed Shares shall be subject to forfeiture to Deluxe as provided in this Agreement and the Plan.
 - (b) Until any Shares are distributed to you under Section 5, neither you nor anyone claiming through you shall have any rights as a shareholder under this Agreement, including the right to vote or to receive dividends, stock dividends or other non-cash distributions.
 - (c) You may not transfer, sell, assign, or pledge the right to receive the Shares, other than by will or the laws of descent and distribution, or as otherwise permitted by the Committee pursuant to the Plan, and any such attempted transfer shall be void.
7. **Termination of Employment.** Except as described in this Section or in Section 8, in the event your employment is terminated prior to the payment of the Performance Award, this Agreement and your rights to receive the Performance Award shall be immediately and irrevocably forfeited, unless your termination occurs on or after the one year anniversary of commencement of the Performance Period and is by reason of (a) involuntary termination without Cause, (b) resignation for Good Reason within 12 months of the consummation of a Change of Control, (c) death, (d) Disability, or (e) Approved Retirement (as those capitalized terms are defined in the Addendum to this Agreement).
 In the event your employment is terminated on or after the one year anniversary of commencement of the Performance Period and prior to the end of the Performance Period for any of the reasons (a) through (e) in the first paragraph of this Section, you or your estate shall be entitled to receive a pro-rata distribution (calculated based on the days elapsed in the Performance Period prior to the employment termination date divided by the total days in the Performance Period) of the Performance Award determined by the Committee, in its sole discretion, upon completion of the Performance Period to be paid based on the attached Performance Goals Schedule. In the event your employment is terminated for any of the reasons (a) through (e) in the first paragraph of this Section after completion of the Performance Period but prior to certification and distribution of the Performance Award, you or your estate shall be entitled to receive the Performance Award determined by the Committee upon completion of the Performance Period to be distributed, in its sole discretion, based on the attached Performance Goals Schedule. Such distribution will be made at the same time that distributions are made to active employees.
8. **Change of Control.** If, in connection with any Change of Control, the acquiring Person, surviving or acquiring corporation or entity, or any Affiliate of such corporation or entity, elects to assume or continue the obligations of Deluxe under this Agreement and to replace the Shares issuable under it with Equivalent Replacement Securities, then all references herein to Shares shall thereafter be deemed to refer to the Equivalent Replacement Securities issuable upon attainment of Performance Goals, references to Deluxe shall thereafter be deemed to refer to the issuer of such Equivalent Replacement Securities, and all other terms of this Agreement shall continue in effect except as to the extent modified by this Section 8.
 If the Change of Control does not meet the assumption, continuation or replacement criteria specified in this Section 8, then the value of the Target Award shall be calculated based upon the value of a Share as of the closing price on the business day immediately prior to the effective date of the Change of Control and that amount shall become due and payable in cash, immediately upon the Change of Control.

Nothing contained herein shall limit the authority of the Committee under Section 4(c) of the Plan to make adjustments to the Shares subject to this Agreement in the case of a transaction described in Section 4(c) of the Plan that does not constitute a Change of Control.

9. **Income Taxes.** You are liable for any federal and state income or other taxes applicable upon the distribution to you of any Shares or other payments under this Agreement, and you acknowledge that you should consult with your own tax advisor regarding the applicable tax consequences. Upon the distribution of Shares, you shall promptly pay to Deluxe in cash, or in previously acquired shares of Deluxe common stock having a fair market value equal to the amount of all applicable taxes required by Deluxe to be withheld or collected upon the distribution of the Shares. In the alternative, prior to the end of the Performance Period, you may direct Deluxe to withhold from Shares otherwise to be distributed the number of Shares having a fair market value equal to the amount of all applicable taxes required by Deluxe to be withheld upon the distribution of the Shares. You acknowledge that no Shares will be distributed to you, notwithstanding any Performance Award, unless and until you have satisfied any obligation for withholding taxes as provided in this Agreement.
10. **Forfeiture of Award and Award Gain Resulting from Certain Activities.**
- (a) If, at any time during the period commencing on the first day of the Performance Period and ending 12 months after the date that you have received a Performance Award, you engage in any Forfeiture Activity (as defined below) then, in addition to any other rights Deluxe or its Affiliates may have against you, (i) your rights under this Agreement shall immediately terminate effective as of the date any such activity first occurred, and (ii) the value of any Distributed Shares or cash paid to you pursuant to this Agreement must be paid to Deluxe within 30 days of demand by Deluxe. For purposes hereof, any such value shall be determined by multiplying the number of Distributed Shares by the higher of the closing price of a Share on the business day prior to the date of vesting or the closing price on the business day prior to the date of repayment or, to the extent the Performance Award was paid to you in cash, including any payment pursuant to the penultimate paragraph of Section 8, the amount of cash paid to you or on your behalf. The amount repaid shall not be reduced by any tax withholding, whether paid in Shares or cash.
- (b) As used herein, you shall be deemed to have engaged in a Forfeiture Activity if, in violation of any Company policy or other term or condition of your employment, you (i) directly or indirectly engage in any business activity on your own behalf or as a partner, stockholder, director, trustee, officer, consultant or otherwise of any person or entity which is directly in competition with or competitive with any current business of the Company or you solicit, entice or induce any employee or representative of the Company to engage in any such activity, (ii) directly or indirectly solicit, entice or induce (or assist any other person or entity in soliciting, enticing or inducing) any customer (or agent, employee or consultant of any customer) with whom you had contact in the course of your employment with the Company to deal with a competitor of the Company, (iii) fail to hold in a fiduciary capacity for the benefit of the Company all confidential information, knowledge and data, including without limitation customer lists and information, business plans and business strategy ("Confidential Data") relating in any way to the business of the Company, or (iv) are terminated by the Company (or any successor) for Cause.
- (c) If any court of competent jurisdiction shall determine that the foregoing forfeiture provisions are invalid in any respect, the court so holding may limit such provisions in any manner which the court determines, such that the provisions, as so limited, shall be enforceable against you.
- (d) By accepting this Agreement, you consent to a deduction from any amounts the Company owes you from time to time (including amounts owed to you as wages or other compensation, fringe benefits, or vacation pay, as well as any other amounts owed to you by the Company), to the extent of the amounts you owe the Company under the foregoing provisions. Whether or not the Company elects to make any set-off in whole or in part, if the Company does not recover by means of set-off the full amount you owe, calculated as set forth above, you agree to pay immediately the unpaid balance to the Company.
- (e) You will be released from the forfeiture provisions of subparagraph (b)(i) in the event your employment with the Company has been involuntarily terminated without Cause or you voluntarily terminate your employment with the Company for Good Reason. Otherwise, you may be released from the foregoing forfeiture provisions only if the Committee (or its duly appointed agent) determines in its sole discretion that such action is in the best interests of Company.
- (f) Nothing contained in this Section shall be construed to limit the provisions of the Plan or any recoupment policy dealing with recoupment of awards, which are incorporated into this Agreement by this reference.
11. **Terms and Conditions.** This Agreement does not guarantee your continued employment or alter the right of Deluxe or its Affiliates to terminate your employment at any time. This Award is granted pursuant to the Plan and is subject to its terms. In the event of any conflict between the provisions of this Agreement and the Plan, the provisions of the Plan shall govern.

By your acceptance of this performance share award, you agree to all of the terms and conditions contained in this Agreement and in the Plan document. You acknowledge that you have received and reviewed these documents and that they set forth the entire agreement between you and Deluxe regarding your right to the Shares pursuant to this Award Agreement.

DELUXE CORPORATION
By:

ADDENDUM TO PERFORMANCE SHARE AWARD AGREEMENT

For the purposes hereof the terms used herein shall have the following meanings:

"Approved Retirement" shall mean any voluntary termination of employment that occurs on or after the date on which the sum of your age and years of employment with Deluxe and/or its Affiliates equals at least seventy-five (75) and that is approved by the Compensation Committee of the Board.

"Board" means the Board of Directors of the Company.

"Cause" shall mean (i) you have breached your obligations of confidentiality to Deluxe or its Affiliates; (ii) you have failed to perform your duties; (iii) you commit an act, or omit to take action, in bad faith which results in material detriment to Deluxe or its Affiliates or their respective businesses; (iv) you have had excessive absences unrelated to illness or vacation ("excessive" shall be defined in accordance with local employment customs); (v) you have engaged in misconduct or have otherwise violated an employment policy; (vi) you commit fraud, misappropriation, embezzlement or other act of dishonesty in connection with your job or otherwise against Deluxe, its Affiliates or their respective businesses; (vii) you have been convicted or have pleaded guilty or nolo contendere to a felony or a gross misdemeanor, which gross misdemeanor involves a breach of ethics, moral turpitude, or immoral or other conduct reflecting adversely upon the respective reputation, interests or businesses of Deluxe or its Affiliates; (viii) your engage in unlawful conduct or gross misconduct that is or is reasonably likely to be injurious to the respective business, finances, interests or reputation of Deluxe or its Affiliates; or (ix) you are in default under any agreement between you and Deluxe or any of its Affiliates.

A "Change of Control" shall be deemed to have occurred if the conditions set forth in any one of the following paragraphs shall have been satisfied:

- (i) any Person becomes the Beneficial Owner, directly or indirectly, of securities of Deluxe representing 30% or more of the combined voting power of Deluxe's then outstanding securities, excluding, at the time of their original acquisition, from the calculation of securities beneficially owned by such Person any securities acquired directly from Deluxe or its Affiliates or in connection with a transaction described in paragraph (iii) below; or
- (ii) the individuals who at the date of your award election hereunder constitute the Board and any new director (other than a director whose initial assumption of office occurs within a year of and is in connection with an actual or threatened election contest, including but not limited to a consent solicitation, relating to the election of directors of Deluxe) whose appointment or election by the Board or nomination for election by Deluxe's shareholders was approved or recommended by a vote of a majority of the directors then still in office who either were directors at the date of your award election hereunder or whose appointment, election or nomination for election was previously so approved or recommended, cease for any reason to constitute a majority thereof; or
- (iii) the shareholders of Deluxe approve a plan of complete liquidation of Deluxe or there is consummated (A) a merger, consolidation, share exchange or similar transaction involving Deluxe, regardless of whether Deluxe is the surviving corporation or (B) the sale or disposition by Deluxe of all or substantially all Deluxe's assets, other than a sale or disposition by Deluxe of all or substantially all of Deluxe's assets to an entity, unless, immediately following such corporate transaction, all or substantially all of the individuals and entities who were the beneficial owners of Deluxe's voting securities immediately prior to such corporate transaction beneficially own, directly or indirectly, more than 50% of the combined voting power of the then outstanding voting securities of the surviving or acquiring entity resulting from such corporate transaction (including beneficial ownership through any parent of such entity) in substantially the same proportions as their ownership, immediately prior to such corporate transaction, of Deluxe's voting securities.

Notwithstanding the foregoing, a "Change of Control" shall not be deemed to have occurred by virtue of the consummation of any transaction or series of integrated transactions immediately following which the record holders of Common Stock of Deluxe immediately prior to such transaction or series of transactions continue to have substantially the same proportionate ownership in an entity which owns all or substantially all of the assets of Deluxe immediately following such transaction or series of transactions.

"Company" shall mean Deluxe (including any successor corporation) and its Affiliates.

"Disability" shall mean that you are suffering from a medically determinable physical or mental impairment that can be expected to result in death or can be expected to last for a continuous period of not less than twelve months, and that as a result of such impairment either: (i) you have received disability benefits for a period of not less than three months under a long or short-term disability plan or policy (or both), and are eligible for benefits under the long-term disability plan of Deluxe or any Affiliate of which you are employed at the time of such disability; or (ii) in the event that your employer does not have a long-term disability plan in effect at such time, you are unable to engage in any substantial gainful activity.

"Equivalent Replacement Securities" shall mean other equity securities that are listed on a national securities exchange (including by use of American Depository Receipts or any similar method) and are freely transferable under all applicable federal and state securities laws and regulations, the quantity of which shall be determined by the Committee in accordance with Section 4(c) of the Plan.

"Good Reason" shall mean:

- (i) except with your written consent given in your discretion, (a) the assignment to you of any position and/or duties which represent or otherwise entail a material diminution in your position, authority, duties or responsibilities, or (b) any other action by the Company which results in a material diminution in your position (or positions) with the Company, excluding any diminution attributable to Deluxe's bankruptcy or insolvency or to the fact that Deluxe is no longer a public company;
 - (ii) any material reduction in your aggregate compensation and incentive opportunities, or any material failure by the Company to comply with any other written agreement between you and the Company;
 - (iii) the Company's requiring you to be based at any location more than 50 miles from your then current location; or
 - (iv) any request or requirement by the Company that you take any action or omit to take any action that is inconsistent with or in violation of the Company's ethical guidelines and policies as the same existed within the 120-day period prior to the termination date or any professional ethical guidelines or principles that may be applicable to you,
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provided, however, that such events shall constitute Good Reason only if (A) within thirty (30) days following the occurrence of an event claimed to constitute Good Reason, you give Deluxe written notice of such event, (B) Deluxe fails to cure such event within thirty (30) days after receipt of such written notice, and (C) the effective date of your termination of employment is within 180 days following expiration of such cure period.

"Person" shall have the meaning defined in Sections 3(a)(9) and 13(d) of the Securities Exchange Act of 1934, as amended, except that such term shall not include (i) Deluxe or any of its Affiliates, (ii) a trustee or other fiduciary holding securities under an employee benefit plan of Deluxe or any of its Affiliates, (iii) an underwriter temporarily holding securities pursuant to an offering of such securities, or (iv) a corporation owned, directly or indirectly, by the shareholders of Deluxe in substantially the same proportions as their ownership of stock of Deluxe.

DELUXE CORPORATION

**RESTRICTED STOCK UNIT AWARD AGREEMENT
(Non-Employee Director)**

AWARDED TO	AWARD DATE	NUMBER OF RSUs

1. **The Award.** Deluxe Corporation, a Minnesota corporation ("Deluxe"), hereby grants to you as of the above Award Date the above number of restricted stock units ("Units") on the terms and conditions contained in this Restricted Stock Unit Award Agreement (including the Addendum attached hereto, the "Agreement") and Deluxe's 2022 Stock Incentive Plan (the "Plan"), a copy of each of which has been provided to you. Deluxe hereby confirms the grant to you, as of the Award Date and subject to the terms and conditions in this Agreement and the Plan, of the number of Restricted Stock Units specified above (the "Units"). Each Unit represents the right to receive one share of Deluxe's common stock par value \$1.00 ("Common Stock"), when the restrictions applicable to each Unit expire or terminate as provided below. Prior to their settlement or forfeiture in accordance with the terms of this Agreement, the Units granted to you will be credited to an account in your name maintained by Deluxe. This account shall be unfunded and maintained for book-keeping purposes only, with the Units simply representing an unfunded and unsecured contingent obligation of Deluxe. Any capitalized term used but not defined in this Agreement shall have the meaning given to the term in the Plan as it currently exists or may hereafter be amended.
2. **Vesting and Restricted Period.** Subject to Section 4, the Units will vest on the date Deluxe holds its annual meeting of shareholders in [], so long as your service to Deluxe has not previously ended (the "Vesting Date"); provided that, the Vesting Date shall occur no earlier than [] and no later than []. Prior to the Vesting Date, the Units will be subject to forfeiture to Deluxe as provided in this Agreement and the Plan. The Units are subject to the restrictions contained in this Agreement and the Plan for the Restricted Period (as defined below). As used herein, "Restricted Period," shall mean the one-year period commencing on the Award Date and, subject to Section 4, ending on the Vesting Date.
3. **Restrictions.**
 - (a) All Units will be subject to the following restrictions during the Restricted Period:
 - (i) The Units shall be subject to forfeiture to Deluxe until they vest as provided in this Agreement and the Plan.
 - (ii) The Units may not be sold, assigned, transferred or pledged during the Restricted Period. You may not transfer the right to receive the Units, other than by will or the laws of descent and distribution, and any such attempted transfer shall be void.
 - (iii) Shares of Common Stock to be issued in settlement of vested Units will not be issued until the applicable time specified in Section 6.
 - (b) If cash dividends are declared and paid by Deluxe with respect to its Common Stock, then at the same time that such dividends are paid to the shareholders you will have dividend equivalents credited to your account with respect to the Units. All such dividend equivalents shall be held by Deluxe without interest accruing thereon until the end of the Restricted Period, at which time Deluxe will pay you all such dividends and other distributions. Any dividend equivalent payments paid with respect to any Units shall be paid when, and only to the extent that, the underlying Units actually vest and are settled in shares of Common Stock. If the Units are forfeited, then all rights to such dividend and distribution payments shall also be forfeited.
4. **Acceleration of Vesting / Lapse of Restrictions.**

Except as provided below, prior to the Vesting Date your rights in and to the Units shall terminate on the termination date of your service to Deluxe and its Affiliates.

Prior to the Expiration Date, all restrictions applicable to the Units shall lapse and any unvested Units shall vest fully and the shares of Common Stock represented thereby will be issued to you or your heirs, executors, administrators, estate or representatives, as applicable as expeditiously as practicable, but not more than 75 days after (i) a Change of Control or (ii) your service as a director ("Service") with Deluxe or any successor entity is terminated due to your death, Disability (as defined in the Addendum) or the Deluxe Board of Director's then current retirement policies as set forth in the Deluxe Corporate Governance Guidelines or your involuntarily termination without Cause (as defined in the Addendum) by

Deluxe, and such Service termination must, in each case, constitute a "separation from service" as such term is defined for purposes of Code Section 409A.

In the event of a Change of Control, if as a result of the Change of Control, shares of Common Stock are converted into another form of property, such as stock of a company with which Deluxe is merged, or into the right to a cash payment, then in lieu of the shares of Common Stock you will receive the cash or other property that you would have received had you owned the shares of Common Stock immediately prior to the Change of Control.

5. **Forfeiture.** Subject to the provisions of Section 4, in the event your Service to Deluxe is terminated prior to the first-year anniversary of the Award Date, your rights in any and all Units subject to this Agreement shall be immediately and irrevocably forfeited.
6. **Delivery of Shares of Common Stock and Payment of Dividend Equivalents.** Deluxe shall cause to be issued and delivered to you, or to your designated beneficiary or estate in the event of your death, one share of Common Stock in payment and settlement of each Unit subject to this Agreement as well as any accrued dividend equivalents thereon as expeditiously as possible, but no later than 75 days after the expiration of the Restricted Period. Delivery of shares of Common Stock in settlement of a Unit subject to this Agreement shall be effected by an appropriate entry in the stock register maintained by Deluxe's transfer agent with a notice of issuance provided to you, or by the electronic delivery of the shares of Common Stock to a brokerage account you designate, and shall be subject to compliance with all applicable legal requirements, including compliance with the requirements of applicable federal and state securities laws.
7. **Rights.** The Units subject to this Award do not entitle you to any rights of a holder of Common Stock. Except as otherwise provided in Section 3, you will not have any of the rights of a shareholder of Deluxe in connection with the grant of Units subject to this Agreement unless and until shares of Common Stock are issued to you upon settlement of the Units as provided in Section 6.
8. **Income Taxes.** You are liable for all federal and state income or other taxes applicable to this grant and the vesting of shares of Common Stock, and you acknowledge that you should consult with your own tax advisor regarding the applicable tax consequences.
9. **Terms and Conditions.** This Agreement and the award of Units and the issuance of shares of Common Stock hereunder are subject to and governed by the provisions of the Plan. In the event there are any inconsistencies between this Agreement and the Plan, the provisions of the Plan shall govern, as it may be amended or interpreted at Deluxe's discretion, to meet any applicable requirements of Section 409A of the Internal Revenue Code.

By your acceptance of this restricted stock unit award, you agree to all of the terms and conditions contained in this Agreement and in the Plan DOCUMENTS. You acknowledge that you have received and reviewed these documents and that they set forth the entire agreement between you and Deluxe regarding the Units.

DELUXE CORPORATION

By: _____

ADDENDUM TO RESTRICTED STOCK UNIT AWARD AGREEMENT

For the purposes hereof, the terms used herein shall have the following meanings:

"Cause" shall mean (i) you have breached your obligations of confidentiality to Deluxe or its Affiliates; (ii) you have otherwise failed to perform your duties and do not cure such failure within thirty (30) days after receipt of written notice thereof; (iii) you commit an act, or omit to take action, in bad faith which results in material detriment to Deluxe or its Affiliates; (iv) you have committed fraud, misappropriation, embezzlement or other act of dishonesty in connection with Deluxe or its Affiliates or its businesses; (v) you have been convicted or have pleaded guilty or nolo contendere to a felony or a gross misdemeanor, which gross misdemeanor involves a breach of ethics, moral turpitude, or immoral or other conduct reflecting adversely upon the reputation or interest of Deluxe or its Affiliates; (vi) your unlawful conduct or gross misconduct that is or is reasonably likely to be injurious to the business, finances or reputation of Deluxe; or (vii) you are in default under any agreement between you and Deluxe or any of its Affiliates following any applicable notice and cure period.

A "Change of Control" shall be deemed to have occurred upon the completion of any transaction or series of transactions that results in a "change in control event" as defined in Section 409A of the Internal Revenue Code and the regulations thereunder.

"Disability" shall mean that you are suffering from a medically determinable physical or mental impairment that can be expected to result in death or can be expected to last for a continuous period of not less than twelve months, and that as a result of such impairment either: (i) you have received disability benefits for a period of not less than three months under a long or short-term disability plan or policy (or both), and are eligible for benefits under the long-term disability plan of Deluxe or any Affiliate of which you are employed at the time of such disability; or (ii) in the event that your employer does not have a long-term disability plan in effect at such time, you are unable to engage in any substantial gainful activity.

DELUXE CORPORATION SUBSIDIARIES

1STPAYGATEWAY, LLC (Delaware)
Accelerated Card Company, LLC (Delaware)
Canada IATS Payments, Inc. (Canada)
ChecksByDeluxe.com, LLC (Minnesota)
Datamyx LLC (Delaware)
Direct Checks Unlimited, LLC (Colorado)
Direct Checks Unlimited Sales, Inc. (Colorado)
Deluxe Business Operations, Inc. (Delaware)
Deluxe Enterprise Operations, LLC (Minnesota)
Deluxe Financial Services, LLC (Minnesota)
Deluxe Manufacturing Operations, LLC (Minnesota)
Deluxe Small Business Sales, Inc. (Minnesota)
Eliot Management Group, LLC (Utah)
FAPS Holdings, Inc. (Delaware)
Financial Transactions, LLC (Delaware)
First American Payment Systems, L.P. (Texas)
First Manhattan Consulting Group, LLC (Delaware)
Fitech Payments, LLC (Delaware)
goMerchant, LLC (Delaware)
Govolution, LLC (Delaware)
Hostopia Bulgaria EOOD (Bulgaria)
Hostopia Canada, Corp. (Canada)
Hostopia Ireland Limited (Ireland)
IATS, LLC (Delaware)
Internet Names for Business Inc. (Canada)
LogoMix Inc. (Delaware)
MedPayExchange, LLC (Delaware)
MyCorporation Business Services, Inc. (Minnesota)
NEBS Business Products Limited (Canada)
Payce, Inc. (Maryland)
Quick Processing, LLC (Delaware)
REMITCO LLC (Delaware)
Research Development and Manufacturing Corporation (Canada)
Safeguard Acquisitions, Inc. (Texas)
Safeguard Business Systems, Inc. (Delaware)
Safeguard Business Systems Limited (Canada)
Safeguard Franchise Sales, Inc. (Texas)
Safeguard Franchise Systems, Inc. (Texas)
Safeguard Holdings, Inc. (Texas)
Think Point Financial, LLC (Delaware)
Wausau Delaware, LLC (Delaware)
Wausau Financial Systems, Inc. (Wisconsin)

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We hereby consent to the incorporation by reference in the Registration Statements on Form S-3 (No. 333-264954) and Form S-8 (No. 333-95739, 333-52452, 333-52454, 333-89532, 333-150674, 333-181435, 333-223180, 333-238105, 333-264956 and 333-266572) of Deluxe Corporation of our report dated February 24, 2023 relating to the financial statements and the effectiveness of internal control over financial reporting, which appears in this Form 10-K.

/s/ PricewaterhouseCoopers LLP
Minneapolis, Minnesota
February 24, 2023

CEO CERTIFICATION OF PERIODIC REPORT UNDER SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002

I, Barry C. McCarthy, President and Chief Executive Officer of Deluxe Corporation, certify that:

1. I have reviewed this annual report on Form 10-K of Deluxe Corporation;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
 - (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - (c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - (d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
 - (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
 - (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: February 24, 2023

/s/ Barry C. McCarthy

Barry C. McCarthy
President and Chief Executive Officer

CFO CERTIFICATION OF PERIODIC REPORT UNDER SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002

I, William C. Zint, Chief Financial Officer of Deluxe Corporation, certify that:

1. I have reviewed this annual report on Form 10-K of Deluxe Corporation;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
 - (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - (c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - (d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
 - (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
 - (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: February 24, 2023

/s/ William C. Zint

William C. Zint

Senior Vice President, Chief Financial Officer

CEO AND CFO CERTIFICATION OF PERIODIC REPORT

We, Barry C. McCarthy, President and Chief Executive Officer of Deluxe Corporation (the "Company"), and William C. Zint, Chief Financial Officer of the Company, certify, pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, 18 U.S.C. Section 1350, that:

- (1) the Annual Report on Form 10-K of the Company for the year ended December 31, 2022 (the "Report") fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934 (15 U.S.C. 78m or 78o(d)); and
- (2) the information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Date: February 24, 2023

/s/ Barry C. McCarthy

Barry C. McCarthy
President and Chief Executive Officer

/s/ William C. Zint

William C. Zint
Senior Vice President, Chief Financial Officer