



THE DESCARTES SYSTEMS GROUP INC.
QUARTERLY REPORT TO SHAREHOLDERS

US GAAP FINANCIAL RESULTS FOR THE SECOND QUARTER OF FISCAL 2019

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MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

Our Management's Discussion and Analysis of Financial Condition and Results of Operations ("MD&A") contains references to Descartes using the words "we," "us," "our" and similar words and the reader is referred to using the words "you," "your" and similar words.

This MD&A also refers to our fiscal years. Our fiscal year commences on February 1st of each year and ends on January 31st of the following year. Our current fiscal year, which will end on January 31, 2019, is referred to as the "current fiscal year," "fiscal 2019," "2019" or using similar words. Our previous fiscal year, which ended on January 31, 2018, is referred to as the "previous fiscal year," "fiscal 2018," "2018" or using similar words. Other fiscal years are referenced by the applicable year during which the fiscal year ends. For example, 2020 refers to the annual period ending January 31, 2020 and the "fourth quarter of 2020" refers to the quarter ending January 31, 2020.

This MD&A, which is prepared as of September 5, 2018, covers our quarter ended July 31, 2018, as compared to our quarter ended July 31, 2017. You should read the MD&A in conjunction with our unaudited consolidated condensed financial statements for our second quarter of fiscal 2019 that appear elsewhere in this Quarterly Report to Shareholders. You should also read the MD&A in conjunction with our audited annual consolidated financial statements, related notes thereto and the related MD&A for fiscal 2018 that are included in our most recent annual report to shareholders (the "2018 Annual Report"), as filed on March 5, 2018.

We prepare and file our consolidated financial statements and MD&A in United States ("US") dollars and in accordance with US generally accepted accounting principles ("GAAP"). All dollar amounts we use in the MD&A are in US currency, unless we indicate otherwise.

We have prepared the MD&A with reference to the Form 51-102F1 MD&A disclosure requirements established under National Instrument 51-102 "Continuous Disclosure Obligations" ("NI 51-102") of the Canadian Securities Administrators. As it relates to our financial condition and results of operations for the interim period ended July 31, 2018, pursuant to NI 51-102, this MD&A updates the MD&A included in the 2018 Annual Report.

Additional information about us, including copies of our continuous disclosure materials such as our annual information form, is available on our website at <http://www.descartes.com>, through the EDGAR website at <http://www.sec.gov> or through the SEDAR website at <http://www.sedar.com>.

Certain statements made in this Quarterly Report to Shareholders, constitute forward-looking information for the purposes of applicable securities laws ("forward-looking statements"), including, but not limited to: statements in the "Trends / Business Outlook" section and statements regarding our expectations concerning future revenues and earnings, including potential variances from period to period; our expectations regarding the cyclical nature of our business; mix of revenues and potential variances from period to period; our plans to focus on generating services revenues yet to continue to allow customers to elect to license technology in lieu of subscribing to services; our expected loss of revenues and customers; our baseline calibration; our ability to keep our operating expenses at a level below our baseline revenues; our future business plans and business planning process; allocation of purchase price for completed acquisitions; our expectations regarding future restructuring charges and cost-reduction activities; expenses, including amortization of intangible assets and stock-based compensation; goodwill impairment tests and the possibility of future impairment adjustments; capital expenditures; acquisition-related costs; our liability with respect to various claims and suits arising in the ordinary course; any commitments referred to in the "Commitments, Contingencies and Guarantees" section of this MD&A; our intention to actively explore future business combinations and other strategic transactions; our liability under indemnification obligations; our reinvestment of earnings of subsidiaries back into such subsidiaries; our dividend policy; the sufficiency of capital to meet working capital, capital expenditure, debt repayment requirements and our anticipated growth strategy; the filing of a final version of our short-form base shelf

prospectus and the effectiveness of such prospectus; our ability to raise capital; our adoption of certain accounting standards; and other matters related to the foregoing. When used in this document, the words "believe," "plan," "expect," "anticipate," "intend," "continue," "may," "will," "should" or the negative of such terms and similar expressions are intended to identify forward-looking statements. These forward-looking statements are subject to risks and uncertainties and are based on assumptions that may cause future results to differ materially from those expected. The material assumptions made in making these forward-looking statements include the following: global shipment volumes continuing to increase at levels consistent with the average growth rates of the global economy; countries continuing to implement and enforce existing and additional customs and security regulations relating to the provision of electronic information for imports and exports; countries continuing to implement and enforce existing and additional trade restrictions and sanctioned party lists with respect to doing business with certain countries, organizations, entities and individuals; our continued operation of a secure and reliable business network; the continued availability of the data and content that is utilized in the delivery of services made available over our network; the stability of general economic and market conditions, currency exchange rates, and interest rates; equity and debt markets continuing to provide us with access to capital; our continued ability to identify and source attractive and executable business combination opportunities; our ability to develop solutions that keep pace with the continuing changes in technology, and our continued compliance with third party intellectual property rights. While management believes these assumptions to be reasonable under the circumstances, they may prove to be inaccurate. Such forward-looking statements also involve known and unknown risks, uncertainties and other factors that may cause our actual results, performance or achievements of, or developments in our business or industry, to differ materially from the anticipated results, performance or achievements or developments expressed or implied by such forward-looking statements. Such factors include, but are not limited to, the factors discussed under the heading "Certain Factors That May Affect Future Results" in this MD&A and in other documents filed with the Securities and Exchange Commission, the Ontario Securities Commission and other securities commissions across Canada from time to time. If any of such risks actually occur, they could materially adversely affect our business, financial condition or results of operations. In that case, the trading price of our common shares could decline, perhaps materially. Readers are cautioned not to place undue reliance upon any such forward-looking statements, which speak only as of the date made. Forward-looking statements are provided for the purpose of providing information about management's current expectations and plans relating to the future. Readers are cautioned that such information may not be appropriate for other purposes. Except as required by applicable law, we do not undertake or accept any obligation or undertaking to release publicly any updates or revisions to any forward-looking statements to reflect any change in our expectations or any change in events, conditions, assumptions or circumstances on which any such statements are based.

OVERVIEW

We use technology and networks to simplify complex business processes. We are primarily focused on logistics and supply chain management business processes. Our solutions are predominantly cloud-based and are focused on improving the productivity, performance and security of logistics-intensive businesses. Customers use our modular, software-as-a-service ("SaaS") and data solutions to route, schedule, track and measure delivery resources; plan, allocate and execute shipments; rate, audit and pay transportation invoices; access and analyze global trade data; research and perform trade tariff and duty calculations; file customs and security documents for imports and exports; and complete numerous other logistics processes by participating in a large, collaborative multi-modal logistics community. Our pricing model provides our customers with flexibility in purchasing our solutions either on a subscription, transactional or perpetual license basis. Our primary focus is on serving transportation providers (air, ocean and truck modes), logistics service providers (including third-party logistics providers, freight forwarders and customs brokers) and distribution-intensive companies for which logistics is either a key or a defining part of their own product or service offering, or for which our solutions can provide an opportunity to reduce costs, improve service levels, or support growth by optimizing the use of assets and information.

The Market

Logistics is the management of the flow of resources between a point of origin and a point of destination – processes that move items (such as goods, people, information) from point A to point B. Supply chain management is broader than logistics and includes the sourcing, procurement, conversion and storage of resources for consumption by an enterprise. Logistics and supply chain management have been evolving over the past several years as companies are increasingly seeking automation and real-time control of their supply chain activities. We believe companies are looking for integrated solutions for managing inventory in transit, conveyance units, people, data and business documents.

We believe logistics-intensive organizations are seeking to reduce operating costs, differentiate

themselves, improve margins, and better serve customers. Global trade and transportation processes are often manual and complex to manage. This is a consequence of the growing number of business partners participating in companies' global supply chains and a lack of standardized business processes.

Additionally, global sourcing, logistics outsourcing, imposition of additional customs and regulatory requirements and the increased rate of change in day-to-day business requirements are adding to the overall complexities that companies face in planning and executing in their supply chains. Whether a shipment is delayed at the border, a customer changes an order or a breakdown occurs on the road, there are increasingly more issues that can significantly impact the execution of fulfillment schedules and associated costs.

These challenges are heightened for suppliers that have end-customers frequently demanding narrower order-to-fulfillment periods, lower prices and greater flexibility in scheduling and rescheduling deliveries. End customers also want real-time updates on delivery status, adding considerable burden to supply chain management as process efficiency is balanced with affordable service.

In this market, the movement and sharing of data between parties involved in the logistics process is equally important to the physical movement of goods. Manual, fragmented and distributed logistics solutions are often proving inadequate to address the needs of operators. Connecting manufacturers and suppliers to carriers on an individual, one-off basis is too costly, complex and risky for organizations dealing with many trading partners. Further, many of these solutions do not provide the flexibility required to efficiently accommodate varied processes for organizations to remain competitive. We believe this presents an opportunity for logistics technology providers to unite this highly fragmented community and help customers improve efficiencies in their operations.

As the market continues to change, we've been evolving to meet our customers' needs. While the rate of adoption of newer logistics and supply chain management technologies is increasing, a large number of organizations still have manual business processes. We have been educating our prospects and customers on the value of connecting to trading partners through our Global Logistics Network ("GLN") and automating, as well as

standardizing, multi-party business processes. We believe that our target customers are increasingly looking for a single source, neutral, network-based solution provider who can help them manage the end-to-end shipment – from researching global trade information, to the booking of a shipment, to the tracking of that shipment as it moves, to the regulatory compliance filings to be made during the move and, finally, to the settlement and audit of the invoice.

Additionally, regulatory initiatives mandating electronic filing of shipment information with customs authorities require companies to automate aspects of their shipping processes to remain compliant and competitive. Our customs compliance technology helps shippers, transportation providers, freight forwarders and other logistics intermediaries to securely and electronically file shipment and tariff/duty information with customs authorities and self-audit their own efforts. Our technology also helps carriers and freight forwarders efficiently coordinate with customs brokers and agencies to expedite cross-border shipments. While many compliance initiatives started in the US, compliance has now become a global issue with significantly more international shipments crossing several borders on the way to their final destinations.

Increasingly, data and content have become central to supply chain planning and execution. Complex international supply chains are affected by logistics service provider performance, capacity, and productivity, as well as regulatory frameworks such as free trade agreements. We believe our Global Trade Data, Trade Regulations, Free-Trade-Agreement, and duty rate and calculation solutions help customers improve their sourcing, landed cost, and transportation lane and provider selection processes.

Solutions

Descartes' Logistics Technology Platform unites a growing global community of logistics-focused parties, allowing them to transact business while leveraging a broad array of applications designed to help logistics-intensive businesses thrive. Descartes' Logistics Technology Platform is the simple, elegant synthesis of a network, applications, content and a community.

The Logistics Technology Platform fuses our GLN, an extensive logistics network covering multiple transportation modes, with a broad array of modular, interoperable web and wireless logistics

management solutions. Designed to help accelerate time-to-value and increase productivity and performance for businesses of all sizes, the Logistics Technology Platform leverages the GLN's multimodal logistics community to enable companies to quickly and cost-effectively connect and collaborate.

Descartes' GLN, the underlying foundation of the Logistics Technology Platform, manages the flow of data and documents that track and control inventory, assets and people in motion. Designed expressly for logistics operations, it is native to the particularities of different transportation modes and country borders. As a state-of-the-art messaging network with wireless capabilities, the GLN helps manage business processes in real-time and in-motion. Its capabilities go beyond logistics, supporting common commercial transactions, regulatory compliance documents, and customer specific needs.

The GLN extends its reach using interconnect agreements with other general and logistics-specific networks, to offer companies access to a wide array of trading partners. With the flexibility to connect and collaborate in unique ways, companies can effectively route or transform data to and from partners and deploy additional Descartes solutions on the GLN. The GLN allows "low tech" partners to act and respond with "high tech" capabilities and connect to the transient partners that exist in many logistics operations. This inherent adaptability creates opportunities to develop logistics business processes that can help customers differentiate themselves from their competitors.

Descartes' Logistics Application Suite offers a wide array of modular, cloud-based, interoperable web and wireless logistics management applications. These solutions embody Descartes' deep domain expertise, not merely "check box" functionality. These solutions deliver value for a broad range of logistics-intensive organizations, whether they purchase transportation, run their own fleet, operate globally or locally, or work across air, ocean or ground transportation. Descartes' comprehensive suite of solutions includes:

- Routing, Mobile and Telematics;
- Transportation Management and e-commerce enablement;
- Customs & Regulatory Compliance;
- Trade Data;
- Global Logistics Network Services; and
- Broker & Forwarder Enterprise Systems.

The Descartes applications forming part of the Logistics Technology Platform are modular and interoperable to allow organizations the flexibility to deploy them quickly within an existing portfolio of solutions. Implementation is streamlined because these solutions use web-native or wireless user interfaces and are pre-integrated with the GLN. With interoperable and multi-party solutions, Descartes' solutions are designed to deliver functionality that can enhance a logistics operation's performance and productivity both within the organization and across a complex network of partners.

Descartes' expanding global trade content offering unites systems and people with trade information to enable organizations to work smarter by making more informed supply chain and logistics decisions. Our content solutions can help customers: research and analyze global trade movements, regulations and trends; reduce the risk of transacting with denied parties; increase trade compliance rates; optimize sourcing, procurement, and business development strategies; and minimize duty spend.

Descartes' GLN community members enjoy extended command of operations and accelerated time-to-value relative to many alternative logistics solutions. Given the inter-enterprise nature of logistics, quickly gaining access to partners is paramount. For this reason, Descartes has focused on growing a community that strategically attracts and retains relevant logistics parties. Upon joining the GLN community, many companies find that a number of their trading partners are already members with an existing connection to the GLN. This helps to minimize the time required to integrate Descartes' logistics management applications and to begin realizing results. Descartes is committed to continuing to expand community membership. Companies that join the GLN community or extend their participation find a single place where their entire logistics network can exist regardless of the range of transportation modes, the number of trading partners or the variety of regulatory agencies.

Sales and Distribution

Our sales efforts are primarily directed towards two specific customer markets: (a) transportation companies and logistics service providers; and (b) manufacturers, retailers, distributors and mobile business service providers. Our sales staff is regionally based and trained to sell across our solutions to specific customer markets. In North

America and Europe, we promote our products primarily through direct sales efforts aimed at existing and potential users of our products. In the Asia Pacific, Indian subcontinent, South America and African regions, we focus on making our channel partners successful. Channel partners for our other international operations include distributors, alliance partners and value-added resellers.

United by Design

Descartes' 'United By Design' strategic alliance program is intended to ensure complementary hardware, software and network offerings are interoperable with Descartes' solutions and work together seamlessly to solve multi-party business problems.

'United By Design' is intended to create a global ecosystem of logistics-intensive organizations working together to standardize and automate business processes and manage resources in motion. The program centers on Descartes' Open Standard Collaborative Interfaces, which provide a wide variety of connectivity mechanisms to integrate a broad spectrum of applications and services.

Descartes has partnering relationships with multiple parties across the following three categories:

- Technology Partners – Complementary hardware, software, network, and embedded technology providers that extend the functional breadth of Descartes' solution capabilities;
- Consulting Partners - Large system integrators and enterprise resource planning system vendors through to vertically specialized or niche consulting organizations that provide domain expertise and/or implementation services for Descartes' solutions; and
- Channel Partners (Value-Added Resellers) – Organizations that market, sell, implement and support Descartes' solutions to extend access and expand market share into territories and markets where Descartes might not have a focused direct sales presence.

Marketing

Our marketing efforts are focused on growing demand for our solutions and establishing Descartes as a thought leader and innovator across the markets we serve. Marketing programs are

delivered through integrated initiatives designed to reach our target customer and prospect groups. These programs include digital and online marketing, trade shows and user group events, partner-focused campaigns, proactive media relations, and direct corporate marketing efforts.

Fiscal 2019 Highlights

On February 2, 2018, Descartes acquired Aljex Software, Inc. ("Aljex"), a cloud-based provider of back-office transportation management solutions for freight brokers and transportation providers. US-based Aljex helps customers automate business processes and create electronic documents critical for executing transportation moves through the lifecycle of a shipment. The purchase price for the acquisition was approximately \$32.4 million, net of cash acquired, which was funded from drawing on our existing credit facility.

On June 6, 2018, we filed a new final short-form base shelf prospectus, allowing us to offer and issue the following securities: (i) common shares; (ii) preferred shares; (iii) senior or subordinated unsecured debt securities; (iv) subscription receipts; (v) warrants; and (vi) securities comprised of more than one of the aforementioned common shares, preferred shares, debt securities, subscription receipts and/ or warrants offered together as a unit. These securities may be offered separately or together, in separate series, in amounts, at prices and on terms to be set forth in one or more shelf prospectus supplements. The aggregate initial offering price of securities that may be sold by us (or certain of our current or future shareholders) pursuant to our base shelf prospectus during the 25-month period that our base shelf prospectus, including any amendments thereto, remains valid is limited to \$750 million.

On June 22, 2018, Descartes acquired certain assets of Velocity Mail, LLC ("Velocity Mail"), an electronic transportation network that provides global air carriers with mail and parcel shipment scanning and tracking solutions. Using US-based Velocity Mail's network, global air carriers leverage mobile devices to accurately track shipments and deliveries in real-time. The purchase price for the acquisition was approximately \$26.1 million, net of cash acquired, which was funded from drawing on Descartes' existing credit facility.

On August 21, 2018, Descartes acquired PinPoint GPS Solutions Inc. ("PinPoint"), a provider of fleet

tracking and mobile workforce solutions. Canada-based PinPoint helps customers collect real-time location information on trucks and mobile workers using technology, including Geotab (telematics) and SkyBitz (trailer tracking). The initial purchase price for the acquisition was approximately \$11.5 million, net of cash acquired. The \$10.0 million cash portion of the initial purchase price, was funded from drawing on Descartes' existing credit facility and the remaining \$1.5 million was satisfied by issuing to the sellers less than 0.1 million Descartes common shares from treasury. Additional contingent consideration of up to \$2.3 million (CAD \$3.0 million) in cash is payable if certain revenue performance targets are met by PinPoint in the two years following the acquisition.

CONSOLIDATED OPERATIONS

The following table shows, for the periods indicated, our results of operations in millions of dollars (except per share and weighted average share amounts):

	Second Quarter of		First Half of	
	2019	2018	2019	2018
Total revenues	67.1	57.3	134.1	111.8
Cost of revenues	18.0	15.3	36.5	29.7
Gross margin	49.1	42.0	97.6	82.1
Operating expenses	28.4	23.9	56.4	46.4
Other charges	0.6	0.9	1.7	1.6
Amortization of intangible assets	10.0	7.8	19.6	15.5
Income from operations	10.1	9.4	19.9	18.6
Investment income	-	-	0.1	0.1
Interest expense	(0.4)	(0.2)	(1.0)	(0.4)
Income before income taxes	9.7	9.2	19.0	18.3
Income tax expense				
Current	1.1	1.7	3.1	3.4
Deferred	0.1	0.3	0.4	0.9
Net income	8.5	7.2	15.5	14.0
EARNINGS PER SHARE				
BASIC	0.11	0.09	0.20	0.18
DILUTED	0.11	0.09	0.20	0.18
WEIGHTED AVERAGE SHARES OUTSTANDING (thousands)				
BASIC	76,816	75,969	76,805	75,941
DILUTED	77,781	76,739	77,714	76,687

Total revenues consist of *license revenues*, *services revenues* and *professional services and other revenues*. License revenues derive from licenses granted to our customers to use our software products. Services revenues are comprised of ongoing transactional and/or subscription fees for use of our services and products by our customers and maintenance, which include revenues associated with maintenance and support of our services and products. Professional services and other revenues are comprised of professional services revenues from consulting, implementation and training services related to our services and products, hardware revenues and other revenues.

The following table provides additional analysis of our revenues by type (in millions of dollars and as a percentage of total revenues) generated over each of the periods indicated:

	Second Quarter of		First Half of	
	2019	2018	2019	2018
License	1.3	2.2	3.2	3.8
<i>Percentage of total revenues</i>	2%	4%	2%	3%
Services	59.7	49.3	117.5	96.1
<i>Percentage of total revenues</i>	89%	86%	88%	86%
Professional services and other	6.1	5.8	13.4	11.9
<i>Percentage of total revenues</i>	9%	10%	10%	11%
Total revenues	67.1	57.3	134.1	111.8

Our **license revenues** were \$3.2 million and \$3.8 million for the first half of 2019 and 2018, respectively, representing 2% and 3% of total revenues in the first half of 2019 and 2018, respectively. For the second quarter of 2019 and 2018, our license revenues were \$1.3 million and \$2.2 million, respectively, representing 2% and 4% of total revenues in the second quarter of 2019 and 2018, respectively. While our sales focus has been on generating services revenues in our SaaS business model, we continue to see a market for licensing the products in our omni-channel retailing and home delivery logistics solutions. The amount of license revenues in a period is dependent on our customers' preference to license our solutions instead of purchasing our solutions as a service and we anticipate variances from period to period.

Our **services revenues** were \$117.5 million and \$96.1 million for the first half of 2019 and 2018, respectively, representing 88% and 86% of total revenues in the first half of 2019 and 2018, respectively. For the second quarter of 2019 and 2018, our services revenues were \$59.7 million and \$49.3 million, respectively, representing 89% and 86% of total revenues in the second quarter of 2019 and 2018, respectively. The increase in the first half of 2019 as compared to the same period of 2018 was primarily due to the inclusion of a full period of services revenues from the fiscal 2018 acquisitions of Z-Firm LLC ("ShipRush"), PCSTrac Inc. ("PCSTrac") and MacroPoint LLC ("MacroPoint") as well as additional services revenues from the fiscal 2019 acquisitions of Aljex and Velocity Mail. Service revenues in the first half of 2019 were also positively impacted by the growth in sales of transactional and subscription products to both new and existing customers. Services revenues in the first half of 2019 as compared to the same period of 2018 were positively impacted by the strengthening of the British pound sterling, euro and Canadian dollar compared to the US dollar.

The increase in services revenues in the second quarter of 2019 as compared to the same period of 2018 was primarily due to the inclusion of a full period of services revenues from the fiscal 2018 acquisitions of ShipRush, PCSTrac and MacroPoint, as well as services revenues from the fiscal 2019 acquisitions of Aljex and Velocity Mail. Service revenues in the second quarter of 2019 were also positively impacted by the growth in sales of transactional and subscription products. Services revenues in the second quarter of 2019 as compared to the same period of 2018 were positively impacted by the strengthening of the euro compared to the US dollar.

Our **professional services and other** revenues were \$13.4 million and \$11.9 million for the first half of 2019 and 2018, respectively, representing 10% and 11% of total revenues for the first half of 2019 and 2018, respectively. For the second quarter of 2019 and 2018, our professional services and other revenues were \$6.1 million and \$5.8 million, respectively, representing 9% and 10% of our total revenues in the second quarter of 2019 and 2018, respectively. The increase in the first half of 2019 as compared to the same period of 2018 was primarily due to increased professional services activity in Europe as well as the fiscal 2019 acquisition of Aljex. Professional services and other revenues in the first half of 2019 as

compared to the same period of 2018 were positively impacted by the strengthening of the euro compared to the US dollar.

The increase in professional services and other revenues in the second quarter of 2019 as compared to the same period of 2018 was primarily due to the fiscal 2019 acquisition of Aljex.

We operate in one business segment providing logistics technology solutions. The following table provides additional analysis of our revenues by geographic location of customer (in millions of dollars and as a percentage of total revenues):

	Second Quarter of		First Half of	
	2019	2018	2019	2018
United States	40.2	31.5	79.6	61.2
<i>Percentage of total revenues</i>	60%	55%	59%	55%
Europe, Middle-East and Africa ("EMEA")	19.9	18.9	40.6	37.6
<i>Percentage of total revenues</i>	30%	33%	30%	34%
Canada	3.8	4.1	7.6	7.5
<i>Percentage of total revenues</i>	5%	7%	6%	6%
Asia Pacific	3.2	2.8	6.3	5.5
<i>Percentage of total revenues</i>	5%	5%	5%	5%
Total revenues	67.1	57.3	134.1	111.8

Revenues from the United States were \$79.6 million and \$61.2 million for the first half of 2019 and 2018, respectively. For the second quarter of 2019 and 2018, revenues from the United States were \$40.2 million and \$31.5 million, respectively. The increase in the first half and second quarter of 2019 as compared to the same periods of 2018 was primarily a result of the inclusion of a full period of revenues from the 2018 acquisitions of ShipRush, PCSTrac and MacroPoint as well as the 2019 acquisitions of Aljex and Velocity Mail. Revenues in the first half and second quarter of 2019 were also positively impacted by the growth in sales of transactional and subscription products to both new and existing customers.

Revenues from the EMEA region were \$40.6 million and \$37.6 million for the first half of 2019 and 2018, respectively. For the second quarter of 2019 and 2018, revenues from the EMEA region, were \$19.9 million and \$18.9 million, respectively. The increases in the first half and second quarter of 2019 as compared to the same periods of 2018 were primarily a result of growth in sales of transactional, subscription and professional services products. The increase in the first half of 2019 as compared to the same period of 2018 was also positively impacted by the strengthening of the British pound sterling and euro compared to the US dollar. The increase in the second quarter of 2019 as compared to the same period of 2018 was also positively impacted by the strengthening of the euro compared to the US dollar.

Revenues from Canada were \$7.6 million and \$7.5 million for the first half of 2019 and 2018, respectively. For the second quarter of 2019 and 2018, revenues from Canada were \$3.8 million and \$4.1 million. The increase in the first half of 2019 as compared to the same period of 2018 was primarily a result of increased transactional and subscription revenues as well as the strengthening of the Canadian dollar compared to the US dollar. The decrease in the second quarter of 2019 compared to the same period of 2018 was primarily a result of decreased license revenues for which we anticipate variances from period to period.

Revenues from the Asia Pacific region were \$6.3 million and \$5.5 million for the first half of 2019 and 2018, respectively. For the second quarter of 2019 and 2018, revenues from the Asia Pacific region were

\$3.2 million and \$2.8 million, respectively. The increases in the first half and second quarter of 2019 as compared to the same periods of 2018 were primarily a result of increased transactional revenues.

The following table provides analysis of cost of revenues (in millions of dollars) and the related gross margins for the periods indicated:

	Second Quarter of		First Half of	
	2019	2018	2019	2018
<u>License</u>				
License revenues	1.3	2.2	3.2	3.8
Cost of license revenues	0.3	0.4	0.5	0.6
Gross margin	1.0	1.8	2.7	3.2
<i>Gross margin percentage</i>	77%	82%	84%	84%
<u>Services</u>				
Services revenues	59.7	49.3	117.5	96.1
Cost of services revenues	13.7	11.8	27.5	23.1
Gross margin	46.0	37.5	90.0	73.0
<i>Gross margin percentage</i>	77%	76%	77%	76%
<u>Professional services and other</u>				
Professional services and other revenues	6.1	5.8	13.4	11.9
Cost of professional services and other revenues	4.0	3.1	8.5	6.0
Gross margin	2.1	2.7	4.9	5.9
<i>Gross margin percentage</i>	34%	47%	37%	50%
<u>Total</u>				
Revenues	67.1	57.3	134.1	111.8
Cost of revenues	18.0	15.3	36.5	29.7
Gross margin	49.1	42.0	97.6	82.1
<i>Gross margin percentage</i>	73%	73%	73%	73%

Cost of license revenues consists of costs related to our sale of third-party technology, such as third-party map license fees and royalties.

Gross margin percentage for license revenues was 84% for both the first half of 2019 and 2018 and 77% and 82% for the second quarter of 2019 and 2018, respectively. Our gross margin on license revenues is dependent on the proportion of our license revenues that involve third-party technology. Consequently, our gross margin percentage for license revenues is higher when a lower proportion of our license revenues attracts third-party technology costs, and vice versa.

Cost of services revenues consists of internal costs of running our systems and applications and other personnel-related expenses incurred in providing maintenance, including customer support.

Gross margin percentage for services revenues was 77% and 76% for the first half of 2019 and 2018, respectively, and 77% and 76% for the second quarter of 2019 and 2018, respectively. The margin in the first half and second quarter of 2019 was positively impacted by the 2018 acquisition of MacroPoint and 2019 acquisitions of Aljex and Velocity Mail, which operate at margins higher than some of our other services revenue streams.

Cost of professional services and other revenues consists of personnel-related expenses incurred in providing professional services, hardware installation as well as hardware costs.

Gross margin percentage for professional services and other revenues was 37% and 50% for the first half of 2019 and 2018, respectively, and 34% and 47% for the second quarter of 2019 and 2018, respectively. The margin in the first half and second quarter of 2019 was negatively impacted by an increased proportion of hardware and hardware installation revenues, which generally have lower gross margins, and increased telematics hardware costs. Hardware revenues typically have lower margins than our professional services revenues and as such we anticipate variances in gross margin from period to period as a result of the sales mix.

Operating expenses, consisting of sales and marketing, research and development and general and administrative expenses, were \$56.4 million and \$46.4 million for the first half of 2019 and 2018, respectively. For the second quarter of 2019 and 2018, operating expenses were \$28.4 million and \$23.9 million, respectively. The increase in operating expenses in the first half and second quarter of 2019 as compared to the same periods of 2018 was primarily due to increased operating expenses from the fiscal 2018 acquisitions of ShipRush, PCSTrac and MacroPoint as well as the fiscal 2019 acquisitions of Aljex and Velocity Mail. Operating expenses in the first half and second quarter of 2019 as compared to the same periods of 2018 have also increased as the Company continues to invest in several areas of the business to support continued organic growth. Operating expenses in the first half of 2019 compared to the same period of 2018 were negatively impacted by the strengthening of the euro, Canadian dollar and British pound sterling compared to the US dollar. Operating expenses in the second quarter of 2019 compared to the same period of 2018 were negatively impacted by the strengthening of the euro compared to the US dollar.

The following table provides analysis of operating expenses (in millions of dollars and as a percentage of total revenues) for the periods indicated:

	Second Quarter of		First Half of	
	2019	2018	2019	2018
Total revenues	67.1	57.3	134.1	111.8
Sales and marketing expenses	9.3	7.6	18.5	14.8
<i>Percentage of total revenues</i>	14%	13%	14%	13%
Research and development expenses	11.9	10.1	23.8	19.5
<i>Percentage of total revenues</i>	18%	18%	18%	17%
General and administrative expenses	7.2	6.2	14.1	12.1
<i>Percentage of total revenues</i>	11%	11%	11%	11%
Total operating expenses	28.4	23.9	56.4	46.4
<i>Percentage of total revenues</i>	42%	42%	42%	42%

Sales and marketing expenses include salaries, commissions, stock-based compensation and other personnel-related costs, bad debt expenses, travel expenses, advertising programs and services, and other promotional activities associated with selling and marketing our services and products. Sales and marketing expenses were \$18.5 million and \$14.8 million for the first half of 2019 and 2018, respectively, representing 14% and 13% of total revenues in the first half of 2019 and 2018, respectively. For the second quarter of 2019 and 2018, sales and marketing expenses were \$9.3 million and \$7.6 million, respectively, representing 14% and 13% of total revenues in the second quarter of 2019 and 2018, respectively. The increase in sales and marketing expenses in the first half and second quarter of 2019 as compared to the same periods of 2018 was primarily due to the inclusion of sales and marketing expenses from the fiscal 2018 acquisition of MacroPoint and fiscal 2019 acquisition of Aljex. Sales and marketing expenses in the first half of 2019 as compared to the same period of 2018 were negatively impacted by the strengthening of the euro, Canadian dollar and British pound sterling compared to the US dollar. Sales

and marketing expenses in the second quarter of 2019 compared to the same period of 2018 were negatively impacted by the strengthening of the euro compared to the US dollar.

Research and development expenses consist primarily of salaries, stock-based compensation and other personnel-related costs of technical and engineering personnel associated with our research and product development activities, as well as costs for third-party outsourced development providers. We expensed all costs related to research and development in 2019 and 2018. Research and development expenses were \$23.8 million and \$19.5 million for the first half of 2019 and 2018, respectively, representing 18% and 17% of total revenues in the first half of 2019 and 2018, respectively. For the second quarter of 2019 and 2018, research and development expenses were \$11.9 million and \$10.1 million, respectively, representing 18% of total revenues in both the second quarter of 2019 and 2018. The increase in research and development expenses in the first half and second quarter of 2019 as compared to the same periods of 2018 was primarily attributable to increased payroll and related costs from the fiscal 2018 acquisitions of ShipRush, PCSTrac and MacroPoint as well as the fiscal 2019 acquisition of Aljex. Research and development expenses in the first half of 2019 as compared to the same period of 2018 were negatively impacted by the strengthening of the euro and Canadian dollar compared to the US dollar. Research and development expenses in the second quarter of 2019 as compared to the same period of 2018 were negatively impacted by the strengthening of the euro compared to the US dollar.

General and administrative expenses consist primarily of salaries, stock-based compensation and other personnel-related costs of administrative personnel, as well as professional fees and other administrative expenses. General and administrative costs were \$14.1 million and \$12.1 million for the first half of 2019 and 2018, respectively, representing 11% of total revenues in both the first half of 2019 and 2018. General and administrative expenses were \$7.2 million and \$6.2 million for the second quarter of 2019 and 2018, respectively, representing 11% of total revenues for both the second quarter of 2019 and 2018. The increase in general and administrative expenses in the first half and second quarter of 2019 as compared to the same periods of 2018 was primarily attributable to the inclusion of general and administrative expenses from the fiscal 2018 acquisitions of ShipRush and MacroPoint as well as the fiscal 2019 acquisition of Aljex. General and administrative expenses in the first half of 2019 as compared to the same period of 2018 were negatively impacted by the strengthening of the euro and Canadian dollar compared to the US dollar. General and administrative expenses in the second quarter of 2019 as compared to the same period of 2018 were negatively impacted by the strengthening of the euro compared to the US dollar.

Other charges consist primarily of acquisition-related costs with respect to completed and prospective acquisitions and restructuring charges. Acquisition-related costs primarily include advisory services, brokerage services, administrative costs and retention bonuses, and relate to completed and prospective acquisitions. Restructuring costs relate to the integration of previously completed acquisitions and other cost-reduction activities. Other charges were \$1.7 million and \$1.6 million for the first half of 2019 and 2018, respectively, and \$0.6 million and \$0.9 million for the second quarter of 2019 and 2018, respectively. Other charges were comprised of acquisition-related costs of \$1.7 million and \$1.6 million in the first half of 2019 and 2018, respectively, and \$0.6 million and \$0.9 million in the second quarter of 2019 and 2018, respectively.

Amortization of intangible assets is amortization of the value attributable to intangible assets, including customer agreements and relationships, non-compete covenants, existing technologies and trade names, in each case associated with acquisitions completed by us as of the end of each reporting period. Intangible assets with a finite life are amortized to income over their useful life. The amount of amortization expense in a fiscal period is dependent on our acquisition activities as well as our asset impairment tests. Amortization of intangible assets was \$19.6 million and \$15.5 million in the first half of 2019 and 2018, respectively, and \$10.0 million and \$7.8 million in the second quarter of 2019 and 2018, respectively. Amortization expense increased in the first half and second quarter of 2019 as compared to the same periods of 2018 primarily due to amortization expense from the acquisitions of ShipRush, PCSTrac, MacroPoint, Aljex and Velocity Mail. As at July 31, 2018, the unamortized portion of all intangible assets amounted to \$188.8 million.

We test the carrying value of our finite life intangible assets for recoverability when events or changes in circumstances indicate that there may be evidence of impairment. We write down intangible assets with a finite life to fair value when the related undiscounted cash flows are not expected to allow for recovery of the carrying value. Fair value of intangible assets is determined by discounting the expected related cash flows. No finite life intangible asset impairment has been identified or recorded for any of the fiscal periods reported.

Investment income was \$0.1 million for both the first half of 2019 and 2018 and nominal in both the second quarter of 2019 and 2018.

Interest expense was \$1.0 million and \$0.4 million for the first half of 2019 and 2018, respectively, and \$0.4 and \$0.2 million in both the second quarter of 2019 and 2018. Interest expense is primarily comprised of interest expense on the amount borrowed and outstanding on our revolving debt facility, debt standby charges as well as the amortization of deferred financing charges. Interest expense increased in the first half and second quarter of 2019 as compared to the same periods of 2018 due to additional debt facility borrowings to fund the acquisitions of Aljex and Velocity Mail.

Income tax expense is comprised of current and deferred income tax expense. Income tax expense for the first half of 2019 and 2018 was 18.5% and 23.1% of income before income taxes, respectively, with current income tax expense being 16.2% and 18.6% of income before income taxes, respectively. Income tax expense for the second quarter of 2019 and 2018 was 12.7% and 22.1% of income before income taxes, respectively, with current income tax expense being 11.7% and 18.6% of income before income taxes, respectively. The Tax Cuts and Jobs Act (the "Tax Act") was enacted on December 22, 2017 and introduced significant changes to U.S. income tax law. Effective January 1, 2018, the Tax Act reduced the U.S. statutory tax rate from 35% to 21%. Overall, the Tax Act did not have a significant impact on income tax expense in the first half and second quarter of 2019.

Income tax expense – current was \$3.1 million and \$3.4 million for the first half of 2019 and 2018, respectively, and \$1.1 million and \$1.7 million in the second quarter of 2019 and 2018, respectively. The decrease in current income taxes expense in the first half and second quarter of 2019 compared to the same periods of 2018 was related to a net favorable outcome on the conclusion of certain tax audits in the second quarter of 2019. This was partially offset by higher current income tax expense as a result of the higher pre-tax income generated in the first half of 2019 compared to the same periods of 2018.

Income tax expense – deferred was \$0.4 million and \$0.9 million in the first half of 2019 and 2018, respectively, and \$0.1 million and \$0.3 million in the second quarter of 2019 and 2018, respectively. The decrease in deferred income tax expense in the first half and second quarter of 2019 compared to the same periods of 2018 was attributable to tax benefits realized from the conclusion of certain tax audits in the second quarter of 2019. These tax benefits were partially offset by an increase in deferred income tax expenses from the adoption of Accounting Standards Update 2016-16.

Net income was \$15.5 million and \$14.0 million in the first half of 2019 and 2018, respectively. For the second quarter of 2019, net income was \$8.5 million compared to \$7.2 million for the second quarter of 2018.

QUARTERLY OPERATING RESULTS

The following table provides an analysis of our unaudited operating results (in thousands of dollars, except per share and weighted average number of share amounts) for each of the quarters ended on the date indicated.

	April 30, 2018	July 31, 2018	October 31, 2018	January 31, 2019	Total
<u>2019</u>					
Revenues	67,018	67,115			134,133
Gross margin	48,434	49,154			97,588
Operating expenses	27,997	28,358			56,355
Net income	6,986	8,498			15,484
Basic earnings per share	0.09	0.11			0.20
Diluted earnings per share	0.09	0.11			0.20
Weighted average shares outstanding (thousands):					
Basic	76,793	76,816			76,805
Diluted	77,650	77,781			77,714
	April 30, 2017	July 31, 2017	October 31, 2017	January 31, 2018	Total
<u>2018</u>					
Revenues	54,514	57,293	62,001	63,631	237,439
Gross margin	40,132	41,946	45,158	46,499	173,735
Operating expenses	22,505	23,942	26,450	27,483	100,380
Net income	6,885	7,159	6,170	6,665	26,879
Basic earnings per share	0.09	0.09	0.08	0.09	0.35
Diluted earnings per share	0.09	0.09	0.08	0.09	0.35
Weighted average shares outstanding (thousands):					
Basic	75,912	75,969	76,630	76,773	76,324
Diluted	76,648	76,739	77,442	77,616	77,112

Revenues over the comparative periods have been positively impacted by the five acquisitions that we have completed since the beginning of fiscal 2018. In addition, we have seen increased revenues as a result of an increase in transactions processed over our GLN business document exchange as we help our customers comply with electronic filing requirements of US, Canadian, EU and Asia security and customs regulations.

Our services revenues continue to have seasonal trends. In the first fiscal quarter of each year, we historically have seen slightly lower shipment volumes by air and truck which impact the aggregate number of transactions flowing through our GLN business document exchange. In the second fiscal quarter of each year, we historically have seen a slight increase in ocean services revenues as ocean carriers are in the midst of their customer contract negotiation period. In the third fiscal quarter of each year, we have historically seen shipment and transactional volumes at their highest. In the fourth fiscal quarter of each year, the various international holidays impact the aggregate number of shipping days in the quarter, and historically we have seen this adversely impact the number of transactions our network processes and, consequently, the amount of services revenues we receive during that period. In the second and fourth fiscal quarters of each year, we historically have seen a slight decrease in professional services revenues due to various international holidays and vacation seasons.

In the second quarter of 2019 revenues were positively impacted by the inclusion of a partial quarter of operations from our acquisition of Velocity Mail. Revenues and gross margin in the second quarter of 2019 were also positively impacted by increased transactional and subscription revenues partially offset by a decrease of \$0.7 million in license revenue, which can vary from period to period, and a decrease of \$0.9 million in professional services revenues due to holidays and vacation seasons. Revenues in the second quarter of 2019 were also negatively impacted by the weakening of the euro and British pound sterling compared to the US dollar. Operating expenses increased primarily due to the inclusion of a partial quarter of operations from our acquisition of Velocity Mail. Operating expenses in the second quarter of 2019 were positively impacted by the weakening of the euro and British pound sterling compared to the US dollar. Net income increased as a result of a reduction in income tax expense partially offset by additional stock-based compensation expense as well as amortization as a result of the acquisition of Velocity Mail.

In the first quarter of 2019 revenues were positively impacted by the inclusion of a full quarter of operations from our acquisition of Aljex. Revenues and gross margin in the first quarter of 2019 were also positively impacted by increased transactional, subscription and professional services revenues as well as the strengthening of the euro compared to the US dollar. Operating expenses increased primarily due to the inclusion of a full quarter of operations from our acquisition of Aljex. Operating expenses in the first quarter of 2019 were also negatively impacted by the strengthening of the euro compared to the US dollar. Net income was lowered by additional amortization as a result of the acquisition of Aljex as well as additional acquisition-related costs.

In the fourth quarter of 2018, revenues were positively impacted by the inclusion of a full quarter of operations from our acquisition of MacroPoint. Revenues in the fourth quarter of 2018 were also positively impacted by the strengthening of the euro and British pound sterling compared to the US dollar. Operating expenses in the fourth quarter were negatively impacted by the strengthening of the euro and British pound sterling compared to the US dollar. Net income was higher in the fourth quarter of 2018 as a result of lower acquisition-related costs with respect to completed and prospective acquisitions as well as restructuring costs.

In the third quarter of 2018, revenues were positively impacted by the inclusion of a partial quarter of operations from our acquisition of MacroPoint and a full quarter of operations from our acquisitions of ShipRush and PCSTrac. Revenues in the third quarter of 2018 were also positively impacted by the strengthening of the euro, Canadian dollar and British pound sterling compared to the US dollar. Operating expenses increased because of the partial quarter of operations from our acquisition of MacroPoint and a full quarter of operations from our acquisitions of ShipRush and PCSTrac. Operating expenses in the third quarter were also negatively impacted by the strengthening of the euro, Canadian dollar and British pound sterling compared to the US dollar. Net income was lowered in the third quarter of 2018 by the inclusion of a partial period of amortization as a result of our acquisition of MacroPoint and a full quarter of amortization from our acquisitions of ShipRush and PCSTrac. Net income was also lowered as a result of restructuring expense recognized in the third quarter of 2018 from our fiscal 2018 restructuring plan.

In the second quarter of 2018, revenues and gross margin were positively impacted by the inclusion of a partial quarter of operations from our acquisitions of ShipRush and PCSTrac. Revenues in the second quarter of 2018 were also positively impacted by the strengthening of the euro, Canadian dollar, British pound sterling and Swedish krona compared to the US dollar. Operating expenses increased because of the partial quarter of operations from our acquisitions of ShipRush and PCSTrac. Operating expenses in the second quarter of 2018 were also negatively impacted by the strengthening of the euro, Canadian dollar, Swedish krona and British pound sterling compared to the US dollar. Net income was lowered by additional amortization as a result of the acquisitions of ShipRush and PCSTrac in the second quarter of 2018.

In the first quarter of 2018, revenues and gross margin were positively impacted by the inclusion of a full quarter of operations from our acquisitions of 4Solutions Information Technology Pty Ltd. ("4Solutions") and Datamyne Inc. ("Datamyne"). Revenues in the first quarter of 2018 were also positively impacted by the strengthening of the British pound sterling and euro compared to the US dollar. Operating expenses

increased because of the inclusion of a full quarter of operations from our acquisitions of 4Solutions and Datamyne. Operating expenses in the first quarter of 2018 were also negatively impacted by the strengthening of the euro, Swedish krona and British pound sterling and positively impacted by weakening of the Canadian dollar compared to the US dollar. Net income was lowered by additional amortization as a result of the acquisitions of 4Solutions and Datamyne in 2017.

LIQUIDITY AND CAPITAL RESOURCES

Cash. We had \$34.1 million and \$35.1 million in cash as at July 31, 2018 and January 31, 2018, respectively. All cash was held in interest-bearing bank accounts, primarily with major Canadian, US and European banks.

Credit facility. On March 2, 2016, we amended our revolving debt facility with a new senior secured credit facility. The credit facility consists of a \$150.0 million revolving operating credit facility to be available for general corporate purposes including the financing of ongoing working capital needs and acquisitions. With the approval of the lenders, the credit facility can be expanded to a total of \$225.0 million. The credit facility also provides for an additional \$7.5 million available to support foreign exchange and interest rate hedging. The credit facility has a five-year maturity with no fixed repayment dates prior to the end of the five-year term ending March 2, 2021. Borrowings under the credit facility are secured by a first charge over substantially all of Descartes' assets. Depending on the type of advance, interest rates under the revolving operating portion of the credit facility are based on the Canada or US prime rate, Bankers' Acceptance (BA) or London Interbank Offered Rate (LIBOR) plus an additional 0 to 200 basis points based on the ratio of net debt to adjusted earnings before interest, taxes, depreciation and amortization, as defined in the credit agreement. A standby fee of between 20 to 28 basis points will be charged on all undrawn amounts. The credit facility contains certain customary representations, warranties and guarantees, and covenants.

As at July 31, 2018, \$91.2 million of the revolving operating credit facility remained available for use and the outstanding balance of \$58.8 million is required to be repaid prior to March 2, 2021. No amounts have been drawn on the facility available to support foreign exchange and interest rate hedging. We are in compliance with the covenants of the credit facility as of July 31, 2018.

Short-form base shelf prospectus. On April 18, 2016, we filed a final short-form base shelf prospectus (the "2016 Base Shelf Prospectus"), that allowed us to offer and issue common shares, preferred shares, debt securities, subscription receipts and/or warrants separately or together, in separate series, in amounts, at prices and on terms to be set forth in one or more shelf prospectus supplements for up to an aggregate of \$500 million. The 2016 Base Shelf Prospectus lapsed on May 18, 2018.

On June 6, 2018, we filed a new final short-form base shelf prospectus, allowing us to offer and issue the following securities: (i) common shares; (ii) preferred shares; (iii) senior or subordinated unsecured debt securities; (iv) subscription receipts; (v) warrants; and (vi) securities comprised of more than one of the aforementioned common shares, preferred shares, debt securities, subscription receipts and/ or warrants offered together as a unit. These securities may be offered separately or together, in separate series, in amounts, at prices and on terms to be set forth in one or more shelf prospectus supplements. The aggregate initial offering price of securities that may be sold by us (or certain of our current or future shareholders) pursuant to our base shelf prospectus during the 25-month period that our base shelf prospectus, including any amendments thereto, remains valid is limited to \$750 million.

Working capital. As at July 31, 2018, our working capital (current assets less current liabilities) was \$7.0 million. Current assets primarily include \$34.1 million of cash, \$30.7 million of current trade receivables and \$8.4 million of prepaid assets. Current liabilities primarily include \$32.0 million of deferred revenue, \$26.0 million of accrued liabilities and \$10.6 million of accounts payable. Our working capital has

decreased since January 31, 2018 by \$0.1 million, primarily due to repayments on the credit facility partially offset by cash generated from operations during the period.

Historically, we have financed our operations and met our capital expenditure requirements primarily through cash flows provided from operations, issuances of common shares and proceeds from debt. We anticipate that, considering the above, we have sufficient liquidity to fund our current cash requirements for working capital, contractual commitments, capital expenditures and other operating needs. We also believe that we have the ability to generate sufficient amounts of cash in the long term to meet planned growth targets and to fund strategic transactions. Should additional future financing be undertaken, the proceeds from any such transaction could be utilized to fund strategic transactions or for general corporate purposes. We expect, from time to time, to continue to consider select strategic transactions to create value and improve performance, which may include acquisitions, dispositions, restructurings, joint ventures and partnerships, and we may undertake further financing transactions, including draws on our credit facility or equity offerings, in connection with any such potential strategic transaction.

With respect to earnings of our non-Canadian subsidiaries, our intention is that these earnings will be reinvested in each subsidiary indefinitely. Of the \$34.1 million of cash as at July 31, 2018, \$22.1 million was held by our foreign subsidiaries, most significantly in the United States with lesser amounts held in other countries in the EMEA and Asia Pacific regions. To date, we have not encountered significant legal or practical restrictions on the abilities of our subsidiaries to repatriate money to Canada, even if such restrictions may exist in respect of certain foreign jurisdictions where we have subsidiaries. In the future, if we elect to repatriate the unremitted earnings of our foreign subsidiaries in the form of dividends, or if the shares of the foreign subsidiaries are sold or transferred, then we could be subject to additional Canadian or foreign income taxes, net of the impact of any available foreign tax credits, which would result in a higher effective tax rate. We have not provided for foreign withholding taxes or deferred income tax liabilities related to unremitted earnings of our non-Canadian subsidiaries, since such earnings are considered permanently invested in those subsidiaries, or are not subject to withholding taxes.

The table set forth below provides a summary of cash flows for the periods indicated in millions of dollars:

	Second Quarter of		First Half of	
	2019	2018	2019	2018
Cash provided by operating activities	18.2	17.1	37.1	33.6
Additions to property and equipment	(1.0)	(0.9)	(1.9)	(1.7)
Acquisition of subsidiaries, net of cash acquired	(26.1)	(25.7)	(58.5)	(25.7)
Proceeds from borrowing on credit facility	25.3	40.0	58.5	40.0
Credit facility repayments	(17.9)	-	(35.5)	-
Issuance of common shares, net of issuance costs	(0.1)	-	0.4	0.5
Effect of foreign exchange rate on cash	(0.5)	2.6	(1.1)	2.7
Net change in cash	(2.1)	33.1	(1.0)	49.4
Cash, beginning of period	36.2	54.4	35.1	38.1
Cash, end of period	34.1	87.5	34.1	87.5

Cash provided by operating activities was \$37.1 million and \$33.6 million for the first half of 2019 and 2018, respectively, and \$18.2 million and \$17.1 million for the second quarter of 2019 and 2018, respectively. For the first half of 2019, the \$37.1 million of cash provided by operating activities resulted from \$15.5 million of net income, plus adjustments for \$23.6 million of non-cash items included in net income and less \$2.0 million of cash used from changes in our operating assets and liabilities. For the first half of 2018, the \$33.6 million of cash provided by operating activities resulted from \$14.0 million of net income, plus adjustments for \$18.9 million of non-cash items included in net income and plus \$0.7 million of cash provided from changes in our operating assets and liabilities. Cash provided by operating activities increased in the first half of 2019 compared to the same period of 2018 primarily due to an increase in net income partially offset by cash used from changes in our working capital, specifically prepaids and income taxes payable.

For the second quarter of 2019, the \$18.2 million of cash provided by operating activities resulted from \$8.5 million of net income, plus \$12.0 million of adjustments for non-cash expenses included in net income and less \$2.3 million of cash used from changes in our operating assets and liabilities. For the second quarter of 2018, the \$17.1 million of cash provided by operating activities resulted from \$7.2 million of net income, plus \$9.1 million of adjustments for non-cash expenses included in net income and plus \$0.8 million of cash provided from changes in our operating assets and liabilities. Cash provided by operating activities increased in the second quarter of 2019 compared to the same period in 2018 primarily due to an increase in net income partially offset by cash used from changes in our working capital, specifically income taxes payable and accounts payable.

Additions to property and equipment were \$1.9 million and \$1.7 million for the first half of 2019 and 2018, respectively, and \$1.0 million and \$0.9 million for the second quarter of 2019 and 2018, respectively. Additions to property and equipment were greater in the first half and second quarter of 2019 compared to the same periods of 2018 as a result of additional investments in computing equipment and software to support our network and build out our security infrastructure.

Acquisition of subsidiaries, net of cash acquired of \$58.5 million and \$25.7 million for the first half of 2019 and 2018, respectively, and \$26.1 million and \$25.7 million for the second quarter of 2019 and 2018, respectively. Acquisitions in the first half of 2019 related to Aljex and Velocity Mail. Acquisitions in the second quarter of 2019 related to Velocity Mail. Acquisitions in the first half and second quarter of 2018 related to ShipRush and PCSTrac.

Proceeds from borrowing on credit facility were \$58.5 million and \$40.0 million for the first half of 2019 and 2018, respectively, and \$25.3 million and \$40.0 million for the second quarter of 2019 and 2018, respectively. In the first half of 2019, the \$58.5 million was a result of borrowings on our credit facility primarily to finance the acquisitions of Aljex and Velocity Mail.

Credit facility repayments were \$35.5 million and nil for the first half of 2019 and 2018, respectively, and \$17.9 million and nil for the second quarter of 2019 and 2018, respectively.

Issuance of common shares, net of issuance costs of (\$0.1) million and \$0.5 million for the first half of 2019 and 2018, respectively, and \$0.4 million and nil for the second quarter of 2019 and 2018, respectively. In the first half of 2019, the cash provided was a result of the exercise of employee stock options net of cash used to file the short-form base shelf prospectus. In the second quarter of 2019, the cash used relates to costs paid to file the new short-form base shelf prospectus.

COMMITMENTS, CONTINGENCIES AND GUARANTEES

Commitments

To facilitate a better understanding of our commitments, the following information is provided (in millions of dollars) in respect of our operating obligations as of July 31, 2018:

	Less than 1 year	1-3 years	4-5 years	More than 5 years	Total
Debt obligations	-	58.8	-	-	58.8
Operating lease obligations	4.9	4.7	1.6	0.9	12.1
Capital lease obligations	0.1	-	-	-	0.1
Total	5.0	63.5	1.6	0.9	71.0

Debt Obligations

The debt obligations are comprised of principal repayments on our credit facility. Interest, not included in the table above, is payable quarterly in arrears based on the applicable variable rate.

Lease Obligations

We are committed under non-cancelable operating leases for business premises, computer equipment and vehicles with terms expiring at various dates through 2027. We are also committed under non-cancelable capital leases for computer equipment expiring at various dates through 2021. The future minimum amounts payable under these lease agreements are presented in the table above.

Other Obligations

Deferred Share Unit (“DSU”) and Cash-settled Restricted Share Unit (“CRSU”) Plans

As discussed in the “Trends / Business Outlook” section later in this MD&A and in Note 2 to the audited consolidated financial statements for 2018 included in our 2018 Annual Report, we maintain DSU and CRSU plans for our directors and employees. Any payments made pursuant to these plans are settled in cash. For DSUs and CRSUs, the units vest over time and the liability recognized at any given consolidated balance sheet date reflects only those units vested at that date that have not yet been settled in cash. As such, we had an unrecognized aggregate amount for the unvested CRSUs and unvested DSUs of \$1.2 million and \$0.4 million, respectively, at July 31, 2018. The ultimate liability for any payment of DSUs and CRSUs is dependent on the trading price of our common shares. To partially offset our exposure to fluctuations in our stock price, we have entered into equity derivative contracts, including floating-rate equity forwards. As at July 31, 2018, we had equity derivatives for 273,000 Descartes common shares.

Contingencies

We are subject to a variety of other claims and suits that arise from time to time in the ordinary course of our business. The consequences of these matters are not presently determinable but, in the opinion of management after consulting with legal counsel, the ultimate aggregate liability is not currently expected to have a material effect on our results of operations or financial position.

Product Warranties

In the normal course of operations, we provide our customers with product warranties relating to the performance of our hardware, software and services. To date, we have not encountered material costs as a result of such obligations and have not accrued any liabilities related to such obligations in our consolidated financial statements.

Business combination agreements

In respect of our acquisitions of Appterra and ShipRush, up to \$4.6 million in cash may become payable if certain revenue performance targets are met in the two years following the acquisition. A balance of \$2.3 million is accrued related to the fair value of this contingent consideration as at July 31, 2018.

In respect to our acquisition of PinPoint subsequent to July 31, 2018, up to \$2.3 million (CAD \$3.0 million) in cash may become payable if certain revenue performance targets are met in the two years following the acquisition.

Guarantees

In the normal course of business, we enter into a variety of agreements that may contain features that meet the definition of a guarantee under ASC Topic 460, “Guarantees”. The following lists our significant guarantees:

Intellectual property indemnification obligations

We provide indemnifications of varying scope to our customers against claims of intellectual property infringement made by third parties arising from the use of our products. In the event of such a claim, we are generally obligated to defend our customers against the claim and we are liable to pay damages and costs assessed against our customers that are payable as part of a final judgment or settlement. These intellectual property infringement indemnification clauses are not generally subject to any dollar limits and remain in force for the term of our license and services agreements with our customers, where license

terms are typically perpetual. To date, we have not encountered material costs as a result of such indemnification obligations.

Other indemnification agreements

In the normal course of operations, we enter into various agreements that provide general indemnities. These indemnities typically arise in connection with purchases and sales of assets, securities offerings or buy-backs, service contracts, administration of employee benefit plans, retention of officers and directors, membership agreements, customer financing transactions, and leasing transactions. In addition, our corporate by-laws provide for the indemnification of our directors and officers. Each of these indemnities requires us, in certain circumstances, to compensate the counterparties for various costs resulting from breaches of representations or obligations under such arrangements, or as a result of third party claims that may be suffered by the counterparty as a consequence of the transaction. We believe that the likelihood that we could incur significant liability under these obligations is remote. Historically, we have not made any significant payments under such indemnities.

In evaluating estimated losses for the guarantees or indemnities described above, we consider such factors as the degree of probability of an unfavorable outcome and the ability to make a reasonable estimate of the amount of loss. We are unable to make a reasonable estimate of the maximum potential amount payable under such guarantees or indemnities as many of these arrangements do not specify a maximum potential dollar exposure or time limitation. The amount also depends on the outcome of future events and conditions, which cannot be predicted. Given the foregoing, to date, we have not accrued any liability in our financial statements for the guarantees or indemnities described above.

OUTSTANDING SHARE DATA

We have an unlimited number of common shares authorized for issuance. As at September 5, 2018, we had 76,864,566 common shares issued and outstanding.

At the annual meeting of shareholders held on May 26, 2016, the shareholders of the Corporation approved the addition of 4,500,000 options to the Corporation's stock option plan. As of September 5, 2018, there were 881,838 options issued and outstanding, and 4,002,938 remaining available for grant under all stock option plans.

At the annual meeting of shareholders held on June 1, 2017, the shareholders of the Corporation approved the addition of a further 1,500,000 units to the Corporation's performance and restricted share unit plan. As of September 5, 2018, there were 530,383 performance share units ("PSUs") and 337,066 restricted share units ("RSUs") issued and outstanding, and 1,410,743 remaining available for grant under all performance and restricted share unit plans.

On November 30, 2004, we announced that our board of directors had adopted a shareholder rights plan (the "Rights Plan") to ensure the fair treatment of shareholders in connection with any take-over offer, and to provide our board of directors and shareholders with additional time to fully consider any unsolicited take-over bid. We did not adopt the Rights Plan in response to any specific proposal to acquire control of the Company. The Rights Plan was approved by the TSX and was originally approved by our shareholders on May 18, 2005. The Rights Plan took effect as of November 29, 2004. On May 29, 2008, our shareholders approved certain amendments to the Rights Plan and approved the Rights Plan continuing in effect. At our annual shareholders meeting held on May 29, 2014, our shareholders approved certain amendments to the Rights Plan and approved the Rights Plan continuing in effect. An amended and restated Rights Plan was ratified by shareholders at our annual shareholders' meeting held on June 1, 2017. We understand that the Rights Plan is similar to plans adopted by other Canadian companies and approved by their shareholders.

APPLICATION OF CRITICAL ACCOUNTING POLICIES

Our consolidated financial statements and accompanying notes are prepared in accordance with GAAP. Preparing financial statements requires management to make estimates and assumptions that affect the reported amounts of assets, liabilities, revenues and expenses. These estimates and assumptions are affected by management's application of accounting policies. Estimates are deemed critical when a different estimate could have reasonably been used or where changes in the estimates are reasonably likely to occur from period to period and would materially impact our financial condition or results of operations. Our significant accounting policies are discussed in Note 2 to the audited consolidated financial statements for 2018 included in our 2018 Annual Report.

Our management has discussed the development, selection and application of our critical accounting policies with the audit committee of the board of directors.

In addition to those identified in our 2018 Annual Report, the following reflect our more significant estimates, judgments and assumptions which we believe are the most critical to aid in fully understanding and evaluating our reported financial results for the period ended July 31, 2018:

- Revenue recognition;
- Impairment of long-lived assets;
- Goodwill;
- Stock-based compensation;
- Income taxes; and
- Business combinations.

In the first quarter of fiscal 2019, the Company adopted the new revenue recognition standard. Except for the changes below, the significant accounting policies are unchanged from those disclosed in the Company's 2018 Annual Report.

Revenue recognition

Revenue is recognized upon transfer of control of promised goods or services to customers in an amount that reflects the consideration we expect to receive in exchange for those goods or services. We enter into contracts that can include various combinations of goods and services, which are generally capable of being distinct and accounted for as separate performance obligations. A product or service is distinct if the customer can benefit from it on its own or together with other readily available resources and the promise to transfer the good or service is separately identifiable from other promises in the contractual arrangement with the customer. Non-distinct goods and services are combined with other goods or services until they are distinct as a bundle and therefore form a single performance obligation.

The consideration (including any discounts) is allocated between separate goods and services in a bundle on a relative basis based on their standalone selling prices ("SSP"). Revenue is recognized net of any taxes collected from customers, which are subsequently remitted to governmental authorities. In addition to these general policies, the specific revenue recognition policies for each major category of revenue are included below.

License

Revenues for distinct licenses for on-premise or hosted software are derived from perpetual licenses granted to our customers for the right to use our software products. License revenues are billed on the effective date of a contract and revenue is recognized at the point in time when the customer is provided control of the respective software.

Services

Services, which allow customers to access hosted software over a contract term without taking possession of the software, is provided on a subscription and/or transactional fee basis. Revenues from hosted

software subscriptions and maintenance are typically billed annually in advance and revenue is recognized on a ratable basis over the contract term beginning on the date that our service is made available to the customer. Transaction fees are typically billed and recognized as revenue on a monthly basis based on the customer usage for that period.

Professional Services & Other

Professional services are comprised of consulting, implementation and training services related to our services and products. These services are generally considered to be separate performance obligations as they provide incremental benefit to customers beyond providing access to the software. Professional services are typically billed on a time and materials basis and revenue is recognized over time as the services are performed. For professional services contracts billed on a fixed price basis, revenue is recognized over time based on the proportion of services performed. Revenue related to customer reimbursement of travel related expenses is recognized on a gross basis as incurred. Other revenues include hardware revenue and is generally billed, and revenue is recognized, when control of the product has transferred under the terms of an enforceable contract.

Costs to Obtain a Contract with a Customer

We recognize an asset for the incremental costs of obtaining a contract with a customer if we expect the costs to be recoverable. We have determined that certain sales incentive programs meet the requirements to be capitalized. These capitalized costs are amortized consistent with the pattern of transfer to the customer for the goods and services to which the asset relates, including specifically identifiable contract renewals. The period of benefit including renewals is determined to be generally between four to six years, taking into consideration our customer contracts, our technology, renewal behaviors and other factors. Amortization of the asset is included in sales and marketing expenses in the accompanying unaudited condensed consolidated statements of operations. Applying the practical expedient, we recognize the incremental costs of obtaining contracts as an expense when incurred if the amortization period of the assets that we otherwise would have recognized is one year or less.

Contract Assets and Liabilities

The payment terms and conditions in our customer contracts may vary from the timing of revenue recognition. In some cases, customers pay in advance of delivery of products or services; in other cases, payment is due as services are performed or in arrears following delivery. Timing differences between revenue recognition and invoicing result in unbilled receivables, contract assets, or deferred revenue. Receivables are accrued when revenue is recognized prior to invoicing but the right to payment is unconditional (i.e., only the passage of time is required). This occurs most commonly when software term licenses recognized at a point in time are paid for periodically over the license term. Contract assets result when amounts allocated to distinct performance obligations are recognized when or as control of a product or service is transferred to the customer, but invoicing is contingent on performance of other performance obligations or on completion of contractual milestones and is presented as other receivables. Contract assets are transferred to receivables when the rights become unconditional, typically upon invoicing of the related performance obligations in the contract or upon achieving the requisite project milestone. Contract liabilities primarily relate to the advance consideration received from customers and is presented as deferred revenue. Deferred revenue results from customer payments in advance of our satisfaction of the associated performance obligation(s) and relates primarily to prepaid maintenance or other recurring services. Deferred revenues are relieved as revenue is recognized. Contract assets and deferred revenues are reported on a contract-by-contract basis at the end of each reporting period.

Significant Judgments

Our contracts with customers often include promises to transfer multiple goods and services to a customer. Determining whether goods and services are considered distinct performance obligations that should be accounted for separately versus together may require significant judgment. Judgment is also needed in assessing the ability to collect the corresponding receivables.

Judgment is required to determine the SSP for each distinct performance obligation, which is needed to determine whether there is a discount that needs to be allocated based on the relative SSP of the various goods and services. In order to determine the SSP of its promised goods or services, we conduct a regular

analysis to determine whether various goods or services have an observable standalone selling price. If the Company does not have an observable SSP for a particular good or service, then SSP for that particular good or service is estimated using reasonably available information and maximizing observable inputs with approaches including historical pricing, cost plus a margin, adjusted market assessment, and the residual approach.

CHANGE IN / INITIAL ADOPTION OF ACCOUNTING POLICIES

Recently adopted accounting pronouncements

In May 2014, the FASB issued Accounting Standards Update 2014-09, "Revenue from Contracts with Customers" ("ASC 606"). ASC 606 supersedes the revenue recognition requirements in ASC Topic 605, "Revenue Recognition" ("ASC 605") and nearly all other existing revenue recognition guidance under US GAAP. The core principle of ASC 606 is to recognize revenues when promised goods or services are transferred to customers in an amount that reflects the consideration that is expected to be received for those goods or services. ASC 606 is effective for annual periods, and interim periods within those annual periods, beginning after December 15, 2017, which is our fiscal year that began on February 1, 2018 (fiscal 2019). The Company has adopted ASC 606 in the first quarter of fiscal 2019 using the cumulative effect method and therefore the comparative information has not been restated and continues to be reported under ASC 605. The details of the significant changes and quantitative impact of the changes are set out below.

Term-based licenses

Under ASC 605, revenue attributable to term-based arrangements was recognized ratably over the term of the arrangement because Vendor Specific Objective Evidence did not exist for the undelivered maintenance and support element of the arrangement. Under ASC 606, the Company has deemed the licenses to be distinct from other performance obligations. Revenue allocated to the distinct license based on the SSP is recognized at the time that both the right-to-use the software has commenced for the term and the software has been made available to the customer.

Costs to obtain a contract

Under the Company's previous accounting policies, the Company generally expensed commission costs paid to employees or third parties to obtain customer contracts as incurred. Under ASC 606, the Company allocates these incremental commission costs to the various performance obligations to which they relate using the relative selling price allocation for bundled commissions. For performance obligations not delivered upfront, the allocated commissions are deferred and amortized over the pattern of transfer of the related performance obligation. If the expected amortization period for all performance obligations in a contract with a customer is one year or less, the commission fee is expensed when incurred. Capitalized costs to obtain a contract are included in other long-term assets on the consolidated balance sheet.

The adoption of ASC 606 resulted in an increase to contract assets of \$0.5 million, an increase to other long-term assets of \$4.2 million, an increase to the liability for deferred income taxes of \$1.1 million and a decrease to accumulated deficit of \$3.6 million, as of February 1, 2018.

In January 2016, the FASB issued Accounting Standards Update 2016-01, "Financial Instruments—Overall (Subtopic 825-10): Recognition and Measurement of Financial Assets and Financial Liabilities" ("ASU 2016-01"). ASU 2016-01 supersedes the guidance to classify equity securities with readily determinable fair values into different categories reducing the number of items that are recognized in other comprehensive income as well as simplifying the impairment assessment of equity investments without readily determinable fair values. ASU 2016-01 is effective for annual periods, and interim periods within those annual periods, beginning after December 15, 2017, which is our fiscal year that began on February 1, 2018 (fiscal 2019). The Company adopted this guidance in the first quarter of fiscal 2019. The adoption of this standard did not have a material impact on our results of operations or disclosures.

In August 2016, the FASB issued Accounting Standards Update 2016-15, "Statement of Cash Flows (Topic 230): Classification of Certain Cash Receipts and Cash Payments" ("ASU 2016-15"). ASU 2016-15 clarifies the presentation and classification in the statement of cash flows. ASU 2016-15 is effective for annual periods, and interim periods within those annual periods, beginning after December 15, 2017, which is our fiscal year that began on February 1, 2018 (fiscal 2019). The Company adopted this guidance in the first quarter of fiscal 2019. The adoption of this standard did not have a material impact on our results of operations or disclosures.

In October 2016, the FASB issued Accounting Standards Update 2016-16, "Income Taxes (Topic 740): Intra-Entity Transfers of Assets Other Than Inventory" ("ASU 2016-16"). ASU 2016-16 requires the recognition of the income tax consequences of an intra-entity transfer of an asset other than inventory when the transfer occurs. ASU 2016-16 is effective for annual periods, and interim periods within those annual periods, beginning after December 15, 2017, which is our fiscal year that began on February 1, 2018 (fiscal 2019). The Company adopted this guidance in the first quarter of fiscal 2019. As a result of adoption, the balance of unamortized deferred tax charges was written-off and previously unrecognized deferred income tax assets in certain jurisdictions were recognized. The change was applied on a modified retrospective basis, and no prior periods were restated. Accordingly, we have recognized a decrease of \$4.0 million in accumulated deficit as a result of the adoption of this change in accounting policy.

In January 2017, the FASB issued Accounting Standards Update 2017-01, "Business Combinations (Topic 805): Clarifying the Definition of a Business" ("ASU 2017-01"). ASU 2017-01 clarifies the definition of a business to assist entities with evaluating whether transactions should be accounted for as acquisitions of assets or businesses. ASU 2017-01 is effective for annual periods, and interim periods within those annual periods, beginning after December 15, 2017, which is our fiscal year that began on February 1, 2018 (fiscal 2019). The Company adopted this guidance in the first quarter of fiscal 2019. The adoption of this standard did not have a material impact on our results of operations or disclosures.

Recently issued accounting pronouncements

In February 2016, the FASB issued Accounting Standards Update 2016-02, "Leases (Topic 842)" ("ASU 2016-02") and issued subsequent amendments to the initial guidance during 2018, collectively referred to as "Topic 842". These updates supersede the lease guidance in ASC Topic 840, "Leases" and require the recognition of lease assets and lease liabilities by lessees for those leases previously classified as operating leases under ASC Topic 840. Topic 842 can be applied either (i) retrospectively to each prior reporting period presented with the option to elect certain practical expedients; or (ii) retrospectively with the cumulative effect recognized at the date of initial application and providing certain additional disclosures (the "cumulative effect approach"). Topic 842 is effective for annual periods, and interim periods within those annual periods, beginning after December 15, 2018, which will be our fiscal year beginning February 1, 2019 (fiscal 2020). The Company will adopt this guidance using the cumulative effect approach in the first quarter of fiscal 2020.

We are currently evaluating the effects that the adoption of Topic 842 will have on our results of operations, financial position and disclosures. To date we have established a project team with the objective of evaluating the effect that Topic 842 will have on our consolidated financial statements, related disclosures, business processes, systems and controls. We are analyzing the impact of the new standard on our leases by reviewing current accounting policies, practices and our lease contracts to identify potential differences that would result from applying the requirements of the new standard. In parallel, we are assessing the changes to our business processes, systems and controls in order to support recognition and disclosure under the new standard. While we are continuing to assess all potential impacts of the new standard, we currently believe the most significant impact will relate to an increase in assets and liabilities, as we will be required to record a right-of-use asset and a corresponding lease liability in our consolidated financial statements, as well require additional disclosures about leasing arrangements. The Company continues to evaluate the impact that the adoption will have on its results of operations, financial position and disclosures.

In June 2016, the FASB issued Accounting Standards Update 2016-13, "Financial Instruments – Credit Losses (Topic 326): Measurement of Credit Losses on Financial Instruments" ("ASU 2016-13"). ASU 2016-13 requires measurement and recognition of expected credit losses for financial assets held. ASU 2016-13 is effective for annual periods, and interim periods within those annual periods, beginning after December 15, 2019, which will be our fiscal year beginning February 1, 2020 (fiscal 2021). Early adoption is permitted. The Company will adopt this guidance in the first quarter of fiscal 2021 and is currently evaluating the impact that the adoption will have on its results of operations, financial position and disclosures.

In January 2017, the FASB issued Accounting Standards Update 2017-04, "Intangibles – Goodwill and Other (Topic 350): Simplifying the Test for Goodwill Impairment" ("ASU 2017-04"). ASU 2017-04 simplifies how an entity is required to test goodwill for impairment. ASU 2017-04 is effective for annual periods, and interim periods within those annual periods, beginning after December 15, 2019, which will be our fiscal year beginning February 1, 2020 (fiscal 2021). Early adoption is permitted. The Company will adopt this guidance in the first quarter of fiscal 2021. The adoption of this amendment is not expected to have a material impact on our results of operations or disclosures.

In August 2018, the FASB issued Accounting Standards Update 2018-15, "Intangibles – Goodwill and Other – Internal-Use Software (Subtopic 350-40): Customer's Accounting for Implementation Costs Incurred in a Cloud Computing Arrangement That Is a Service Contract" ("ASU 2018-15"). ASU 2018-15 align the requirements for capitalizing implementation costs incurred in a hosting arrangement that is a service contract with the requirements for capitalizing implementation costs incurred to develop or obtain internal-use software. ASU 2018-15 is effective for annual periods, and interim periods within those annual periods, beginning after December 15, 2019, which will be our fiscal year beginning February 1, 2020 (fiscal 2021). Early adoption is permitted. The Company will adopt this guidance in the first quarter of fiscal 2021 and is currently evaluating the impact that the adoption will have on its results of operations, financial position and disclosures.

CONTROLS AND PROCEDURES

During the period beginning on May 1, 2018 and ended on July 31, 2018, no changes were made to the Company's internal control over financial reporting that have materially affected, or are reasonably likely to materially affect, the Company's internal control over financial reporting.

TRENDS / BUSINESS OUTLOOK

This section discusses our outlook for fiscal 2019 and in general as of the date of this MD&A, and contains forward-looking statements.

Our business may be impacted from time to time by the general cyclical and seasonal nature of particular modes of transportation and the freight market in general, as well as the cyclical and seasonal nature of the industries that such markets serve. Factors which may create cyclical fluctuations in such modes of transportation or the freight market in general include legal and regulatory requirements, timing of contract renewals between our customers and their own customers, seasonal-based tariffs, vacation periods applicable to particular shipping or receiving nations, weather-related events that impact shipping in particular geographies and amendments to international trade agreements. Since some of our revenues from particular products and services are tied to the volume of shipments being processed, adverse fluctuations in the volume of global shipments or shipments in any particular mode of transportation may

adversely affect our revenues. Significant declines in shipment volumes could likely have a material adverse effect on our business.

Industry consolidation, rapid technological change and frequent new product introductions and enhancements continue to characterize the software and services industries – particularly for logistics management technology companies. Organizations are increasingly requiring greater levels of functionality and more sophisticated product offerings from their software and services providers.

Increased importance is being placed on leveraging cloud-based technology to better manage logistics processes and to connect and collaborate with trading partners on a global basis, as well as to reuse and share supply chain data in order to accelerate time-to-value. Cloud-based technology also enables business networks to more easily unite and integrate services provided by a broad range of partners and technology alliances to extend functionality and further enhance collaboration between business communities. As a result, we believe there is a trend away from using manual and paper-based supply chain and logistics processes towards electronic processes powered by the exchange of electronic information between logistics and supply chain participants.

Accordingly, we expect that our future success will be dependent upon our ability to enhance current products or develop and introduce new products offering enhanced performance and new functionality at competitive prices. In particular, we believe customers are looking for end-to-end solutions that combine a multi-modal, multi-process network with business document exchange and wireless mobile resource management (“MRM”) applications with end-to-end global trade compliance, trade content and collaborative supply chain execution applications. These applications include freight bookings, contract and rate management, classification of goods for tariff and duty purposes, sanctioned party screening, customs filings and electronic shipment manifest processes, transportation management, routing and scheduling, purchase order to dock door processes, and inventory visibility.

We believe there is a continued acceptance of subscription pricing and SaaS business models in the markets we serve that provide lower up-front cost and easier-to-maintain alternatives than may be available through traditional perpetual license pricing models. In the first half of fiscal 2019, our services revenues comprised 88% of our total revenues, with the balance being license, professional services and other revenues. We expect that our focus in fiscal 2019 will remain on generating services revenues, primarily by promoting the use of our GLN (including customs compliance services) and the migration of customers using our legacy license-based products to our services-based architecture. We anticipate maintaining the flexibility to license our products to those customers who prefer to buy the products in that fashion and the composition of our revenues in any one quarter will be impacted by the buying preferences of our customers.

We have significant contracts with our license customers for ongoing support and maintenance, as well as significant service contracts which provide us with recurring services revenues. After their initial term, our service contracts are generally renewable at a customer’s option, and there are generally no mandatory payment obligations or obligations to license additional software or subscribe for additional services. For fiscal 2019, based on our historic experience, we anticipate that over a one-year period we may lose approximately 4% to 6% of our aggregate annualized recurring revenues in the ordinary course.

We internally measure and manage our “baseline calibration,” a non-GAAP financial measure, which we define as the difference between our “baseline revenues” and “baseline operating expenses”. We define our “baseline revenues,” a non-GAAP financial measure, as our visible, recurring and contracted revenues. Baseline revenues are not a projection of anticipated total revenues for a period as they exclude any anticipated or expected new sales for a period beyond the date that the baseline revenues are measured. We define our “baseline operating expenses,” a non-GAAP financial measure, as our total expenses less interest, investment income, taxes, depreciation and amortization, stock-based compensation (for which we include related costs and taxes), acquisition-related costs and restructuring charges. Baseline operating expenses are not a projection of anticipated total expenses for a period as they exclude any expenses associated with anticipated or expected new sales for a period beyond the date that the baseline expenses are measured. Our baseline calibration is not a projection of net income for a period as

determined in accordance with GAAP, or adjusted earnings before interest, taxes, depreciation and amortization for a period as it excludes anticipated or expected new sales for a period beyond the date that the baseline calibration is measured, excludes any costs of goods sold or other expenses associated with such new sales, and excludes the expenses identified as excluded in the definition of "baseline operating expenses," above. We calculate and disclose "baseline revenues," "baseline operating expenses" and "baseline calibration" because management uses these metrics in determining its planned levels of expenditures for a period and we believe this information is useful to our investors. However, because these metrics are limited estimated operating metrics that do not have comparable GAAP measures, we are unable to provide quantitative reconciliations of these measures to GAAP measures without unreasonable efforts and accordingly are omitting this information. These metrics are estimated operating metrics and not projections, nor actual financial results, and are not indicative of current or future performance. These metrics do not have a standardized meaning prescribed by GAAP and are unlikely to be comparable to similarly-titled metrics used by other companies and are not a replacement or proxy for any GAAP measure. At August 21, 2018, using foreign exchange rates of \$0.77 to CAD \$1.00, \$1.16 to EUR 1.00 and \$1.29 to £1.00, we estimated that our baseline revenues for the third quarter of 2019 are approximately \$65.5 million and our baseline operating expenses are approximately \$46.7 million. We consider this to be our baseline calibration of approximately \$18.8 million for the third quarter of 2019, or approximately 29% of our baseline revenues as at August 21, 2018.

We estimate that aggregate amortization expense for existing intangible assets will be \$19.3 million for the remainder of 2019, \$38.0 million for 2020, \$34.5 million for 2021, \$30.3 million for 2022, \$22.9 million for 2023, \$11.5 million for 2024, and \$32.3 million thereafter. Expected future amortization expense is based on the level of existing intangibles at July 31, 2018, and is subject to fluctuations in foreign exchange rates and assumes no future adjustments or impairment of existing intangible assets.

We anticipate that stock-based compensation expense for the remainder of fiscal 2019 will be approximately \$1.8 to \$2.2 million, subject to any necessary adjustments resulting from actual stock-based compensation forfeitures and fluctuations in foreign exchange rates.

We performed our annual goodwill impairment tests in accordance with ASC Topic 350, "Intangibles – Goodwill and Other" ("ASC Topic 350") as at October 31, 2017 and determined that there was no evidence of impairment. We are currently scheduled to perform our next annual impairment test during the third quarter of fiscal 2019. We will continue to perform quarterly analyses of whether any event has occurred that would more likely than not reduce our enterprise value below our carrying amounts and, if so, we will perform a goodwill impairment test between the annual dates. The likelihood of any future impairment increases if our public market capitalization is adversely impacted by global economic, capital market or other conditions for a sustained period of time. Any future impairment adjustment will be recognized as an expense in the period that such adjustment is identified.

In the first half of 2019, capital expenditures were \$1.9 million or approximately 1% of revenues, as we continue to invest in computer equipment and software to support our network and build out our infrastructure. We anticipate that we will incur approximately \$2.0 million to \$3.0 million in capital expenditures in the remainder of fiscal 2019 primarily related to investments in our network and security infrastructure.

We conduct business in a variety of foreign currencies and, as a result, our foreign operations are subject to foreign exchange fluctuations. Our businesses operate in their local currency environment and use their local currency as their functional currency. Assets and liabilities of foreign operations are translated into US dollars at the exchange rate in effect at the balance sheet date. Revenues and expenses of foreign operations are translated using daily exchange rates. Translation adjustments resulting from this process are accumulated in other comprehensive income (loss) as a separate component of shareholders' equity. Transactions incurred in currencies other than the functional currency are converted to the functional currency at the transaction date. All foreign currency transaction gains and losses are included in net income. Some of our cash is held in foreign currencies. We currently have no specific hedging program in place to address fluctuations in international currency exchange rates. We can make no accurate prediction of what will happen with international currency exchange rates going forward. However, if the US dollar

was to weaken in comparison to foreign currencies, then we anticipate this will increase the expenses of our business and have a negative impact on our results of operations. By way of illustration, 68% of our revenues in the second quarter of fiscal 2019 were in US dollars, 18% in euro, 5% in Canadian dollars, 4% in British pound sterling, and the balance in mixed currencies, while 48% of our operating expenses were in US dollars, 18% in euro, 18% in Canadian dollars, 4% in British pound sterling, and the balance in mixed currencies.

Our tax expense for a period is difficult to predict as it depends on many factors, including the actual jurisdictions in which income is earned, the tax rates in those jurisdictions, the amount of deferred tax assets relating to the jurisdictions and the valuation allowances relating to those tax assets. We can provide no assurance as to the timing or amounts of any income tax expense or recovery, nor can we provide any assurance that our current valuation allowance for deferred tax assets will not need to be adjusted further.

Due to the timing of the enactment and the complexity involved in applying the provisions of the Tax Act, we have made reasonable estimates of the effects and recorded provisional amounts in our consolidated financial statements as of January 31, 2018. The net tax recovery recognized in the fourth quarter of 2018 related to the Tax Act was \$0.7 million. As we collect and prepare necessary data, and interpret the Tax Act and any additional guidance issued by the U.S. Treasury Department, the Internal Revenue Service, and other bodies, we may make adjustments to the provisional amounts. Those adjustments will impact our provision for income taxes and effective tax rate in the period in which the adjustments are made. The accounting for the tax effects of the Tax Act will be completed in fiscal 2019. Additional impacts from the enactment of the Tax Act will be recorded as they are identified during the measurement period as provided for in SAB 118. During the first half of 2019, we recognized an adjustment to increase tax expense by \$0.1 million related to the Tax Act.

We anticipate that our effective tax rate will be approximately 16% to 19% in the third quarter of fiscal 2019 and then increasing to approximately 23% to 26% for the fourth quarter of fiscal 2019.

We intend to continue to actively explore business combinations to add complementary services, products and customers to our existing businesses. We also intend to continue to focus our acquisition activities on companies that are targeting the same customers as us and processing similar data and, to that end, we listen to our customers' suggestions as they relate to acquisition opportunities. Depending on the size and scope of any business combination, or series of business combinations, we may choose or need to use our existing credit facility or need to raise additional debt or equity capital. However, there can be no assurance that we will be able to undertake such a financing transaction. If we use debt in connection with acquisition activity, we will incur additional interest expense from the date of the draw under such facility.

With respect to previously completed business combinations, we anticipate paying \$1.5 million in cash in the third quarter of fiscal 2019 related to certain revenue performance targets being met.

Certain future commitments are set out above in the section of this MD&A called "Commitments, Contingencies and Guarantees". We believe that we have sufficient liquidity to fund our current operating and working capital requirements, including the payment of these commitments.

CERTAIN FACTORS THAT MAY AFFECT FUTURE RESULTS

Any investment in us will be subject to risks inherent to our business. Before making an investment decision, you should carefully consider the risks described below together with all other information included in this report. The risks and uncertainties described below are not the only ones facing us. Additional risks and uncertainties that we are not aware of or have not focused on, or that we currently deem immaterial, may also impair our business operations. This report is qualified in its entirety by these risk factors.

If any of the risks actually occur, they could materially adversely affect our business, financial condition, liquidity or results of operations. In that case, the trading price of our securities could decline and you may lose all or part of your investment.

We may have difficulties identifying, successfully integrating or maintaining or growing our acquired businesses.

Businesses that we acquire may sell products or services that we have limited experience operating or managing. We may experience unanticipated challenges or difficulties identifying suitable acquisition candidates, integrating their businesses into our company, maintaining these businesses at their current levels or growing these businesses. Factors that may impair our ability to identify, successfully integrate, maintain or grow acquired businesses may include, but are not limited to:

- Challenges identifying suitable businesses to buy and negotiating the acquisition of those businesses on acceptable terms;
- Challenges completing the acquisitions within our expected time frames and budgets;
- Challenges in integrating acquired businesses with our business;
- Loss of customers of the acquired business;
- Loss of key personnel from the acquired business, such as former executive officers or key technical personnel;
- Non-compatible business cultures;
- For regulatory compliance businesses, changes in government regulations impacting electronic regulatory filings or import/export compliance, including changes in which government agencies are responsible for gathering import and export information;
- Difficulties in gaining necessary approvals in international markets to expand acquired businesses as contemplated;
- Our inability to obtain or maintain necessary security clearances to provide international shipment management services;
- Our failure to make appropriate capital investments in infrastructure to facilitate growth; and
- Other risk factors identified in this report.

We may fail to properly respond to any of these risks, which may have a material adverse effect on our business results.

Investments in acquisitions and other business initiatives involve a number of risks that could harm our business.

We have in the past acquired, and in the future, expect to seek to acquire, additional products, services, customers, technologies and businesses that we believe are complementary to ours. For example, in fiscal 2019 we acquired Aljex, Velocity Mail and PinPoint. In fiscal 2018 we acquired ShipRush, PCSTrac and MacroPoint. In fiscal 2017, we acquired Pixi, Appterra, 4Solutions and Datamyne. We are unable to predict whether or when we will be able to identify any appropriate products, technologies or businesses for acquisition, or the likelihood that any potential acquisition will be available on terms acceptable to us or will be completed. We also, from time to time, take on investments in other business initiatives, such as the implementation of new systems or purchase of marketable securities.

Acquisitions and other business initiatives involve a number of risks, including: substantial investment of funds, diversion of management's attention from current operations; additional demands on resources, systems, procedures and controls; and disruption of our ongoing business. Acquisitions specifically involve risks, including: difficulties in integrating and retaining all or part of the acquired business, its customers and its personnel; assumption of disclosed and undisclosed liabilities; dealing with unfamiliar laws, customs and practices in foreign jurisdictions; and the effectiveness of the acquired company's internal controls and procedures. In addition, we may not identify all risks or fully assess risks identified in connection with an investment. As well, by investing in such initiatives, we may deplete our cash resources or dilute our shareholder base by issuing additional shares. Furthermore, for acquisitions, there is a risk that our valuation assumptions, customer retention expectations and our models for an acquired product or business may be erroneous or inappropriate due to foreseen or unforeseen circumstances and thereby cause us to overvalue an acquisition target. There is also a risk that the contemplated benefits of an

acquisition or other investment may not materialize as planned or may not materialize within the time period or to the extent anticipated. The individual or combined effect of these risks could have a material adverse effect on our business.

System or network failures or information security breaches in connection with our services and products could reduce our sales, impair our reputation, increase costs or result in liability claims, and seriously harm our business.

We rely on information technology networks and systems to process, transmit and store electronic information. Any disruption to our services and products, our own information systems or communications networks or those of third-party providers on which we rely as part of our own product offerings could result in the inability of our customers to receive our products for an indeterminate period of time. Our ability to deliver our products and services depends on the development and maintenance of internet infrastructure by third parties. This includes maintenance of reliable networks with the necessary security, speed, data capacity and bandwidth. While our services are designed to operate without interruption, we have experienced, and may in the future experience, interruptions and delays in services and availability from time to time. In the event of a catastrophic event with respect to one or more of our systems, we may experience an extended period of system unavailability, which could negatively impact our relationship with customers. Our services and products may not function properly for reasons which may include, but are not limited to, the following:

- System or network failure;
- Software errors, failures and crashes;
- Interruption in the supply of power;
- Virus proliferation or malware;
- Communications failures;
- Information or infrastructure security breaches;
- Insufficient investment in infrastructure;
- Earthquakes, fires, floods, natural disasters, or other force majeure events outside our control; and
- Acts of war, sabotage, cyber-attacks, denial-of-service attacks and/or terrorism.

In addition, any disruption to the availability of customer information, or any compromise to the integrity or confidentiality of customer information in our systems or networks, or the systems or networks of third parties on which we rely, could result in our customers being unable to effectively use our products or services or being forced to take mitigating actions to protect their information. Back-up and redundant systems may be insufficient or may fail and result in a disruption of availability of our products or services to our customers or the integrity or availability of our customers' information.

Some jurisdictions have enacted laws requiring companies to notify individuals of data security breaches involving certain types of personal data and in some cases our agreements with certain customers require us to notify them in the event of a security incident. Such mandatory disclosures could lead to negative publicity and may cause our current and prospective customers to lose confidence in the effectiveness of our data security measures. Moreover, if a high-profile security breach occurs with respect to another SaaS provider, customers may lose trust in the security of the SaaS business model generally, which could adversely impact our ability to retain existing customers or attract new ones.

Any actual or perceived threat of disruption to our services or any compromise of customer information could impair our reputation and cause us to lose customers or revenue, or face litigation, necessitate customer service or repair work that would involve substantial costs and distract management from operating our business. Despite the implementation of advanced threat protection, information and network security measures and disaster recovery plans, our systems and those of third parties on which we rely may be vulnerable. If we are unable (or are perceived as being unable) to prevent, or promptly identify and remedy, such outages and breaches, our operations may be disrupted, our business reputation could be adversely affected, and there could be a negative impact on our financial condition and results of operations.

Our existing customers might cancel contracts with us, fail to renew contracts on their renewal dates, and/or fail to purchase additional services and products, and we may be unable to attract new customers.

We depend on our installed customer base for a significant portion of our revenues. We have significant contracts with our license customers for ongoing support and maintenance, as well as significant service contracts that provide recurring services revenues to us. In addition, our installed customer base has historically generated additional new license and services revenues for us. Service contracts are generally renewable at a customer's option and/or subject to cancellation rights, and there are generally no mandatory payment obligations or obligations to license additional software or subscribe for additional services.

If our customers fail to renew their service contracts, fail to purchase additional services or products, or we are unable to attract new customers, then our revenues could decrease and our operating results could be adversely affected. Factors influencing such contract terminations could include changes in the financial circumstances of our customers, dissatisfaction with our products or services, our retirement or lack of support for our legacy products and services, our customers selecting or building alternate technologies to replace us, the cost of our products and services as compared to the cost of products and services offered by our competitors, our ability to attract, hire and maintain qualified personnel to meet customer needs, consolidating activities in the market, and changes in our customers' business or in regulation impacting our customers' business that may no longer necessitate the use of our products or services, general economic or market conditions, or other reasons. Further, our customers could delay or terminate implementations or use of our services and products or be reluctant to migrate to new products. Such customers will not generate the revenues we may have anticipated within the timelines anticipated, if at all, and may be less likely to invest in additional services or products from us in the future. We may not be able to adjust our expense levels quickly enough to account for any such revenue losses. In addition, loss of one or more of our key customers could adversely impact our competitive position in the marketplace and hurt our credibility and ability to attract new customers.

Our success depends on our ability to continue to innovate and to create new solutions and enhancements to our existing products

We may not be able to develop and introduce new solutions and enhancements to our existing products that respond to new technologies or shipment regulations on a timely basis. If we are unable to develop and sell new products and new features for our existing products that keep pace with rapid technological and regulatory change as well as developments in the transportation logistics industry, our business, results of operations and financial condition could be adversely affected. We intend to continue to invest significant resources in research and development to enhance our existing products and services and introduce new high-quality products that customers will want. If we are unable to predict or quickly react to user preferences or changes in the transportation logistics industry, or its regulatory requirements, or if we are unable to modify our products and services on a timely basis or to effectively bring new products to market, our sales may suffer.

In addition, we may experience difficulties with software or hardware development, design, integration with third-party software or hardware, or marketing that could delay or prevent our introduction, deployment or implementation of new solutions and enhancements. The introduction of new solutions by competitors, the emergence of new industry standards or the development of entirely new technologies to replace existing offerings could render our existing or future solutions obsolete.

We may not have sufficient resources to make the necessary investments in software development and our technical infrastructure, and we may experience difficulties that could delay or prevent the successful development, introduction or marketing of new products or enhancements. In addition, our products or enhancements may not meet increasingly complex customer requirements or achieve market acceptance at the rate we expect, or at all. Any failure by us to anticipate or respond adequately to technological advancements, customer requirements and changing industry standards, or any significant delays in the development, introduction or availability of new products or enhancements, could undermine our current market position and negatively impact our business, results of operations or financial condition.

Disruptions in the movement of freight could negatively affect our revenues.

Our business is highly dependent on the movement of freight from one point to another since we generate transaction revenues as freight is moved by, to or from our customers. If there are disruptions in the movement of freight, proper reporting or the overall volume of international shipments, whether as a result of labor disputes, weather or natural disaster, terrorist events, political instability, changes in cross border trade agreements, contagious illness outbreaks, or otherwise, then the traffic volume on our Global Logistics Network will be impacted and our revenues will be adversely affected. As these types of freight disruptions are generally unpredictable, there can be no assurance that our business, results of operations and financial condition will not be adversely affected by such events.

We may not remain competitive. Increased competition could seriously harm our business.

The market for supply chain technology is highly competitive and subject to rapid technological change. We expect that competition will increase in the future. To maintain and improve our competitive position, we must continue to develop and introduce in a timely and cost-effective manner new products, product features and services to keep pace with our competitors. We currently face competition from a large number of specific market entrants, some of which are focused on specific industries, geographic regions or other components of markets we operate in.

Current and potential competitors include supply chain application software vendors, customers that undertake internal software development efforts, value-added networks and business document exchanges, enterprise resource planning software vendors, regulatory filing companies, trade data vendors and general business application software vendors. Many of our current and potential competitors may have one or more of the following relative advantages:

- Established relationships with existing customers or prospects that we are targeting;
- Superior product functionality and industry-specific expertise;
- Broader range of products to offer and better product life cycle management;
- Larger installed base of customers;
- Greater financial, technical, marketing, sales, distribution and other resources;
- Better performance;
- Lower cost structure and more profitable operations;
- Greater investment in infrastructure;
- Greater worldwide presence;
- Early adoption of, or adaptation to changes in, technology; or
- Longer operating history; and/or greater name recognition.

Further, current and potential competitors have established, or may establish, cooperative relationships and business combinations among themselves or with third parties to enhance their products, which may result in increased competition. In addition, we expect to experience increasing price competition and competition surrounding other commercial terms as we compete for market share. In particular, larger competitors or competitors with a broader range of services and products may bundle their products, rendering our products more expensive and/or less functional. As a result of these and other factors, we may be unable to compete successfully with our existing or new competitors.

If we fail to attract and retain key personnel, it would adversely affect our ability to develop and effectively manage our business.

Our performance is substantially dependent on the performance of our highly qualified management, technical expertise, and sales and marketing personnel, which we regard as key individuals to our business. We do not maintain life insurance policies on any of our employees that list Descartes as a loss payee. Our success is highly dependent on our ability to identify, hire, train, motivate, promote, and retain key individuals. Significant competition exists for management and skilled personnel. If we fail to cross train key employees, particularly those with specialized knowledge it could impair our ability to provide consistent and uninterrupted service to our customers. If we are not able to attract, retain or establish an effective succession planning program for key individuals it could have a material adverse effect on our business, results of operations, financial condition and the price of our common shares.

We have in the past, and may in the future, make changes to our executive management team or board of directors. There can be no assurance that any such changes and the resulting transition will not have a material adverse effect on our business, results of operations, financial condition and the price of our common shares.

Changes in the value of the U.S. dollar, as compared to the currencies of other countries where we transact business, could harm our operating results and financial condition.

Historically, the largest percentage of our revenues has been denominated in U.S. dollars. However, the majority of our international expenses, including the wages of our non-U.S. employees and certain key supply agreements, have been denominated in Canadian dollars, euros and other foreign currencies. Therefore, changes in the value of the U.S. dollar as compared to the Canadian dollar, the euro and other foreign currencies may materially affect our operating results. We generally have not implemented hedging programs to mitigate our exposure to currency fluctuations affecting international accounts receivable, cash balances and inter-company accounts. We also have not hedged our exposure to currency fluctuations affecting future international revenues and expenses and other commitments. Accordingly, currency exchange rate fluctuations have caused, and may continue to cause, variability in our foreign currency denominated revenue streams, expenses, and our cost to settle foreign currency denominated liabilities.

General economic conditions may affect our results of operations and financial condition.

Demand for our products depends in large part upon the level of capital and operating expenditures by many of our customers. Decreased capital and operational spending could have a material adverse effect on the demand for our products and our business, results of operations, cash flow and overall financial condition. Disruptions in the financial markets may adversely impact the availability of credit already arranged and the availability and cost of credit in the future, which could result in the delay or cancellation of projects or capital programs on which our business depends. In addition, disruptions in the financial markets may also have an adverse impact on regional economies or the world economy, which could negatively impact the capital and operating expenditures of our customers. These conditions may reduce the willingness or ability of our customers and prospective customers to commit funds to purchase our products and services, or their ability to pay for our products and services after purchase.

Changes in government filing or screening requirements for global trade may adversely impact our business.

Our regulatory compliance services help our customers comply with government filing and screening requirements relating to global trade. The services that we offer may be impacted, from time to time, by changes in these requirements, including potential future changes as a consequence of the results of the UK Brexit vote or re-negotiations of the North American Free Trade Agreement. Changes in requirements that impact electronic regulatory filings or import/export compliance, including changes adding or reducing filing requirements, changes in enforcement practices or changes in the government agency responsible for such requirements could adversely impact our business, results of operations and financial condition.

Emergence or increased adoption of alternative sources for trade data may adversely impact our business.

With recent acquisitions in the area of supplying trade data and content, an increasing portion of our business relates to the supply of trade data and content that is often used by our customers in other systems, such as enterprise resource planning systems. Emergence or increased adoption of alternative sources of this data and content could have an adverse impact on our customers' needs to obtain this data and content from us and/or the need for certain of the third-party system vendors in this field to refer customers to us for this data and content, each of which could adversely impact upon the revenues and income we generate from these areas of our business.

We may have exposure to greater than anticipated tax liabilities or expenses.

We are subject to income and non-income taxes in various jurisdictions and our tax structure is subject to review by both domestic and foreign taxation authorities and currently has tax audits open in a number of jurisdictions in which we operate. On a quarterly basis, we assess the status of these audits and the potential for adverse outcomes to determine whether a provision for income and other taxes is

appropriate. The timing of the resolution of income tax audits is highly uncertain, and the amounts ultimately paid, if any, upon resolution of the issues raised by the taxing authorities may differ from any amounts that we accrue from time to time. The actual amount of any change could vary significantly depending on the ultimate timing and nature of any settlements. We cannot currently provide an estimate of the range of possible outcomes.

The determination of our worldwide provision for income taxes and other tax liabilities requires significant judgment. In the ordinary course of a global business, there are many transactions and calculations where the ultimate tax outcome is uncertain. Any audit of our tax filings could materially change the amount of current and deferred income tax assets and liabilities. We have recorded a valuation allowance against a portion of our net deferred tax assets. If we achieve a consistent level of profitability, the likelihood of further reducing our deferred tax valuation allowance for some portion of the losses incurred in prior periods in one of our jurisdictions will increase. We calculate our current and deferred tax provision based on estimates and assumptions that could differ from the actual results reflected in income tax returns filed during subsequent years. Adjustments based on filed returns are generally recorded in the period when the tax returns are filed and the global tax implications are known. Our estimate of the potential outcome for any uncertain tax issue is based on a number of assumptions. Any further changes to the valuation allowance for our deferred tax assets would also result in an income tax recovery or income tax expense, as applicable, on the consolidated statements of operations in the period in which the valuation allowance is changed.

Changes to earnings resulting from past acquisitions may adversely affect our operating results.

Under ASC Topic 805, "Business Combinations", we allocate the total purchase price to an acquired company's net tangible assets, intangible assets and in-process research and development based on their values as of the date of the acquisition (including certain assets and liabilities that are recorded at fair value) and record the excess of the purchase price over those values as goodwill. Management's estimates of fair value are based upon assumptions believed to be reasonable but which are inherently uncertain. After we complete an acquisition, the following factors, among others, could result in material charges that would adversely affect our operating results and may adversely affect our cash flows:

- Impairment of goodwill or intangible assets;
- A reduction in the useful lives of intangible assets acquired;
- Identification of assumed contingent liabilities after we finalize the purchase price allocation period;
- Charges to our operating results to eliminate certain pre-merger activities that duplicate those of the acquired company or to reduce our cost structure; and
- Charges to our operating results resulting from revised estimates to restructure an acquired company's operations after we finalize the purchase price allocation period.

Routine charges to our operating results associated with acquisitions include amortization of intangible assets, acquisition-related costs and restructuring charges. Acquisition-related costs primarily include retention bonuses, advisory services, brokerage services and administrative costs with respect to completed and prospective acquisitions.

We expect to continue to incur additional costs associated with combining the operations of our acquired companies, which may be substantial. Additional costs may include costs of employee redeployment, relocation and retention, including salary increases or bonuses, accelerated stock-based compensation expenses and severance payments, reorganization or closure of facilities, taxes, and termination of contracts that provide redundant or conflicting services. These costs would be accounted for as expenses and would decrease our net income and earnings per share for the periods in which those adjustments are made.

If we need additional capital in the future and are unable to obtain it or can only obtain it on unfavorable terms, our operations may be adversely affected, and the market price for our securities could decline.

Historically, we have financed our operations primarily through cash flows from our operations, the sale of our equity securities and borrowing under our credit facility. In addition to our current cash and available debt facilities, we may need to raise additional debt or equity capital to fund expansion of our operations, to enhance our services and products, or to acquire or invest in complementary products, services, businesses or technologies. However, there can be no assurance that we will be able to undertake incremental financing transactions. If we raise additional funds through further issuances of convertible debt or equity securities, our existing shareholders could suffer significant dilution and any new equity securities we issue could have rights, preferences and privileges superior to those attaching to our common shares. Our current credit facility contains, and any debt financing secured by us in the future could contain restrictive covenants relating to our capital-raising activities and other financial and operational matters, which may make it more difficult for us to obtain additional capital and to pursue business opportunities, including potential acquisitions. In addition, we may not be able to obtain additional financing on terms favorable to us, if at all. If adequate funds are not available on terms favorable or at all, our operations and growth strategy may be adversely affected and the market price for our common shares could decline.

As we continue to increase our international operations we increase our exposure to international business risks that could cause our operating results to suffer.

While our headquarters are in Canada, we currently have direct operations in the U.S., EMEA, Asia Pacific and South American regions. We anticipate that these international operations will continue to require significant management attention and financial resources to localize our services and products for delivery in these markets, to develop compliance expertise relating to international regulatory agencies, and to develop direct and indirect sales and support channels in those markets. We face a number of risks associated with conducting our business internationally that could negatively impact our operating results. These risks include, but are not limited to:

- Longer collection time from foreign clients, particularly in the EMEA region and the Asia Pacific region;
- Difficulty in repatriating cash from certain foreign jurisdictions;
- Language barriers, conflicting international business practices, and other difficulties related to the management and administration of a global business;
- Increased management, travel, infrastructure and legal compliance costs associated with having international operations;
- Difficulties and costs of staffing and managing geographically disparate direct and indirect operations;
- Volatility or fluctuations in foreign currency and tariff rates;
- Multiple, and possibly overlapping, tax structures;
- Complying with complicated and widely differing global laws and regulations in areas such as employment, tax, privacy and data protection;
- Trade restrictions;
- Enhanced security procedures and requirements relating to certain jurisdictions;
- The need to consider characteristics unique to technology systems used internationally;
- Economic or political instability in some markets; and
- Other risk factors set out herein.

Increases in fuel prices and other transportation costs may have an adverse effect on the businesses of our customers resulting in them spending less money with us.

Our customers are all involved, directly or indirectly, in the delivery of goods from one point to another, particularly transportation providers and freight forwarders. As the costs of these deliveries become more expensive, whether as a result of increases in fuel costs or otherwise, our customers may have fewer funds available to spend on our products and services. There can be no assurance that these companies will be able to allocate sufficient funds to use our products and services. In addition, rising fuel costs may cause global or geographic-specific reductions in the number of shipments being made, thereby impacting the number of transactions being processed by our Global Logistics Network and our corresponding network revenues.

We may not be able to compensate for downward pricing pressure on certain products and services by increased volumes of transactions or increased prices elsewhere in our business, ultimately resulting in lower revenues.

Some of our products and services are sold to industries where there is downward pricing pressure on the particular product or service due to competition, general industry conditions or other causes. If we cannot offset any such downward pricing pressure, then the particular customer may generate less revenue for our business or we may have less aggregate revenue. This could have an adverse impact on our operating results.

From time to time, we may be subject to litigation or dispute resolution that could result in significant costs to us and damage to our reputation.

From time to time, we may be subject to litigation or dispute resolution relating to any number or type of claims, including claims for damages related to undetected errors or malfunctions of our services and products or their deployment, claims related to previously-completed acquisition transactions or claims relating to applicable securities laws. Litigation may seriously harm our business because of the costs of defending the lawsuit, diversion of employees' time and attention and potential damage to our reputation.

Further, our services and products are complex and often implemented by our customers to interact with third-party technology or networks. Claims may be made against us for damages properly attributable to those third-party technologies or networks, regardless of our lack of responsibility for any failure resulting in a loss, even if our services and products perform in accordance with their functional specifications. We may also have disputes with key suppliers for damages incurred which, depending on resolution of the disputes, could impact the ongoing quality, price or availability of the services or products we procure from the supplier. Limitation of liability provisions in certain third-party contracts may not be enforceable under the laws of some jurisdictions. As a result, we could be required to pay substantial amounts of damages in settlement or upon the determination of any of these types of claims, and incur damage to our reputation and products. The likelihood of such claims and the amount of damages we may be required to pay may increase as our customers increasingly use our services and products for critical business functions, or rely on our services and products as the systems of record to store data for use by other customer applications. Our insurance may not cover potential claims, or may not be adequate to cover all costs incurred in defense of potential claims or to indemnify us for all liability that may be imposed. A claim brought against us that is uninsured or underinsured could result in unanticipated costs, thereby harming our operating results and leading analysts or potential investors to lower their expectations of our performance, which could reduce the trading price of our common shares.

Our success and ability to compete depend upon our ability to secure and protect patents, trademarks and other proprietary rights.

We consider certain aspects of our internal operations, products, services and related documentation to be proprietary, and we primarily rely on a combination of patent, copyright, trademark and trade secret laws and other measures to protect our proprietary rights. Patent applications or issued patents, as well as trademark, copyright, and trade secret rights may not provide adequate protection or competitive advantage and may require significant resources to obtain and defend. We will also not be able to protect our intellectual property if we are unable to enforce our rights or if we do not detect unauthorized use of our intellectual property. Despite our precautions, it may be possible for unauthorized third parties to copy our products and use information that we regard as proprietary to create products and services that compete with ours. We also rely on contractual restrictions in our agreements with customers, employees, outsourced developers and others to protect our intellectual property rights. There can be no assurance that these agreements will not be breached, that we will have adequate remedies for any breach, or that our patents, copyrights, trademarks or trade secrets will not otherwise become known. Through an escrow arrangement, we have granted some of our customers a contingent future right to use our source code for software products solely for their internal maintenance services. If our source code is accessed through an escrow, the likelihood of misappropriation or other misuse of our intellectual property may increase.

Moreover, the laws of some countries do not protect proprietary intellectual property rights as effectively as do the laws of the U.S. and Canada. Protecting and defending our intellectual property rights could be

costly regardless of venue. In order to protect our intellectual property rights, we may be required to spend significant resources to monitor and protect these rights. The Company is currently involved in, and expects to remain involved in, certain litigation to protect its intellectual property from infringement by third parties. In addition, further litigation may be necessary in the future to enforce our intellectual property rights, to protect our trade secrets, to determine the validity and scope of the intellectual property rights of others or to defend against claims of infringement or invalidity. Litigation brought to protect and enforce our intellectual property rights could be costly, time consuming and distracting to management and could result in the impairment or loss of portions of our intellectual property. Furthermore, our efforts to enforce our intellectual property rights may be met with defenses, counterclaims and countersuits attacking the validity and enforceability of our intellectual property rights and/or exposing us to claims for damages in any related counterclaims or countersuits. Our inability to protect our proprietary technology against unauthorized copying or use, as well as any costly litigation or diversion of our management's attention and resources, could delay further sales or the implementation of our solutions, impair the functionality of our solutions, delay introductions of new solutions, result in our substituting inferior or more costly technologies into our solutions, or injure our reputation.

We are dependent on certain key vendors for the availability of telematics units, which could impede our development and expansion.

We currently have relationships with a small number of telematics/mobile asset unit vendors over which we have no operational or financial control and no influence in how these vendors conduct their businesses. Suppliers of telematics/mobile asset units could among other things, extend delivery times, raise prices and limit supply due to their own shortages and business requirements. Interruption in the supply of equipment from these vendors could delay our ability to maintain, grow and expand our telematics solutions business and those areas of our business that interact with telematics units. If our relationships with any of these unit vendors were to terminate, there is no guarantee that our remaining unit vendors would be able to handle the increased equipment supply required to maintain and grow our expansive networks at our desired rates. There is also no guarantee that business relationships with other key unit vendors could be entered into on terms desirable or favorable to us, if at all. Fewer key vendors might mean that existing or potential customers are unable to meaningfully communicate using our Global Logistics Network, which may cause existing and potential customers to move to competitors' products. Such equipment supply issues could adversely affect our business, results of operations and financial condition.

Concerns about the environmental impacts of greenhouse gas emissions and global climate change may result in environmental taxes, charges, regulatory schemes, assessments or penalties, which could restrict or negatively impact our operations or reduce our profitability.

The impacts of human activity on global climate change have attracted considerable public and scientific attention, as well as the attention of the U.S. and other governments. Efforts are being made to reduce greenhouse gas emissions and energy consumption, including those from automobiles and other modes of transportation. The added cost of any environmental regulation, taxes, charges, assessments or penalties levied or imposed on our customers in light of these efforts could result in additional costs for our customers, which could lead them to reduce use of our services. There are also a number of legislative and environmental regulatory initiatives internationally that could restrict or negatively impact our operations or increase our costs. Additionally, environmental regulation, taxes, charges, assessments or penalties could be levied or imposed directly on us. Any enactment of laws or passage of regulations regarding greenhouse gas emissions by Canada, the U.S., or any other jurisdiction we conduct our business in, could adversely affect our operations and financial results.

The general cyclical and seasonal nature of the freight market may have a material adverse effect on our business, results of operations and financial condition.

Our business may be impacted from time to time by the general cyclical and seasonal nature of particular modes of transportation and the freight market in general, as well as the cyclical and seasonal nature of the industries that such markets serve. Factors which may create cyclical fluctuations in such modes of transportation or the freight market in general include legal and regulatory requirements, timing of contract renewals between our customers and their own customers, seasonal-based tariffs, vacation periods applicable to particular shipping or receiving nations, weather-related events that impact shipping

in particular geographies and amendments to international trade agreements. Since some of our revenues from particular products and services are tied to the volume of shipments being processed, adverse fluctuations in the volume of global shipments or shipments in any particular mode of transportation may adversely affect our revenues. Declines in shipment volumes would likely have a material adverse effect on our business.

If we are unable to generate broad market acceptance of our services, products and pricing, serious harm could result to our business.

We currently derive substantially all of our revenues from our federated network and global logistics technology solutions and expect to do so in the future. Broad market acceptance of these types of services and products, and their related pricing, is therefore critical to our future success. The demand for, and market acceptance of, our services and products is subject to a high level of uncertainty. Some of our services and products are often considered complex and may involve a new approach to the conduct of business by our customers. The market for our services and products may weaken, competitors may develop superior services and products that perform logistics services on a global scale or within a particular geographic region, or we may fail to develop or maintain acceptable services and products to address new market conditions, governmental regulations or technological changes. Any one of these events could have a material adverse effect on our business, results of operations and financial condition.

Claims that we infringe third-party proprietary rights could trigger indemnification obligations and result in significant expenses or restrictions on our ability to provide our products or services.

Competitors and other third parties have claimed, and in the future, may claim, that our current or future services or products infringe their proprietary rights or assert other claims against us. Many of our competitors have obtained patents covering products and services generally related to our products and services, and they may assert these patents against us. Such claims, whether with or without merit, could be time consuming and expensive to litigate or settle and could divert management attention from focusing on our core business.

As a result of such a dispute, we may have to pay damages, incur substantial legal fees, suspend the sale or deployment of our services and products, develop costly non-infringing technology, if possible, or enter into license agreements, which may not be available on terms acceptable to us, if at all. Any of these results would increase our expenses and could decrease the functionality of our services and products, which would make our services and products less attractive to our current and/or potential customers. We have agreed in some of our agreements, and may agree in the future, to indemnify other parties for any expenses or liabilities resulting from claimed infringements of the proprietary rights of third parties. If we are required to make payments pursuant to these indemnification agreements, such payments could have a material adverse effect on our business, results of operations and financial condition.

Our results of operations may vary significantly from quarter to quarter and therefore may be difficult to predict or may fail to meet investment community expectations.

Our results of operations may vary from quarter to quarter in the future due to a variety of factors, many of which are outside of our control. Such factors include, but are not limited to:

- Volatility or fluctuations in foreign currency exchange rates;
- Volatility or fluctuations in interest rates;
- Timing of acquisitions and related costs;
- Timing of restructuring activities;
- The introduction of enhanced products and services from competitors;
- Our ability to introduce new products and updates to our existing products on a timely basis;
- The termination of any key customer contracts, whether by the customer or by us;
- Recognition and expensing of deferred tax assets;
- Legal costs incurred in bringing or defending any litigation with customers or third-party providers, and any corresponding judgments or awards;
- Legal and compliance costs incurred to comply with regulatory requirements;
- Fluctuations in the demand for our services and products;
- The impact of stock-based compensation expense;

- Price and functionality competition in our industry;
- Changes in legislation and accounting standards;
- Our ability to satisfy contractual obligations in customer contracts and deliver services and products to the satisfaction of our customers; and
- Other risk factors discussed in this report.

Although our revenues may fluctuate from quarter to quarter, significant portions of our expenses are not variable in the short term, and we may not be able to reduce them quickly to respond to decreases in revenues. If revenues are below expectations, this shortfall is likely to adversely and/or disproportionately affect our operating results. If this occurs, the trading price of our common shares may fall substantially.

Privacy laws and regulations are extensive, open to various interpretations, complex to implement and may reduce demand for our products, and failure to comply may impose significant liabilities.

Our customers can use our products to collect, use, process and store information regarding their transactions with their customers. Federal, state and foreign government bodies and agencies have been increasingly adopting new laws and regulations regarding the collection, use, processing, storage and disclosure of such information obtained from consumers and individuals. In addition to government regulatory activity, privacy advocacy groups and the technology industry and other industries may consider various new, additional or different self-regulatory standards that may place additional burdens directly on our customers and target customers, and indirectly on us. Our products are expected to be capable of use by our customers in compliance with such laws and regulations. The functional and operational requirements and costs of compliance with such laws and regulations may adversely impact our business, and failure to enable our products to comply with such laws and regulations could lead to significant fines and penalties imposed by regulators, as well as claims by our customers or third parties. Additionally, all of these domestic and international legislative and regulatory initiatives could adversely affect our customers' ability or desire to collect, use, process and store shipment logistics information, which could reduce demand for our products.

The price of our common shares has in the past been volatile and may also be volatile in the future.

The trading price of our common shares may be subject to fluctuation in the future. This may make it more difficult for you to resell your common shares when you want at prices that you find attractive. Increases in our common share price may also increase our compensation expense pursuant to our existing director, officer and employee compensation arrangements. We enter into equity derivative contracts including floating-rate equity forwards to partially offset the potential fluctuations of certain share-based compensation expenses. Fluctuations in our common share price may be caused by events unrelated to our operating performance and beyond our control. Factors that may contribute to fluctuations include, but are not limited to:

- Revenue or results of operations in any quarter failing to meet the expectations, published or otherwise, of the investment community;
- Changes in recommendations or financial estimates by industry or investment analysts;
- Changes in management or the composition of our board of directors;
- Outcomes of litigation or arbitration proceedings;
- Announcements of technological innovations or acquisitions by us or by our competitors;
- Introduction of new products or significant customer wins or losses by us or by our competitors;
- Developments with respect to our intellectual property rights or those of our competitors;
- Fluctuations in the share prices of other companies in the technology and emerging growth sectors;
- General market conditions; and
- Other risk factors set out in this report.

If the market price of our common shares drops significantly, shareholders could institute securities class action lawsuits against us, regardless of the merits of such claims. Such a lawsuit could cause us to incur substantial costs and could divert the time and attention of our management and other resources from our business.

Fair value assessments of our intangible assets required by GAAP may require us to record significant non-cash charges associated with intangible asset impairment.

Significant portions of our assets, which include customer agreements and relationships, non-compete covenants, existing technologies and trade names, are intangible. We amortize intangible assets on a straight-line basis over their estimated useful lives. We review the carrying value of these assets at least annually for evidence of impairment. In accordance with ASC Topic 360-10-35, "Property, Plant, and Equipment: Overview: Subsequent Measurement" an impairment loss is recognized when the estimate of undiscounted future cash flows generated by such assets is less than the carrying amount. Measurement of the impairment loss is based on the present value of the expected future cash flows. Future fair value assessments of intangible assets may require impairment charges to be recorded in the results of operations for future periods. This could impair our ability to achieve or maintain profitability in the future.

If our common share price decreases to a level such that the fair value of our net assets is less than the carrying value of our net assets, we may be required to record additional significant non-cash charges associated with goodwill impairment.

We account for goodwill in accordance with ASC Topic 350, "Intangibles – Goodwill and Other", which among other things, requires that goodwill be tested for impairment at least annually. We have designated October 31st for our annual impairment test. Should the fair value of our net assets, determined by our market capitalization, be less than the carrying value of our net assets at future annual impairment test dates, we may have to recognize goodwill impairment losses in our results of operations in future periods. This could impair our ability to achieve or maintain profitability in the future.

We have a substantial accumulated deficit and may incur losses in the future.

As at July 31, 2018, our accumulated deficit was \$188.6 million, which has been accumulated from 2005 and prior fiscal periods. Although the Company has been profitable since 2005, there can be no assurance that we will not incur losses again in the future. If we fail to maintain profitability, the market price of our common shares may decline.

THE DESCARTES SYSTEMS GROUP INC.
CONDENSED CONSOLIDATED BALANCE SHEETS
(US DOLLARS IN THOUSANDS; US GAAP; UNAUDITED)

	July 31, 2018	January 31, 2018 (Audited)
ASSETS		
CURRENT ASSETS		
Cash	34,068	35,145
Accounts receivable (net)		
Trade (Note 5)	30,722	28,792
Other (Note 6)	4,415	3,171
Prepaid expenses and other	8,432	7,621
Inventory (Note 7)	71	123
	77,708	74,852
OTHER LONG-TERM ASSETS (Note 18)	9,919	3,966
PROPERTY AND EQUIPMENT, NET (Note 8)	12,632	12,798
DEFERRED INCOME TAXES	3,954	4,660
DEFERRED TAX CHARGE	-	453
INTANGIBLE ASSETS, NET (Note 9)	188,783	178,001
GOODWILL (Note 10)	372,968	350,148
	665,964	624,878
LIABILITIES AND SHAREHOLDERS' EQUITY		
CURRENT LIABILITIES		
Accounts payable	10,589	7,897
Accrued liabilities (Note 11)	25,975	25,538
Income taxes payable	2,127	3,270
Deferred revenue (Note 18)	32,001	30,985
	70,692	67,690
LONG-TERM DEBT (Note 12)	58,839	37,000
LONG-TERM DEFERRED REVENUE (Note 18)	1,038	1,128
LONG-TERM INCOME TAXES PAYABLE	8,072	8,663
DEFERRED INCOME TAXES	11,965	11,585
	150,606	126,066
COMMITMENTS, CONTINGENCIES AND GUARANTEES (Note 13)		
SHAREHOLDERS' EQUITY (Note 14)		
Common shares – unlimited shares authorized; Shares issued and outstanding totaled 76,819,262 at July 31, 2018 (January 31, 2018 – 76,773,497)	275,210	274,536
Additional paid-in capital	452,747	451,151
Accumulated other comprehensive loss	(24,039)	(15,252)
Accumulated deficit	(188,560)	(211,623)
	515,358	498,812
	665,964	624,878

The accompanying notes are an integral part of these unaudited condensed consolidated financial statements.

THE DESCARTES SYSTEMS GROUP INC.
CONDENSED CONSOLIDATED STATEMENTS OF OPERATIONS

(US DOLLARS IN THOUSANDS, EXCEPT PER SHARE AND WEIGHTED AVERAGE SHARE AMOUNTS; US GAAP;
UNAUDITED)

	Three Months Ended		Six Months Ended	
	July 31, 2018	July 31, 2017	July 31, 2018	July 31, 2017
REVENUES	67,115	57,293	134,133	111,807
COST OF REVENUES	17,961	15,347	36,545	29,729
GROSS MARGIN	49,154	41,946	97,588	82,078
EXPENSES				
Sales and marketing	9,328	7,606	18,464	14,836
Research and development	11,870	10,158	23,807	19,493
General and administrative	7,160	6,178	14,084	12,118
Other charges (Note 19)	581	911	1,721	1,589
Amortization of intangible assets	10,003	7,763	19,555	15,466
	38,942	32,616	77,631	63,502
INCOME FROM OPERATIONS	10,212	9,330	19,957	18,576
INTEREST EXPENSE	(519)	(169)	(1,065)	(364)
INVESTMENT INCOME	46	24	100	58
INCOME BEFORE INCOME TAXES	9,739	9,185	18,992	18,270
INCOME TAX EXPENSE (Note 17)				
Current	1,142	1,708	3,086	3,398
Deferred	99	318	422	828
	1,241	2,026	3,508	4,226
NET INCOME	8,498	7,159	15,484	14,044
EARNINGS PER SHARE (Note 15)				
Basic	0.11	0.09	0.20	0.18
Diluted	0.11	0.09	0.20	0.18
WEIGHTED AVERAGE SHARES OUTSTANDING (thousands)				
Basic	76,816	75,969	76,805	75,941
Diluted	77,781	76,739	77,714	76,687

The accompanying notes are an integral part of these unaudited condensed consolidated financial statements.

THE DESCARTES SYSTEMS GROUP INC.
CONDENSED CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME
(US DOLLARS IN THOUSANDS; US GAAP; UNAUDITED)

	Three Months Ended		Six Months Ended	
	July 31, 2018	July 31, 2017	July 31, 2018	July 31, 2017
Comprehensive income				
Net Income	8,498	7,159	15,484	14,044
Other comprehensive income (loss):				
Foreign currency translation adjustment, net of income tax expense (recovery) of (\$90) and (\$199) for the three and six month periods ended July 31, 2018 (\$234 and \$245 for the same periods in fiscal 2018)	(3,963)	10,552	(8,787)	10,287
Total other comprehensive income (loss)	(3,963)	10,552	(8,787)	10,287
COMPREHENSIVE INCOME	4,535	17,711	6,697	24,331

The accompanying notes are an integral part of these unaudited condensed consolidated financial statements.

THE DESCARTES SYSTEMS GROUP INC.
CONDENSED CONSOLIDATED STATEMENTS OF SHAREHOLDERS' EQUITY
(US DOLLARS IN THOUSANDS; US GAAP; UNAUDITED)

	Three Months Ended		Six Months Ended	
	July 31, 2018	July 31, 2017	July 31, 2018	July 31, 2017
Common shares				
Balance, beginning of period	275,107	253,860	274,536	253,242
Stock options and share units exercised	103	9	674	627
Balance, end of period	275,210	253,869	275,210	253,869
Additional paid-in capital				
Balance, beginning of period	451,766	448,994	451,151	448,597
Stock-based compensation expense (Note 16)	1,001	752	1,734	1,267
Stock options and share units exercised	(20)	(3)	(138)	(158)
Cumulative adjustment upon modified retrospective accounting policy adoption (Note 2)	-	-	-	37
Balance, end of period	452,747	449,743	452,747	449,743
Accumulated other comprehensive income (loss)				
Balance, beginning of period	(20,076)	(33,044)	(15,252)	(32,779)
Other comprehensive income (loss), net of income taxes	(3,963)	10,552	(8,787)	10,287
Balance, end of period	(24,039)	(22,492)	(24,039)	(22,492)
Accumulated deficit				
Balance, beginning of period	(197,058)	(231,617)	(211,623)	(238,465)
Net income	8,498	7,159	15,484	14,044
Cumulative adjustment upon modified retrospective accounting policy adoption (Note 2)	-	-	7,579	(37)
Balance, end of period	(188,560)	(224,458)	(188,560)	(224,458)
Total Shareholders' Equity	515,358	456,662	515,358	456,662

The accompanying notes are an integral part of these unaudited condensed consolidated financial statements.

THE DESCARTES SYSTEMS GROUP INC.
CONDENSED CONSOLIDATED STATEMENTS OF CASH FLOWS
(US DOLLARS IN THOUSANDS; US GAAP; UNAUDITED)

	Three Months Ended		Six Months Ended	
	July 31, 2018	July 31, 2017	July 31, 2018	July 31, 2017
OPERATING ACTIVITIES				
Net income	8,498	7,159	15,484	14,044
Adjustments to reconcile net income to cash provided by operating activities:				
Depreciation	1,014	933	1,921	1,745
Amortization of intangible assets	10,003	7,763	19,555	15,466
Stock-based compensation expense (Note 16)	1,001	752	1,734	1,267
Other non-cash operating activities	(40)	(631)	(70)	(610)
Deferred tax expense	99	318	422	828
Deferred tax charge	-	42	-	84
Changes in operating assets and liabilities:				
Accounts receivable				
Trade	835	334	(1,040)	(575)
Other	(644)	592	(419)	(171)
Prepaid expenses and other	(575)	450	(2,250)	(120)
Inventory	32	(15)	50	(16)
Accounts payable	(1,665)	1,102	2,372	2,299
Accrued liabilities	1,418	(3,890)	354	(3,160)
Income taxes payable	(1,776)	822	(1,596)	1,339
Deferred revenue	39	1,369	575	1,148
Cash provided by operating activities	18,239	17,100	37,092	33,568
INVESTING ACTIVITIES				
Additions to property and equipment	(982)	(883)	(1,947)	(1,669)
Acquisition of subsidiaries, net of cash acquired (Note 3)	(26,107)	(25,690)	(58,489)	(25,690)
Cash used in investing activities	(27,089)	(26,573)	(60,436)	(27,359)
FINANCING ACTIVITIES				
Proceeds from borrowing on the credit facility	25,348	40,000	58,515	40,000
Credit facility repayments	(17,927)	-	(35,537)	-
Issuance of common shares for cash, net of issuance costs (Note 14)	(88)	7	365	469
Cash provided by financing activities	7,333	40,007	23,343	40,469
Effect of foreign exchange rate changes on cash	(625)	2,622	(1,076)	2,714
Decrease in cash	(2,142)	33,156	(1,077)	49,392
Cash, beginning of period	36,210	54,371	35,145	38,135
Cash, end of period	34,068	87,527	34,068	87,527
Supplemental disclosure of cash flow information:				
Cash paid during the period for interest	440	64	880	110
Cash paid during the period for income taxes	1,836	589	3,095	2,481

The accompanying notes are an integral part of these unaudited condensed consolidated financial statements.

THE DESCARTES SYSTEMS GROUP INC.
NOTES TO CONDENSED CONSOLIDATED FINANCIAL STATEMENTS

(TABULAR AMOUNTS IN THOUSANDS OF US DOLLARS, EXCEPT PER SHARE AMOUNTS OR AS OTHERWISE INDICATED;
US GAAP; UNAUDITED)

Note 1 - Description of the Business

The Descartes Systems Group Inc. ("Descartes," "Company," "our" or "we") is a provider of global logistics technology solutions. Customers use our modular, software-as-a-service ("SaaS") and data solutions to route, schedule, track and measure delivery resources; plan, allocate and execute shipments; rate, audit and pay transportation invoices; access and analyze global trade data; research and perform trade tariff and duty calculations; file customs and security documents for imports and exports; and complete numerous other logistics processes by participating in a large, collaborative multi-modal logistics community. Our pricing model provides our customers with flexibility in purchasing our solutions either on a subscription, transactional or perpetual license basis. Our primary focus is on serving transportation providers (air, ocean and truck modes), logistics service providers (including third-party logistics providers, freight forwarders and customs brokers) and distribution-intensive companies for which logistics is either a key or a defining part of their own product or service offering, or for which our solutions can provide an opportunity to reduce costs, improve service levels, or support growth by optimizing the use of assets and information.

Note 2 -Basis of Presentation

The accompanying unaudited condensed consolidated financial statements are presented in United States ("US") dollars and are prepared in accordance with generally accepted accounting principles in the US ("GAAP") and the rules and regulations of the Canadian Securities Administrators and US Securities and Exchange Commission ("SEC") for the preparation of condensed financial statements. Accordingly, these unaudited condensed consolidated financial statements do not include all of the information and notes required for compliance with GAAP for annual financial statements. These statements should be read in conjunction with our audited annual consolidated financial statements prepared in accordance with GAAP for the fiscal year ended January 31, 2018.

The unaudited condensed consolidated financial statements reflect all adjustments, which are, in the opinion of management, necessary for a fair presentation of results for the interim periods presented. The preparation of these unaudited condensed consolidated financial statements requires management to make estimates and assumptions that affect the amounts reported in the unaudited condensed consolidated financial statements and the accompanying notes. Actual results could differ from these estimates and the results of operations for the interim period should not be considered indicative of results to be expected for the full year ending January 31, 2019.

Our fiscal year commences on February 1st of each year and ends on January 31st of the following year. Our fiscal year, which ends on January 31, 2019, is referred to as the "current fiscal year", "fiscal 2019", "2019" or using similar words. Our previous fiscal year, which ended on January 31, 2018, is referred to as the "previous fiscal year", "fiscal 2018", "2018" or using similar words. Other fiscal years are referenced by the applicable year during which the fiscal year ends. For example, "2020" refers to the annual period ending January 31, 2020 and the "fourth quarter of 2020" refers to the quarter ending January 31, 2020.

Except for the adoption of ASC 606, the significant accounting policies used in preparing these condensed consolidated financial statements are unchanged from those disclosed in the Company's fiscal 2018 annual consolidated financial statements and have been applied consistently to all periods presented in these condensed consolidated financial statements.

Revenue recognition

Revenue is recognized upon transfer of control of promised goods or services to customers in an amount that reflects the consideration we expect to receive in exchange for those goods or services. We enter into

contracts that can include various combinations of goods and services, which are generally capable of being distinct and accounted for as separate performance obligations. A product or service is distinct if the customer can benefit from it on its own or together with other readily available resources and the promise to transfer the good or service is separately identifiable from other promises in the contractual arrangement with the customer. Non-distinct goods and services are combined with other goods or services until they are distinct as a bundle and therefore form a single performance obligation.

The consideration (including any discounts) is allocated between separate goods and services in a bundle on a relative basis based on their standalone selling prices ("SSP"). Revenue is recognized net of any taxes collected from customers, which are subsequently remitted to governmental authorities. In addition to these general policies, the specific revenue recognition policies for each major category of revenue are included below.

License

Revenues for distinct licenses for on-premise or hosted software are derived from perpetual licenses granted to our customers for the right to use our software products. License revenues are billed on the effective date of a contract and revenue is recognized at the point in time when the customer is provided control of the respective software.

Services

Services, which allow customers to access hosted software over a contract term without taking possession of the software, is provided on a subscription and/or transactional fee basis. Revenues from hosted software subscriptions and maintenance are typically billed annually in advance and revenue is recognized on a ratable basis over the contract term beginning on the date that our service is made available to the customer. Transaction fees are typically billed and recognized as revenue on a monthly basis based on the customer usage for that period.

Professional Services & Other

Professional services are comprised of consulting, implementation and training services related to our services and products. These services are generally considered to be separate performance obligations as they provide incremental benefit to customers beyond providing access to the software. Professional services are typically billed on a time and materials basis and revenue is recognized over time as the services are performed. For professional services contracts billed on a fixed price basis, revenue is recognized over time based on the proportion of services performed. Revenue related to customer reimbursement of travel related expenses is recognized on a gross basis as incurred. Other revenues include hardware revenue and is generally billed, and revenue is recognized, when control of the product has transferred under the terms of an enforceable contract.

Costs to Obtain a Contract with a Customer

We recognize an asset for the incremental costs of obtaining a contract with a customer if we expect the costs to be recoverable. We have determined that certain sales incentive programs meet the requirements to be capitalized. These capitalized costs are amortized consistent with the pattern of transfer to the customer for the goods and services to which the asset relates, including specifically identifiable contract renewals. The period of benefit including renewals is determined to be generally between four to six years, taking into consideration our customer contracts, our technology, renewal behaviors and other factors. Amortization of the asset is included in sales and marketing expenses in the accompanying unaudited condensed consolidated statements of operations. Applying the practical expedient, we recognize the incremental costs of obtaining contracts as an expense when incurred if the amortization period of the assets that we otherwise would have recognized is one year or less.

Contract Assets and Liabilities

The payment terms and conditions in our customer contracts may vary from the timing of revenue recognition. In some cases, customers pay in advance of delivery of products or services; in other cases, payment is due as services are performed or in arrears following delivery. Timing differences between revenue recognition and invoicing result in unbilled receivables, contract assets, or deferred revenue. Receivables are accrued when revenue is recognized prior to invoicing but the right to payment is

unconditional (i.e., only the passage of time is required). This occurs most commonly when software term licenses recognized at a point in time are paid for periodically over the license term. Contract assets result when amounts allocated to distinct performance obligations are recognized when or as control of a product or service is transferred to the customer, but invoicing is contingent on performance of other performance obligations or on completion of contractual milestones and is presented as other receivables. Contract assets are transferred to receivables when the rights become unconditional, typically upon invoicing of the related performance obligations in the contract or upon achieving the requisite project milestone. Contract liabilities primarily relate to the advance consideration received from customers and is presented as deferred revenue. Deferred revenue results from customer payments in advance of our satisfaction of the associated performance obligation(s) and relates primarily to prepaid maintenance or other recurring services. Deferred revenues are relieved as revenue is recognized. Contract assets and deferred revenues are reported on a contract-by-contract basis at the end of each reporting period.

Significant Judgments

Our contracts with customers often include promises to transfer multiple goods and services to a customer. Determining whether goods and services are considered distinct performance obligations that should be accounted for separately versus together may require significant judgment. Judgment is also needed in assessing the ability to collect the corresponding receivables.

Judgment is required to determine the SSP for each distinct performance obligation, which is needed to determine whether there is a discount that needs to be allocated based on the relative SSP of the various goods and services. In order to determine the SSP of its promised goods or services, we conduct a regular analysis to determine whether various goods or services have an observable standalone selling price. If the Company does not have an observable SSP for a particular good or service, then SSP for that particular good or service is estimated using reasonably available information and maximizing observable inputs with approaches including historical pricing, cost plus a margin, adjusted market assessment, and the residual approach.

Recently adopted accounting pronouncements

In May 2014, the FASB issued Accounting Standards Update 2014-09, "Revenue from Contracts with Customers" ("ASC 606"). ASC 606 supersedes the revenue recognition requirements in ASC Topic 605, "Revenue Recognition" ("ASC 605") and nearly all other existing revenue recognition guidance under US GAAP. The core principle of ASC 606 is to recognize revenues when promised goods or services are transferred to customers in an amount that reflects the consideration that is expected to be received for those goods or services. ASC 606 is effective for annual periods, and interim periods within those annual periods, beginning after December 15, 2017, which is our fiscal year that began on February 1, 2018 (fiscal 2019). The Company has adopted ASC 606 in the first quarter of fiscal 2019 using the cumulative effect method and therefore the comparative information has not been restated and continues to be reported under ASC 605. The details of the significant changes and quantitative impact of the changes are set out below.

Term-based licenses

Under ASC 605, revenue attributable to term-based arrangements was recognized ratably over the term of the arrangement because Vendor Specific Objective Evidence did not exist for the undelivered maintenance and support element of the arrangement. Under ASC 606, the Company has deemed the licenses to be distinct from other performance obligations. Revenue allocated to the distinct license based on the SSP is recognized at the time that both the right-to-use the software has commenced for the term and the software has been made available to the customer.

Costs to obtain a contract

Under the Company's previous accounting policies, the Company generally expensed commission costs paid to employees or third parties to obtain customer contracts as incurred. Under ASC 606, the Company allocates these incremental commission costs to the various performance obligations to which they relate using the relative selling price allocation for bundled commissions. For performance obligations not delivered upfront, the allocated commissions are deferred and amortized over the pattern of transfer of the related performance obligation. If the expected

amortization period for all performance obligations in a contract with a customer is one year or less, the commission fee is expensed when incurred. Capitalized costs to obtain a contract are included in other long-term assets on the consolidated balance sheet.

The adoption of ASC 606 resulted in an increase to contract assets of \$0.5 million, an increase to other long-term assets of \$4.2 million, an increase to the liability for deferred income taxes of \$1.1 million and a decrease to accumulated deficit of \$3.6 million, as of February 1, 2018.

Had we presented the results for the six months ended July 31, 2018 under ASC 605, we would have expensed all sales commissions as incurred which would have had increased sales and marketing expenses and decreased net income before taxes by approximately \$1.1 million. The adoption of ASC 606 had an immaterial impact on revenue compared to ASC 605.

In January 2016, the FASB issued Accounting Standards Update 2016-01, "Financial Instruments—Overall (Subtopic 825-10): Recognition and Measurement of Financial Assets and Financial Liabilities" ("ASU 2016-01"). ASU 2016-01 supersedes the guidance to classify equity securities with readily determinable fair values into different categories reducing the number of items that are recognized in other comprehensive income as well as simplifying the impairment assessment of equity investments without readily determinable fair values. ASU 2016-01 is effective for annual periods, and interim periods within those annual periods, beginning after December 15, 2017, which is our fiscal year that began on February 1, 2018 (fiscal 2019). The Company adopted this guidance in the first quarter of fiscal 2019. The adoption of this standard did not have a material impact on our results of operations or disclosures.

In August 2016, the FASB issued Accounting Standards Update 2016-15, "Statement of Cash Flows (Topic 230): Classification of Certain Cash Receipts and Cash Payments" ("ASU 2016-15"). ASU 2016-15 clarifies the presentation and classification in the statement of cash flows. ASU 2016-15 is effective for annual periods, and interim periods within those annual periods, beginning after December 15, 2017, which is our fiscal year that began on February 1, 2018 (fiscal 2019). The Company adopted this guidance in the first quarter of fiscal 2019. The adoption of this standard did not have a material impact on our results of operations or disclosures.

In October 2016, the FASB issued Accounting Standards Update 2016-16, "Income Taxes (Topic 740): Intra-Entity Transfers of Assets Other Than Inventory" ("ASU 2016-16"). ASU 2016-16 requires the recognition of the income tax consequences of an intra-entity transfer of an asset other than inventory when the transfer occurs. ASU 2016-16 is effective for annual periods, and interim periods within those annual periods, beginning after December 15, 2017, which is our fiscal year that began on February 1, 2018 (fiscal 2019). The Company adopted this guidance in the first quarter of fiscal 2019. As a result of adoption, the balance of unamortized deferred tax charges was written-off and previously unrecognized deferred income tax assets in certain jurisdictions were recognized. The change was applied on a modified retrospective basis, and no prior periods were restated. Accordingly, we have recognized a decrease of \$4.0 million in accumulated deficit as a result of the adoption of this change in accounting policy.

In January 2017, the FASB issued Accounting Standards Update 2017-01, "Business Combinations (Topic 805): Clarifying the Definition of a Business" ("ASU 2017-01"). ASU 2017-01 clarifies the definition of a business to assist entities with evaluating whether transactions should be accounted for as acquisitions of assets or businesses. ASU 2017-01 is effective for annual periods, and interim periods within those annual periods, beginning after December 15, 2017, which is our fiscal year that began on February 1, 2018 (fiscal 2019). The Company adopted this guidance in the first quarter of fiscal 2019. The adoption of this standard did not have a material impact on our results of operations or disclosures.

Recently issued accounting pronouncements

In February 2016, the FASB issued Accounting Standards Update 2016-02, "Leases (Topic 842)" ("ASU 2016-02") and issued subsequent amendments to the initial guidance during 2018, collectively referred to as "Topic 842". These updates supersede the lease guidance in ASC Topic 840, "Leases" and require the recognition of lease assets and lease liabilities by lessees for those leases previously classified as operating leases under ASC Topic 840. Topic 842 can be applied either (i) retrospectively to each prior

reporting period presented with the option to elect certain practical expedients; or (ii) retrospectively with the cumulative effect recognized at the date of initial application and providing certain additional disclosures (the "cumulative effect approach"). Topic 842 is effective for annual periods, and interim periods within those annual periods, beginning after December 15, 2018, which will be our fiscal year beginning February 1, 2019 (fiscal 2020). The Company will adopt this guidance using the cumulative effect approach in the first quarter of fiscal 2020.

We are currently evaluating the effects that the adoption of Topic 842 will have on our results of operations, financial position and disclosures. To date we have established a project team with the objective of evaluating the effect that Topic 842 will have on our consolidated financial statements, related disclosures, business processes, systems and controls. We are analyzing the impact of the new standard on our leases by reviewing current accounting policies, practices and our lease contracts to identify potential differences that would result from applying the requirements of the new standard. In parallel, we are assessing the changes to our business processes, systems and controls in order to support recognition and disclosure under the new standard. While we are continuing to assess all potential impacts of the new standard, we currently believe the most significant impact will relate to an increase in assets and liabilities, as we will be required to record a right-of-use asset and a corresponding lease liability in our consolidated financial statements, as well require additional disclosures about leasing arrangements. The Company continues to evaluate the impact that the adoption will have on its results of operations, financial position and disclosures.

In June 2016, the FASB issued Accounting Standards Update 2016-13, "Financial Instruments – Credit Losses (Topic 326): Measurement of Credit Losses on Financial Instruments" ("ASU 2016-13"). ASU 2016-13 requires measurement and recognition of expected credit losses for financial assets held. ASU 2016-13 is effective for annual periods, and interim periods within those annual periods, beginning after December 15, 2019, which will be our fiscal year beginning February 1, 2020 (fiscal 2021). Early adoption is permitted. The Company will adopt this guidance in the first quarter of fiscal 2021 and is currently evaluating the impact that the adoption will have on its results of operations, financial position and disclosures.

In January 2017, the FASB issued Accounting Standards Update 2017-04, "Intangibles – Goodwill and Other (Topic 350): Simplifying the Test for Goodwill Impairment" ("ASU 2017-04"). ASU 2017-04 simplifies how an entity is required to test goodwill for impairment. ASU 2017-04 is effective for annual periods, and interim periods within those annual periods, beginning after December 15, 2019, which will be our fiscal year beginning February 1, 2020 (fiscal 2021). Early adoption is permitted. The Company will adopt this guidance in the first quarter of fiscal 2021. The adoption of this amendment is not expected to have a material impact on our results of operations or disclosures.

In August 2018, the FASB issued Accounting Standards Update 2018-15, "Intangibles – Goodwill and Other – Internal-Use Software (Subtopic 350-40): Customer's Accounting for Implementation Costs Incurred in a Cloud Computing Arrangement That Is a Service Contract" ("ASU 2018-15"). ASU 2018-15 align the requirements for capitalizing implementation costs incurred in a hosting arrangement that is a service contract with the requirements for capitalizing implementation costs incurred to develop or obtain internal-use software. ASU 2018-15 is effective for annual periods, and interim periods within those annual periods, beginning after December 15, 2019, which will be our fiscal year beginning February 1, 2020 (fiscal 2021). Early adoption is permitted. The Company will adopt this guidance in the first quarter of fiscal 2021 and is currently evaluating the impact that the adoption will have on its results of operations, financial position and disclosures.

Note 3 – Acquisitions

Fiscal 2019 Acquisitions

On February 2, 2018, Descartes acquired Aljex Software, Inc. ("Aljex"), a cloud-based provider of back-office transportation management solutions for freight brokers and transportation providers. US-based Aljex helps customers automate business processes and create electronic documents critical for executing transportation moves through the lifecycle of a shipment. The purchase price for the acquisition was

approximately \$32.4 million, net of cash acquired, which was funded from drawing on Descartes' existing credit facility. The gross contractual amount of trade receivables acquired was \$0.2 million with a fair value of \$0.2 million at the date of acquisition. Our acquisition date estimate of contractual cash flows not expected to be collected was nominal. The completion of the initial purchase price allocation is pending the finalization of the fair value for certain taxation-related balances, accrued liability balances as well as potential unrecorded liabilities. We expect to finalize the purchase price allocation on or before February 2, 2019.

On June 22, 2018, Descartes acquired certain assets of Velocity Mail, LLC ("Velocity Mail"), an electronic transportation network that provides global air carriers with mail and parcel shipment scanning and tracking solutions. Using US-based Velocity Mail's network, global air carriers leverage mobile devices to accurately track shipments and deliveries in real-time. The purchase price for the acquisition was approximately \$26.1 million, net of cash acquired, which was funded from drawing on Descartes' existing credit facility. The gross contractual amount of trade receivables acquired was \$1.0 million with a fair value of \$1.0 million at the date of acquisition. Our acquisition date estimate of contractual cash flows not expected to be collected was nominal. The completion of the initial purchase price allocation is pending the finalization of the fair value for accrued liability balances as well as potential unrecorded liabilities. We expect to finalize the purchase price allocation on or before June 22, 2019.

For the business acquired during fiscal 2019, we incurred acquisition-related costs for the three and six month periods ended July 31, 2018 of \$0.2 million and \$0.3 million, respectively. The acquisition-related costs were primarily for advisory services and are included in other charges in our consolidated statements of operations. During the three and six month periods ended July 31, 2018, we have recognized aggregate revenues of \$2.6 million and \$4.3 million, respectively, and an aggregate net loss of \$0.2 million and \$0.7 million, respectively, from Aljex and Velocity Mail since the date of acquisition in our consolidated statements of operations.

The preliminary purchase price allocation for the businesses acquired during 2019, which have not been finalized, is as follows:

	Aljex	Velocity Mail	Total
Purchase price consideration:			
Cash, less cash acquired related to Aljex (\$193) and Velocity Mail (nil)	32,382	26,107	58,489
Net working capital adjustments receivable	(143)	(141)	(284)
	<u>32,239</u>	<u>25,966</u>	<u>58,205</u>
Allocated to:			
Current assets, excluding cash acquired	616	1,360	1,976
Other long-term assets	-	501	501
Current liabilities	(266)	(73)	(339)
Deferred revenue	(1,024)	(70)	(1,094)
Deferred income tax liability	(4,200)	-	(4,200)
Net tangible (liabilities) assets assumed	<u>(4,874)</u>	<u>1,718</u>	<u>(3,156)</u>
Finite life intangible assets acquired:			
Customer agreements and relationships	5,300	7,800	13,100
Existing technology	12,400	7,600	20,000
Tradenames	280	100	380
Non-compete covenants	230	300	530
Goodwill	<u>18,903</u>	<u>8,448</u>	<u>27,351</u>
	<u>32,239</u>	<u>25,966</u>	<u>58,205</u>

The above transactions were accounted for using the acquisition method in accordance with ASC Topic 805, "Business Combinations". The purchase price allocation in the table above represents our estimates of the allocation of the purchase price and the fair value of net assets acquired. The preliminary purchase price allocation may differ from the final purchase price allocation, and these differences may be material. Revisions to the allocation will occur as additional information about the fair value of assets and liabilities becomes available. The final purchase price allocation will be completed within one year from the acquisition dates.

The acquired intangible assets are being amortized over their estimated useful lives as follows:

	Aljex	Velocity Mail
Customer agreements and relationships	13 years	12 years
Existing technology	5 years	5 years
Trade names	8 years	4 years
Non-compete covenants	5 years	5 years

The goodwill on the Aljex and Velocity Mail acquisitions arose as a result of the combined strategic value to our growth plan. The goodwill arising from the Aljex acquisition is not deductible for tax purposes. The goodwill from the Velocity Mail acquisition is deductible for tax purposes.

Fiscal 2018 Acquisitions

On August 14, 2017, we acquired MacroPoint LLC ("MacroPoint"), an electronic transportation network providing location-based truck tracking and predictive freight capacity data content. US-based MacroPoint runs a connected network helping transportation brokers, logistics service providers and shippers track the locations of deliveries in trucks as well as predictive freight capacity to help identify early opportunities for additional freight moves. The purchase price for the acquisition was approximately \$106.2 million, net of cash acquired, which was funded using \$20.0 million of our common shares, \$80.0 million from drawing on Descartes' credit facility and the balance from cash on hand. The gross contractual amount of trade receivables acquired was \$2.0 million with a fair value of \$2.0 million at the date of acquisition. Our acquisition date estimate of contractual cash flows not expected to be collected was nominal. The purchase price was finalized in the three month period ended July 31, 2018 with no adjustments.

On June 1, 2017, we acquired substantially all of the assets of PCSTrac, Inc., including certain related assets of Progressive Computer Services Inc., doing business as PCS Technologies (collectively referred to as "PCSTrac"). US-based PCSTrac helps specialty retailers and their logistics service providers collaborate to improve carton-level visibility for shipments from distribution centers to stores. PCSTrac's solutions provide visibility and insight into the store replenishment supply chain, helping increase sales, enhance loss prevention, and improve inventory control. The total purchase price for the acquisition was \$11.5 million, net of cash acquired, which was funded using cash on hand. The gross contractual amount of trade receivables acquired was \$0.4 million with a fair value of \$0.4 million at the date of acquisition. Our acquisition date estimate of contractual cash flows not expected to be collected was nominal. The purchase price was finalized in the three month period ended April 30, 2018 with no adjustments.

On May 18, 2017, we acquired Z-Firm LLC ("ShipRush"), a US-based provider of e-commerce multi-carrier parcel shipping solutions for small-to medium-sized businesses. The ShipRush platform helps customers streamline their supply chain and reduce transportation costs by automatically importing orders, comparing carrier rates, printing shipping labels for all major carriers, and tracking through final delivery. The purchase price for the acquisition was \$14.2 million, net of cash acquired, which was funded using cash on hand. Additional contingent consideration of up to \$3.0 million in cash is payable if certain revenue performance targets are met by ShipRush in the two years following the acquisition. The fair value of the contingent consideration was valued at \$1.2 million at the acquisition date. The gross contractual amount of trade receivables acquired was \$0.4 million with a fair value of \$0.4 million at the date of acquisition. Our acquisition date estimate of contractual cash flows not expected to be collected was nominal. The purchase price was finalized in the three month period ended April 30, 2018 with no adjustments.

Pro Forma Results of Operations (Unaudited)

The financial information in the table below summarizes selected results of operations on a pro forma basis as if we had acquired Velocity Mail, Aljex, MacroPoint, PCSTrac and ShipRush as of the beginning of each of the periods presented.

This pro forma information is for information purposes only and does not purport to represent what our results of operations for the periods presented would have been had the acquisitions of Velocity Mail, Aljex, MacroPoint, PCSTrac and ShipRush occurred at the beginning of the period indicated, or to project our results of operations for any future period.

	Three Months Ended		Six Months Ended	
	July 31, 2018	July 31, 2017	July 31, 2018	July 31, 2017
Revenue	68,004	64,412	136,560	127,642
Net income	8,659	6,522	15,920	13,303
Earnings per share				
Basic	0.11	0.09	0.21	0.18
Diluted	0.11	0.08	0.20	0.17

Note 4 – Fair Value Measurements

ASC Topic 820 “Fair Value Measurements and Disclosures” (Topic 820) defines fair value as the price that would be received upon sale of an asset or paid upon transfer of a liability in an orderly transaction between market participants at the measurement date and in the principal or most advantageous market for that asset or liability. The fair value, in this context, should be calculated based on assumptions that market participants would use in pricing the asset or liability, not on assumptions specific to the entity. In addition, the fair value of liabilities should include consideration of non-performance risk, including our own credit risk.

Topic 820 establishes a fair value hierarchy which prioritizes the inputs used in the valuation methodologies in measuring fair value into three levels:

- Level 1—inputs are based upon unadjusted quoted prices for identical instruments traded in active markets.
- Level 2—inputs are based upon quoted prices for similar instruments in active markets, quoted prices for identical or similar instruments in markets that are not active, and model-based valuation techniques for which all significant assumptions are observable in the market or can be corroborated by observable market data for substantially the full term of the assets or liabilities.
- Level 3—inputs are generally unobservable and typically reflect management’s estimates of assumptions that market participants would use in pricing the asset or liability. The fair values are therefore determined using model-based techniques that include option pricing models, discounted cash flow models, and similar techniques.

The carrying amounts of the Company’s cash, accounts receivable (net), accounts payable, accrued liabilities and income taxes payable approximate their fair value (a Level 2 measurement) due to their short maturities.

The Company enters into equity derivative contracts including floating-rate equity forwards to partially offset the potential fluctuations of certain future share-based compensation expenses. The Company does not hold derivatives for speculative purposes. As at July 31, 2018, we had equity derivatives for 273,000 Descartes common shares with a weighted average price of \$21.03.

The following table shows the Company's derivative instruments measured at fair value on a recurring basis as of July 31, 2018:

	Fair Value of Derivatives Designated as Hedge Instruments	Fair Value of Derivatives Not Designated As Hedge Instruments	Fair Value
Derivative assets:			
Equity contracts	-	2,971	2,971

The fair value of equity contract derivatives is determined utilizing a valuation model based on the quoted market value of our common shares at the balance sheet date (Level 2 fair value inputs). The fair value of equity contract derivatives is recorded as other current assets and gains and losses are recorded in general and administrative expenses in the consolidated financial statements. During the three and six months ended July 31, 2018, we recognized an expense recovery in general and administrative expenses of \$0.7 million and \$1.3 million, respectively, compared to an expense of \$0.1 million and an expense recovery of \$0.5 million for both the same periods of fiscal 2018.

Note 5 – Trade Receivables

	July 31, 2018	January 31, 2018
Trade receivables	32,519	30,111
Less: Allowance for doubtful accounts	(1,797)	(1,319)
	30,722	28,792

Included in accounts receivable are unbilled receivables in the amount of \$2.1 million as at July 31, 2018 (\$0.6 million as at January 31, 2018). Bad debt expense for the three and six month periods ended July 31, 2018, was \$0.5 million and \$0.6 million, respectively, compared to \$0.1 million and \$0.3 million for the same periods of fiscal 2018 respectively.

Note 6 – Other Receivables

	July 31, 2018	January 31, 2018
Net working capital adjustments receivable from acquisitions	416	118
Other receivables	3,999	3,053
	4,415	3,171

Other receivables include receivables related to sales and use taxes, income taxes, non-trade receivables and contract assets. At July 31, 2018, \$0.4 million (\$0.1 million as at January 31, 2018) of the net working capital adjustments receivable from acquisitions is recoverable from amounts held in escrow related to the respective acquisitions. The change in net working capital adjustments receivable from acquisitions is primarily due to the acquisition of Aljex and Velocity Mail.

Note 7 – Inventory

At July 31, 2018 and January 31, 2018, inventory is entirely comprised of finished goods inventory. Finished goods inventory consists of hardware and related parts for mobile asset units held for sale. A nominal provision for excess or obsolete inventories has been recorded in cost of revenues for the three and six month periods ended July 31, 2018 and July 31, 2017, respectively.

Note 8 – Property and Equipment

	July 31, 2018	January 31, 2018
Cost		
Computer equipment and software	36,923	36,374
Furniture and fixtures	1,258	1,296
Leasehold improvements	415	438
	38,596	38,108
Accumulated amortization		
Computer equipment and software	25,023	24,403
Furniture and fixtures	685	669
Leasehold improvements	256	238
	25,964	25,310
Net	12,632	12,798

Note 9 - Intangible Assets

	July 31, 2018	January 31, 2018
Cost		
Customer agreements and relationships	170,372	162,772
Existing technology	185,477	174,506
Trade names	7,578	7,532
Non-compete covenants	6,115	5,980
	369,542	350,790
Accumulated amortization		
Customer agreements and relationships	75,737	73,621
Existing technology	98,181	92,304
Trade names	4,191	4,221
Non-compete covenants	2,650	2,643
	180,759	172,789
Net	188,783	178,001

Intangible assets related to our acquisitions are recorded at their fair value at the acquisition date. The change in intangible assets during the six month period ended July 31, 2018 is primarily due to the acquisition of Aljex and Velocity Mail partially offset by amortization. The balance of the change in intangible assets is due to foreign currency translation.

Intangible assets with a finite life are amortized into income over their useful lives. Amortization expense for existing intangible assets is expected to be \$188.8 million over the following periods: \$19.3 million for the remainder of 2019, \$38.0 million for 2020, \$34.5 million for 2021, \$30.3 million for 2022, \$22.9 million for 2023, \$11.5 million for 2024, and \$32.3 million thereafter. Expected future amortization expense is subject to fluctuations in foreign exchange rates and assumes no future adjustments to acquired intangible assets.

Note 10 – Goodwill

Goodwill is recorded when the consideration paid for an acquisition of a business exceeds the fair value of identifiable net tangible and intangible assets acquired. The following table summarizes the changes in goodwill since January 31, 2017:

	July 31, 2018	January 31, 2018
Balance at beginning of period	350,148	263,113
Acquisition of Datamyne	-	(435)
Acquisition of ShipRush	-	8,603
Acquisition of PCSTrac	-	5,815
Acquisition of MacroPoint	-	65,213
Acquisition of Aljex	18,903	-
Acquisition of Velocity Mail	8,448	-
Adjustments on account of foreign exchange	(4,531)	7,839
Balance at end of period	372,968	350,148

Note 11 - Accrued Liabilities

	July 31, 2018	January 31, 2018
Accrued compensation and benefits	14,554	14,234
Accrued professional fees	1,278	1,107
Other accrued liabilities	10,143	10,197
	25,975	25,538

Other accrued liabilities include accrued expenses related to third party resellers and royalties, suppliers, accrued restructuring charges and accrued contingent acquisition purchase consideration.

Note 12 - Debt

On March 2, 2016, we amended our revolving debt facility with a new senior secured credit facility. The credit facility consists of a \$150.0 million revolving operating credit facility to be available for general corporate purposes including the financing of ongoing working capital needs and acquisitions. With the approval of the lenders, the credit facility can be expanded to a total of \$225.0 million. The credit facility also provides for an additional \$7.5 million available to support foreign exchange and interest rate hedging. The credit facility has a five-year maturity with no fixed repayment dates prior to the end of the five-year term ending March 2, 2021. Borrowings under the credit facility are secured by a first charge over substantially all of Descartes' assets. Depending on the type of advance, interest rates under the revolving operating portion of the credit facility are based on the Canada or US prime rate, Bankers' Acceptance (BA) or London Interbank Offered Rate (LIBOR) plus an additional 0 to 200 basis points based on the ratio of net debt to adjusted earnings before interest, taxes, depreciation and amortization, as defined in the credit agreement. A standby fee of between 20 to 28 basis points will be charged on all undrawn amounts. The credit facility contains certain customary representations, warranties and guarantees, and covenants.

Long-term debt is comprised of the following:

	July 31, 2018	January 31, 2018
Credit facility	58,839	37,000
Total amount outstanding	58,839	37,000
Available for use	91,161	113,000

The outstanding balance of \$58.8 million is required to be repaid prior to March 2, 2021. No amounts have been drawn on the facility that are available to support foreign exchange and interest rate hedging. We are in compliance with the covenants of the credit facility as of July 31, 2018.

As at July 31, 2018, we have outstanding letters of credit of \$0.2 million (\$0.3 million as at January 31, 2018), which are not related to our credit facility.

Note 13 - Commitments, Contingencies and Guarantees

Commitments

The following information is provided in respect of our operating and capital lease obligations:

Years Ended January 31,	Operating Leases	Capital Leases	Total
Remainder of 2019	2,696	28	2,724
2020	3,812	51	3,863
2021	2,320	2	2,322
2022	1,234	-	1,234
2023	790	-	790
2024	504	-	504
2025	283	-	283
2026	280	-	280
2027	178	-	178
	12,097	81	12,178

Lease Obligations

We are committed under non-cancelable operating leases for business premises, computer equipment and vehicles with terms expiring at various dates through 2027. We are also committed under non-cancelable capital leases for computer equipment expiring at various dates through 2021. The future minimum amounts payable under these lease agreements are outlined in the chart above. The \$0.1 million balance of the capital lease obligation outstanding at July 31, 2018 is included in accrued liabilities in the consolidated balance sheet. For the three and six month periods ended July 31, 2018, rental expense from operating leases was \$1.3 million and \$2.6 million, respectively, compared to \$1.2 million and \$2.4 million, respectively, for the same periods of fiscal 2018.

Other Obligations

As described in Note 2 to the audited consolidated financial statements for 2018 included in our 2018 Annual Report, we maintain deferred share unit ("DSU") and cash-settled restricted share unit ("CRSU") plans for our directors and employees. Any payments made pursuant to these plans are settled in cash. For DSUs and CRSUs, the units vest over time and the liability recognized at any given consolidated balance sheet date reflects only those units vested at that date that have not yet been settled in cash. As such, we had an unrecognized aggregate liability for the unvested CRSUs and unearned DSUs of \$1.2 million and \$0.4 million, respectively, for which no liability was recorded on our unaudited condensed

consolidated balance sheet at July 31, 2018, in accordance with ASC Topic 718, "Compensation – Stock Compensation". The ultimate liability for any payment of DSUs and CRSUs is dependent on the trading price of our common shares. To partially offset our exposure to fluctuations in our stock price, we have entered into equity derivative contracts, including floating-rate equity forwards. As at July 31, 2018, we had equity derivatives for 273,000 Descartes common shares.

Contingencies

We are subject to a variety of other claims and suits that arise from time to time in the ordinary course of our business. The consequences of these matters are not presently determinable but, in the opinion of management after consulting with legal counsel, the ultimate aggregate potential liability is not currently expected to have a material effect on our results of operations or financial position.

Product Warranties

In the normal course of operations, we provide our customers with product warranties relating to the performance of our hardware, software and services. To date, we have not encountered material costs as a result of such obligations and have not accrued any liabilities related to such obligations in our consolidated financial statements.

Business combination agreements

In respect of our acquisitions of Appterra and ShipRush, up to \$4.6 million in cash may become payable if certain revenue performance targets are met in the two years following the acquisition. A balance of \$2.3 million is accrued related to the fair value of this contingent consideration as at July 31, 2018.

In respect to our acquisition of PinPoint subsequent to July 31, 2018, up to \$2.3 million (CAD \$3.0 million) in cash may become payable if certain revenue performance targets are met in the two years following the acquisition.

Guarantees

In the normal course of business, we enter into a variety of agreements that may contain features that meet the definition of a guarantee under ASC Topic 460, "Guarantees". The following lists our significant guarantees:

Intellectual property indemnification obligations

We provide indemnifications of varying scope to our customers against claims of intellectual property infringement made by third parties arising from the use of our products. In the event of such a claim, we are generally obligated to defend our customers against the claim and we are liable to pay damages and costs assessed against our customers that are payable as part of a final judgment or settlement. These intellectual property infringement indemnification clauses are not generally subject to any dollar limits and remain in force for the term of our license agreement with our customer, which license terms are typically perpetual. Historically, we have not encountered material costs as a result of such indemnification obligations.

Other indemnification agreements

In the normal course of operations, we enter into various agreements that provide general indemnities. These indemnities typically arise in connection with purchases and sales of assets, securities offerings or buy-backs, service contracts, administration of employee benefit plans, retention of officers and directors, membership agreements, customer financing transactions, and leasing transactions. In addition, our corporate by-laws provide for the indemnification of our directors and officers. Each of these indemnities requires us, in certain circumstances, to compensate the counterparties for various costs resulting from breaches of representations or obligations under such arrangements, or as a result of third party claims that may be suffered by the counterparty as a consequence of the transaction. We believe that the likelihood that we could incur significant liability under these obligations is remote. Historically, we have not made any significant payments under such indemnities.

In evaluating estimated losses for the guarantees or indemnities described above, we consider such factors as the degree of probability of an unfavorable outcome and the ability to make a reasonable estimate of

the amount of loss. We are unable to make a reasonable estimate of the maximum potential amount payable under such guarantees or indemnities as many of these arrangements do not specify a maximum potential dollar exposure or time limitation. The amount also depends on the outcome of future events and conditions, which cannot be predicted. Given the foregoing, to date, we have not accrued any liability in our financial statements for the guarantees or indemnities described above.

Note 14 – Share Capital

On April 18, 2016, we filed a final short-form base shelf prospectus (the “2016 Base Shelf Prospectus”), that allowed us to offer and issue common shares, preferred shares, debt securities, subscription receipts and/or warrants separately or together, in separate series, in amounts, at prices and on terms to be set forth in one or more shelf prospectus supplements up to an aggregate of \$500 million. The 2016 Base Shelf Prospectus lapsed on May 18, 2018.

On June 6, 2018, we filed a new final short-form base shelf prospectus, allowing us to offer and issue the following securities: (i) common shares; (ii) preferred shares; (iii) senior or subordinated unsecured debt securities; (iv) subscription receipts; (v) warrants; and (vi) securities comprised of more than one of the aforementioned common shares, preferred shares, debt securities, subscription receipts and/ or warrants offered together as a unit. These securities may be offered separately or together, in separate series, in amounts, at prices and on terms to be set forth in one or more shelf prospectus supplements. The aggregate initial offering price of securities that may be sold by us (or certain of our current or future shareholders) pursuant to our base shelf prospectus during the 25-month period that our base shelf prospectus, including any amendments thereto, remains valid is limited to \$750 million.

For the three and six month periods ended July 31, 2018, cash flows provided from stock options and share units exercised were \$0.1 million and \$0.5 million, respectively, compared to nominal and \$0.5 million for each of the same periods in fiscal 2018.

Note 15 - Earnings Per Share

The following table sets forth the computation of basic and diluted earnings per share (“EPS”) (number of shares in thousands):

	Three Months Ended		Six Months Ended	
	July 31, 2018	July 31, 2017	July 31, 2018	July 31, 2017
Net income for purposes of calculating basic and diluted earnings per share	8,498	7,159	15,484	14,044
Weighted average shares outstanding	76,816	75,969	76,805	75,941
Dilutive effect of employee stock options	216	155	192	166
Dilutive effect of restricted and performance share units	749	615	717	580
Weighted average common and common equivalent shares outstanding	77,781	76,739	77,714	76,687
Earnings per share				
Basic	0.11	0.09	0.20	0.18
Diluted	0.11	0.09	0.20	0.18

For the three month periods ended July 31, 2018 and July 31, 2017, the application of the treasury stock method excluded 270,394 and 272,025 stock options, respectively, from the calculation of diluted EPS as

the assumed proceeds from the unrecognized stock-based compensation expense of such stock options that are attributed to future service periods made such stock options anti-dilutive.

For the six month periods ended July 31, 2018 and July 31, 2017, the application of the treasury stock method excluded 272,869 and 297,025 stock options, respectively, from the calculation of diluted EPS as the assumed proceeds from the unrecognized stock-based compensation expense of such stock options that are attributed to future service periods made such stock options anti-dilutive.

Note 16 - Stock-Based Compensation Plans

Total estimated stock-based compensation expense recognized in our consolidated statement of operations was as follows:

	Three Months Ended		Six Months Ended	
	July 31, 2018	July 31, 2017	July 31, 2018	July 31, 2017
Cost of revenues	43	25	74	41
Sales and marketing	118	69	203	108
Research and development	51	24	84	35
General and administrative	789	634	1,373	1,083
Effect on net income	1,001	752	1,734	1,267

Differences between how GAAP and applicable income tax laws treat the amount and timing of recognition of stock-based compensation expense may result in a deferred tax asset. We have recorded a valuation allowance against any such deferred tax asset except for \$0.5 million (\$0.6 million at January 31, 2018) recognized in the United States. We realized a \$0.1 million tax benefit in connection with stock options exercised during both the three and six month periods ended July 31, 2018 and a nominal tax benefit for the same periods in fiscal 2018.

Stock Options

As of July 31, 2018, we had 745,338 stock options granted and outstanding under our shareholder-approved stock option plan and 4,002,938 remained available for grant. In addition, we had 136,500 stock options outstanding pursuant to option grants made outside of our shareholder-approved stock option plan as permitted under the rules of the Toronto Stock Exchange in certain circumstances.

As of July 31, 2018, \$2.8 million of total unrecognized compensation costs related to non-vested stock option awards is expected to be recognized over a weighted average period of 2.7 years. The total fair value of stock options vested during both the three and six month periods ended July 31, 2018 was nominal and \$0.1 million, respectively.

For the three and six month periods ended July 31, 2018, nil and 272,144 stock options, respectively, were granted compared to nil and 272,025 stock options for the same periods in fiscal 2018. The weighted average grant-date fair value of stock options granted during the six month periods ended July 31, 2018 and July 31, 2017 was \$7.10 per option and \$5.10 per option, respectively.

The weighted-average assumptions were as follows:

	Six Months Ended	
	July 31, 2018	July 31, 2017
Expected dividend yield (%)	-	-
Expected volatility (%)	23.6	23.5
Risk-free rate (%)	2.0	1.0
Expected option life (years)	5	5

A summary of option activity under all of our plans is presented as follows:

	Number of Stock Options Outstanding	Weighted- Average Exercise Price	Weighted- Average Remaining Contractual Life (years)	Aggregate Intrinsic Value (in millions)
Balance at January 31, 2018	657,209	\$18.21	4.9	5.7
Granted	272,144	\$28.27		
Exercised	(45,765)	\$11.81		
Forfeited	(1,750)	\$28.27		
Balance at July 31, 2018	881,838	\$21.65	5.2	9.4
Vested or expected to vest at July 31, 2018	881,838	\$21.65	5.2	9.4
Exercisable at July 31, 2018	302,377	\$16.68	4.1	4.7

The total intrinsic value of stock options exercised during the three and six month periods ended July 31, 2018 was approximately \$0.1 million and \$0.8 million, respectively, compared to nominal and \$1.7 million during both the same periods of fiscal 2018.

Performance Share Units

A summary of PSU activity is as follows:

	Number of PSUs Outstanding	Weighted- Average Granted Date Fair Value	Weighted- Average Remaining Contractual Life (years)	Aggregate Intrinsic Value (in millions)
Balance at January 31, 2018	440,520	\$15.91	6.1	11.9
Granted	54,351	\$35.62		
Performance units issued	35,512	\$19.81		
Balance at July 31, 2018	530,383	\$18.22	6.0	17.1
Vested or expected to vest at July 31, 2018	530,383	\$18.22	6.0	17.1
Exercisable at July 31, 2018	370,431	\$13.19	5.0	11.9

The aggregate intrinsic value represents the total pre-tax intrinsic value (the aggregate closing share price of our common shares on July 31, 2018) that would have been received by PSU holders if all PSUs had been vested on July 31, 2018.

As of July 31, 2018, \$2.7 million of total unrecognized compensation costs related to non-vested awards is expected to be recognized over a weighted average period of 1.5 years. The total fair value of PSUs vested during the three and six month periods ended July 31, 2018 was nil and \$0.7 million, respectively.

Restricted Share Units

A summary of RSU activity is as follows:

	Number of RSUs Outstanding	Weighted- Average Granted Date Fair Value	Weighted- Average Remaining Contractual Life (years)	Aggregate Intrinsic Value (in millions)
Balance at January 31, 2018	299,020	\$12.80	6.1	8.1
Granted	38,046	\$28.27		
Balance at July 31, 2018	337,066	\$14.58	6.1	10.9
Vested or expected to vest at July 31, 2018	337,066	\$14.58	6.1	10.9
Exercisable at July 31, 2018	262,345	\$11.57	5.3	8.5

The aggregate intrinsic value represents the total pre-tax intrinsic value (the aggregate closing share price of our common shares on July 31, 2018) that would have been received by RSU holders if all RSUs had been vested on July 31, 2018.

As of July 31, 2018, \$1.5 million of total unrecognized compensation costs related to non-vested awards is expected to be recognized over a weighted average period of 1.8 years. The total fair value of RSUs vested during both the three and six month periods ended July 31, 2018 was nil.

Deferred Share Unit Plan

As at July 31, 2018, the total number of DSUs held by participating directors was 273,135 (242,082 at January 31, 2018), representing an aggregate accrued liability of \$8.3 million (\$6.8 million at January 31, 2018). During the six month period ended July 31, 2018, 31,053 DSUs were granted and nil DSUs were redeemed and settled in cash. As at July 31, 2018, the unrecognized aggregate liability for the unvested DSUs was \$0.4 million (nil at January 31, 2018). The fair value of the DSU liability is based on the closing price of our common shares at the balance sheet date. The total compensation cost related to DSUs recognized in our unaudited condensed consolidated statements of operations during the three and six month periods ended July 31, 2018 was \$1.2 million and \$1.8 million, respectively, compared to \$0.4 million and \$1.1 million for the same periods in fiscal 2018, respectively.

Cash-Settled Restricted Share Unit Plan

A summary of activity under our CRSU plan is as follows:

	Number of CRSUs Outstanding	Weighted- Average Remaining Contractual Life (years)
Balance at January 31, 2018	58,171	1.5
Granted	32,261	
Vested and settled in cash	(25,982)	
Balance at July 31, 2018	64,450	1.9
Non-vested at July 31, 2018	64,450	1.9

We recognize the compensation cost of the CRSUs ratably over the service/vesting period relating to the grant and have recorded an aggregate accrued liability of \$0.8 million at July 31, 2018 (\$0.8 million at January 31, 2018). As at July 31, 2018, the unrecognized aggregate liability for the unvested CRSUs was \$1.2 million (\$0.9 million at January 31, 2018). The fair value of the CRSU liability is based on the closing price of our common shares at the balance sheet date. The total compensation cost related to CRSUs recognized in our unaudited condensed consolidated statements of operations during the three and six month periods ended July 31, 2018 was \$0.2 million and \$0.4 million, respectively, compared to \$0.3 million and \$0.5 million for the same periods in fiscal 2018, respectively.

Note 17 - Income Taxes

On December 22, 2017, the U.S. government enacted comprehensive tax legislation commonly referred to as the Tax Cuts and Jobs Act (the "Tax Act"). The Tax Act makes broad and complex changes to the U.S. tax code, including, but not limited to, (1) reducing the U.S. federal corporate tax rate from 35 percent to 21 percent; (2) eliminating the corporate alternative minimum tax (AMT) and changing how existing AMT credits can be realized; (3) requiring companies to pay a one-time transition tax on certain unrepatriated earnings of foreign subsidiaries; (4) creating a new limitation on deductible interest expense; (5) changing rules related to uses and limitations of net operating loss carryforwards created in tax years beginning after December 31, 2017; (6) requiring a current inclusion in U.S. federal taxable income of certain earnings of controlled foreign corporations; (7) generally eliminating U.S. federal income taxes on dividends from foreign subsidiaries; and (8) creating the base erosion anti-abuse, a new minimum tax.

Due to the timing of the enactment and the complexity involved in applying the provisions of the Tax Act, we have made reasonable estimates of the effects and recorded provisional amounts in our consolidated financial statements as of January 31, 2018. As we collect and prepare necessary data and interpret the Tax Act and any additional guidance issued by the U.S. Treasury Department, the Internal Revenue Service, and other bodies, we may make adjustments to the provisional amounts. Those adjustments will impact our provision for income taxes and effective tax rate in the period in which the adjustments are made. The accounting for the tax effects of the Tax Act will be completed in fiscal 2019. Additional impacts from the enactment of the Tax Act will be recorded as they are identified during the measurement period as provided for in Staff Accounting Bulletin 118 ("SAB 118"). The net tax recovery recognized in the fourth quarter of 2018 related to the Tax Act was \$0.7 million. As we complete our analysis of the Tax Act and incorporate additional guidance that may be issued by the U.S. Treasury Department, the IRS or other bodies, and as we finalize fiscal 2018 income tax filings and detailed earnings and profit calculations for foreign subsidiaries, there may be changes to the provisional amounts recorded during the SAB 118 measurement period. During the first six months of 2019, we recognized an adjustment to increase tax expense by \$0.1 million related to the Tax Act.

The effective tax rates (which is the provision for income taxes expressed as a percentage of income before income taxes) were 12.7% and 18.5% for the three and six month periods ended July 31, 2018, respectively, and 22.1% and 23.1% for the same periods in fiscal 2018, respectively.

The decrease in the three and six month periods compared to the same periods in fiscal 2018 was primarily a result of tax benefits recognized in the second quarter of fiscal 2019 from the conclusion of certain tax audits, including the release of any related tax reserves. These tax benefits were partially offset by higher income tax expense incurred from the adoption of ASU 2016-16. The remainder of the differences are due to normal course movements and non-material items.

Note 18 – Contract Balances, Performance Obligations and Contract Costs

Deferred Revenue

The following table presents the changes in the deferred revenue balance as follows:

	<u>Deferred Revenue</u>
Balance at January 31, 2018	32,113
Recognition of unearned revenue	(25,327)
Deferral of revenue	25,061
Increases from business combinations	1,192
Balance at July 31, 2018	<u>33,039</u>
Current	32,001
Long-term	<u>1,038</u>

Performance Obligations

As of July 31, 2018, approximately \$140.9 million of revenue is expected to be recognized in the future related to performance obligations that are unsatisfied (or partially unsatisfied) at the end of the reporting period. We expect to recognize revenue on approximately three quarters of these remaining performance obligations over the next 24 months with the balance recognized thereafter.

Contract Assets

The following table presents the changes in the contract assets balance as follows:

	<u>Contract Assets</u>
Balance at January 31, 2018	-
Adjustment for adoption of ASC 606	495
Balance at February 1, 2018	495
Transfers to trade receivables from contract assets	(134)
Increases as a result of delivered term licenses recognized as revenue during the period, net of amounts transferred to trade receivables	573
Balance at July 31, 2018	<u>934</u>

Contract Costs

Capitalized contract costs net of accumulated amortization is \$6.1 million at July 31, 2018. In the comparative period, such contract costs were primarily recognized as selling expenses when incurred. Capitalized contract costs are amortized when the related revenues are recognized. For the three and six month periods ended July 31, 2018, the amount of amortization included in sales and marketing expenses was \$0.4 million and \$0.8 million, respectively. There was no impairment loss in relation to the costs capitalized during the three and six month periods ended July 31, 2018.

Note 19 - Other Charges

Other charges are comprised of acquisition-related costs and restructuring initiatives which have been undertaken from time to time under various restructuring plans. Acquisition-related costs primarily include advisory services, brokerage services, administrative costs and retention bonuses to employees joining by way of an acquisition, and collectively relate to completed and prospective acquisitions.

The following tables shows the components of other charges as follows:

	Three Months Ended		Six Months Ended	
	July 31, 2018	July 31, 2017	July 31, 2018	July 31, 2017
Acquisition-related costs	586	909	1,707	1,585
Restructuring plans	(5)	2	14	4
	581	911	1,721	1,589

Fiscal 2018 Restructuring Plan

In the third quarter of fiscal 2018, management approved and began to implement the fiscal 2018 restructuring plan to reduce operating expenses and increase operating margins. To date, \$0.5 million has been recorded within other charges in conjunction with this restructuring plan. These charges are comprised of workforce reduction charges. This plan is complete with a nominal amount of further expected costs.

The following table shows the changes in the restructuring provision for the fiscal 2018 restructuring plan.

	Workforce Reduction
Balance at January 31, 2018	245
Accruals and adjustments	4
Cash draw downs	(241)
Balance at July 31, 2018	8

Note 20 - Segmented Information

We review our operating results, assess our performance, make decisions about resources, and generate discrete financial information at the single enterprise level. Accordingly, we have determined that we operate in one reportable business segment providing logistics technology solutions. The following tables provide our disaggregated revenue information by geographic location of customer and revenue type:

	Three Months Ended		Six Months Ended	
	July 31, 2018	July 31, 2017	July 31, 2018	July 31, 2017
Revenues				
United States	40,165	31,534	79,648	61,247
Europe, Middle-East and Africa	19,869	18,908	40,569	37,583
Canada	3,872	4,038	7,655	7,493
Asia Pacific	3,209	2,813	6,261	5,484
	67,115	57,293	134,133	111,807

	Three Months Ended		Six Months Ended	
	July 31, 2018	July 31, 2017	July 31, 2018	July 31, 2017
Revenues				
License	1,257	2,155	3,201	3,842
Services	59,684	49,341	117,490	96,081
Professional services and other	6,174	5,797	13,442	11,884
	67,115	57,293	134,133	111,807

License revenues derive from licenses granted to our customers to use our software products. Services revenues are comprised of ongoing transactional and/or subscription fees for use of our services and products by our customers and maintenance, which include revenues associated with maintenance and support of our services and products. Professional services and other revenues are comprised of professional services revenues from consulting, implementation and training services related to our services and products, hardware revenues and other revenues.

The following table provides information by geographic area of operation for our long-lived assets. Long-lived assets represent property and equipment and intangible assets that are attributed to geographic areas.

	July 31, 2018	January 31, 2018
Total long-lived assets		
United States	131,454	108,077
Europe, Middle-East and Africa	32,019	37,857
Canada	37,942	44,865
	201,415	190,799

Note 21 – Subsequent Event

On August 21, 2018, Descartes acquired PinPoint GPS Solutions Inc. ("PinPoint"), a provider of fleet tracking and mobile workforce solutions. Canada-based PinPoint helps customers collect real-time location information on trucks and mobile workers using technology, including Geotab (telematics) and SkyBitz (trailer tracking). The initial purchase price for the acquisition was approximately \$11.5 million, net of cash acquired. The \$10.0 million cash portion of the initial purchase price, was funded from drawing on Descartes' existing credit facility and the remaining \$1.5 million was satisfied by issuing to the sellers less than 0.1 million Descartes common shares from treasury. Additional contingent consideration of up to \$2.3 million (CAD \$3.0 million) in cash is payable if certain revenue performance targets are met by PinPoint in the two years following the acquisition. As of the issue date of these consolidated condensed financial statements, the fair value of the acquired assets and liabilities has not been determined.

CORPORATE INFORMATION

Stock Exchange Information

Our common stock trades on the Toronto Stock Exchange under the symbol DSG and on The Nasdaq Stock Market under the symbol DSGX.

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