KINAXIS INC.

MANAGEMENT'S DISCUSSION AND ANALYSIS

FOR THE NINE MONTHS ENDED SEPTEMBER 30, 2017

DATED: November 1, 2017

*Unless the context requires otherwise, all references in this management's discussion and analysis (the "**MD&A**") to "Kinaxis", "we", "us", "our" and the "Company" refer to Kinaxis Inc. and its subsidiaries as constituted on September 30, 2017. This MD&A has been prepared with an effective date of November 1, 2017.*

*This MD&A for the three and nine month periods ended September 30, 2017 and 2016 should be read in conjunction with our condensed consolidated interim financial statements and the related notes thereto for the three and nine months ended September 30, 2017 and 2016 and our annual consolidated financial statements as at and for the year ended December 31, 2016. The financial information presented in this MD&A is derived from our interim financial statements prepared in accordance with International Financial Reporting Standards ("**IFRS**") as issued by the International Accounting Standards Board ("**IASB**"). This MD&A contains forward-looking statements that involve risks, uncertainties and assumptions, including statements regarding anticipated developments in future financial periods and our future plans and objectives. There can be no assurance that such information will prove to be accurate, and readers are cautioned not to place undue reliance on such forward-looking statements. See "Forward-Looking Statements".*

This MD&A includes trade-marks, such as "Kinaxis", and "RapidResponse", which are protected under applicable intellectual property laws and are the property of Kinaxis. Solely for convenience, our trade-marks and trade names referred to in this MD&A may appear without the ® or ™ symbol, but such references are not intended to indicate, in any way, that we will not assert, to the fullest extent under applicable law, our rights to these trade-marks and trade names. All other trade-marks used in this MD&A are the property of their respective owners.

All references to $ or dollar amounts in this MD&A are to U.S. currency unless otherwise indicated.

Additional information relating to Kinaxis Inc., including the Company's most recently completed Annual Information Form, can be found on SEDAR at www.sedar.com.

Non-IFRS Measures

This MD&A makes reference to certain non-IFRS measures such as "Adjusted profit", "Adjusted EBITDA" and "Adjusted diluted earnings per share". These non-IFRS measures are not recognized, defined or standardized measures under IFRS. Our definition of Adjusted profit, Adjusted EBITDA and Adjusted diluted earnings per share will likely differ from that used by other companies and therefore comparability may be limited.

Adjusted profit, Adjusted EBITDA and Adjusted diluted earnings per share should not be considered a substitute for or in isolation from measures prepared in accordance with IFRS. These non-IFRS measures should be read in conjunction with our condensed consolidated interim financial statements and the related notes thereto for the three and nine months ended September 30, 2017 and 2016 and our annual consolidated financial statements as at and for the year ended December 31, 2016. Readers should not place undue reliance on non-IFRS measures and should instead view them in conjunction with the most comparable IFRS financial measures. See the reconciliations to these IFRS measures in the "Reconciliation of Non-IFRS Measures" section of this MD&A.

Forward-Looking Statements

This MD&A contains forward-looking statements that relate to our current expectations and views of future events. In some cases, these forward-looking statements can be identified by words or phrases such as "may", "will", "expect", "anticipate", "aim", "estimate", "intend", "plan", "seek", "believe", "potential", "continue", "is/are likely to" or the negative of these terms, or other similar expressions intended to identify forward-looking statements. Forward-looking statements are intended to assist readers in understanding management's expectations as of the date of this MD&A and may not be suitable for other purposes. We have based these forward-looking statements on our current expectations and projections about future events and financial trends that we believe may affect our financial condition, results of operations, business strategy and financial needs. These forward-looking statements include, among other things, statements relating to:

- our expectations regarding our revenue, expenses and operations;
- our anticipated cash needs;
- our ability to protect, maintain and enforce our intellectual property rights;
- third-party claims of infringement or violation of, or other conflicts with, intellectual property rights by us;

- our plans for and timing of expansion of our solutions and services;
- our future growth plans;
- the acceptance by our customers and the marketplace of new technologies and solutions;
- our ability to attract new customers and develop and maintain existing customers;
- our ability to attract and retain personnel;
- our expectations with respect to advancement in our technologies;
- our competitive position and our expectations regarding competition;
- regulatory developments and the regulatory environments in which we operate; and
- anticipated trends and challenges in our business and the markets in which we operate.

Forward-looking statements are based on certain assumptions and analysis made by us in light of our experience and perception of historical trends, current conditions and expected future developments and other factors we believe are appropriate. Expected future developments include growth in our target market, an increase in our subscription revenue and decrease in maintenance and support revenue based on trends in customer behaviour, increasing sales and marketing expenses, research and development expenses and general and administrative expenses based on our business plans and our continued ability to realize on the benefits of tax credits in the near term. Although we believe that the assumptions underlying the forward-looking statements are reasonable, they may prove to be incorrect.

This MD&A also includes forward-looking statements in relation to a contract dispute and arbitration proceeding with an Asian-based customer. These forward-looking statements are based on our assessment and analysis of the merits of the parties' positions. This assessment and analysis may evolve as the relevant proceedings are at a very early stage. Whether actual results, performance or achievements will conform to our expectations and predictions is subject to a number of known and unknown risks and uncertainties, including those set forth below under the heading "Risks and Uncertainties". These risks and uncertainties could cause our actual results, performance, achievements and experience to differ materially from the future expectations expressed or implied by the forward-looking statements. In light of these risks and uncertainties, readers should not place undue reliance on forward-looking statements.

The forward-looking statements made in this MD&A relate only to events or information as of the date on which the statements are made in this MD&A and are expressly qualified in their entirety by this cautionary statement. Except as required by law, we do not assume any obligation to update or revise any forward-looking statements, whether as a result of new information, future events or otherwise, after the date on which the statements are made or to reflect the occurrence of unanticipated events.

Readers should read this MD&A with the understanding that our actual future results may be materially different from what we expect.

Risks and Uncertainties

We are exposed to risks and uncertainties in our business, including the risk factors set forth below:

- If we are unable to attract new customers or sell additional products to our existing customers, our revenue growth and profitability will be affected.
- We derive a significant portion of our revenue from a relatively small number of customers, and our growth depends on our ability to retain existing customers and add new customers.
- We encounter long sales cycles, particularly with our larger customers, which could have an adverse effect on the amount, timing and predictability of our revenue.
- We rely significantly on recurring revenue, and if recurring revenue declines or contracts are not renewed our future results of operations could be harmed.

- Downturns or upturns in new sales will not be immediately reflected in operating results and may be difficult to discern.
- Our quarterly results of operations may fluctuate. As a result, we may fail to meet or exceed the expectations of investors or securities analysts which could cause our share price to decline.
- Our solutions are complex and customers may experience difficulty in implementing or upgrading our products successfully or otherwise achieving the benefits attributable to our products.
- Our ability to retain customers and attract new customers could be adversely affected by an actual or perceived breach of security relating to customer information.
- We have incurred operating losses in the past and may incur operating losses in the future.
- If we are unable to develop new products and services, sell our solutions into new markets or further penetrate our existing markets, our revenue will not grow as expected.
- If we do not maintain the compatibility of our solutions with third-party applications that our customers use in their business processes, demand for our solutions could decline.
- Our inability to adapt to rapid technological change could impair our ability to remain competitive.
- We enter into service level agreements with all of our customers. If we fail to meet these contractual commitments, we could be obligated to provide credits or refunds for prepaid amounts related to unused subscription services or face contract terminations, which could adversely affect our revenues.
- Downturns in general economic and market conditions and reductions in IT spending may reduce demand for our solutions, which could negatively affect our revenue, results of operations and cash flows.
- We are subject to fluctuations in currency exchange rates.
- If we fail to protect our intellectual property and proprietary rights adequately, our business could be adversely affected.
- An assertion by a third party that we are infringing its intellectual property could subject us to costly and time consuming litigation or expensive licenses which could harm our business.
- The markets in which we participate are highly competitive, and our failure to compete successfully would make it difficult for us to add and retain customers and would reduce or impede the growth of our business.
- If we fail to retain our key employees, our business would be harmed and we might not be able to implement our business plan successfully.
- Our growth is dependent upon the continued development of our direct sales force.
- As we increase our emphasis on our partnership program, we may encounter new risks.
- If we experience significant fluctuations in our rate of anticipated growth and fail to balance our expenses with our revenue forecasts, our results could be harmed.
- Interruptions, delays or security breaches in the services provided by third-party data centers and/or internet service providers could impair the delivery of our solutions and our business could suffer.
- We may experience service failures or interruptions due to defects in the software, infrastructure, third-party components or processes that comprise our existing or new solutions, any of which could adversely affect our business.
- The use of open source software in our products may expose us to additional risks and harm our intellectual property.
- Mergers or other strategic transactions involving our competitors or customers could weaken our competitive position, which could harm our results of operations.

- We may not receive significant revenue as a result of our current research and development efforts.
- Because our long-term success depends, in part, on our ability to continue to expand the sales of our solutions to customers located outside of North America, our business will be susceptible to risks associated with international operations.
- The outcome of any litigation, arbitration or other dispute resoultion proceedings that we may engage in from time to time is inherently uncertain. We may become defendants in legal proceedings in which we are unable to assess our exposure and which could become significant liabilities in the event of an adverse judgment or decision.
- We are subject to taxation in various jurisdictions and the taxing authorities may disagree with our tax positions.
- If we fail to develop widespread brand awareness cost-effectively, our business may suffer.
- Our strategy includes pursuing acquisitions and our potential inability to successfully integrate the newly-acquired companies or businesses may adversely affect our financial results.
- The market price for our common shares may be volatile.
- We may issue additional common shares in the future which may dilute our shareholders' investments.

A comprehensive discussion of risks, including risks not specifically listed above, can be found in our most recently filed Annual Information Form. Additional risks and uncertainties not presently known to us or that we currently consider immaterial also may impair our business and operations and cause the price of our shares to decline. If any of the noted risks actually occur, our business may be harmed and our financial condition and results of operations may suffer significantly.

Overview

We are a leading provider of cloud-based subscription software that enables our customers to improve and accelerate analysis and decision-making across their supply chain operations. Our RapidResponse product provides supply chain planning and analytics capabilities that create the foundation for managing multiple, interconnected supply chain management processes, including demand planning, supply planning, inventory management, order fulfillment and capacity planning. Our professional services team supports deployment of RapidResponse in new customers and assists existing customers in fully leveraging the benefits of the product.

Our target market is large global enterprises that have significant unresolved supply chain challenges. We believe this market is growing as a result of a number of factors, including increased complexity and globalization of supply chains, outsourcing, a diversity of data sources and systems, and competitive pressures on our customers.

We have established a consistent financial track record of strong revenue growth, solid earnings performance and cash generation. Our subscription and total annual revenues have grown at a compound annual growth rate (CAGR) of 27% and 24% respectively for the three years ended December 31, 2016. This growth is driven both by contracts with new customers and expansion of our solution and service engagements within our existing customer base. For the three and nine months ended September 30, 2017, our Adjusted EBITDA was 32% and 29% of revenue and ending cash balances grew to $151.4 million.

Our customers are generally large national or multinational enterprises with complex supply chain requirements. We target multiple key industry verticals including high technology and electronics manufacturing, aerospace and defense, industrial products, life sciences and pharmaceuticals, automotive, and consumer packaged goods.

We sell our product using a subscription-based model. Our agreements with customers are typically two to five years in length. Our subscription fee generally depends on the size of our customer, the number of applications deployed, the number of users and the number of manufacturing, distribution and inventory sites our product is required to model. Average annual contract value fluctuates from period to period depending on the size of new customers and the extent to which we are successful in expanding adoption of our products by existing customers.

For the nine months ended September 30, 2017, our ten largest customers accounted for approximately 45% of our total revenues with one customer accounting for 10.3% of total revenues.

Increasing revenues through new customer wins is one of our highest organizational priorities. Our sales cycle can be lengthy, as we generally target very large organizations with significant internal processes for adoption of new systems. We currently pursue a revenue growth model that includes both direct sales through our internal sales force, as well as indirect sales through channels including resellers and other partners.

Due to the growth in the market and increasing need for solutions, competition in the industry from new entrants and larger incumbent vendors will increase. In addition to this increased competitive pressure, changes in the global economy may have an impact on the timing and ability of these enterprises to make buying decisions, which may have an impact on our performance.

We continue to drive growth in our business through new customer acquisition and expansion of existing customers through our land and expand strategy. Over the last several years, approximately 65% of subscription growth has been derived from new customers. Our net revenue retention is greater than 100%, reflecting our longer term contract structure and renewal history.

We continue to invest in our partner capabilities with Accenture and Deloitte Consulting LLP. In February 2017, we announced an alliance with Bain & Company, which will enable Bain to extend the value they bring to their clients by leveraging the power of RapidResponse during their supply chain diagnostics engagement. In May 2017, we announced an extension of our strategic partnership with Barkawi Management Consultants which will combine our market leading supply chain planning platform with Barkawi’s expertise in business solutions for supply chain and operations to help multinational organizations improve their supply chain and operational results. In October 2017, we announced a strategic partnership with mSE Solutions, which will help customers realize end-to-end supply chain optimization by combining our industry-leading concurrent planning solution with mSE’s expertise, experience and vision for next-generation extended supply chains.

We are headquartered in Ottawa, Ontario. We have subsidiaries located in the United States, the Netherlands and Hong Kong and subsidiaries and offices in Seoul, South Korea and Tokyo, Japan. We continue to expand our operations internationally. In the nine months ended September 30, 2017, 89% of our revenues were derived from North American based customer contracts and our remaining revenues were derived principally from Asian and European based contracts.

Key Performance Indicators

The key performance indicators that we use to manage our business and evaluate our financial results and operating performance are: total revenue, total new customers, incremental subscription revenue and bookings, net revenue retention, secured subscription backlog, operating expenses, Adjusted profit (as discussed below), Adjusted EBITDA (as discussed below), Adjusted diluted earnings per share (as discussed below), and cash flow from operations. Some of these measures are non-IFRS measures. See "Non-IFRS Measures" above. Management reconciles non-IFRS measures to IFRS measures where a comparable IFRS measure exists. See "Reconciliation of Non-IFRS Measures" below. We evaluate our performance by comparing our actual results to budgets, forecasts and prior period results.

Net revenue retention

Our subscription customers generally enter into two to five year agreements, paid annually in advance, for use of our solution. In certain circumstances, customers will prepay subscription fees for the term of the agreement for various reasons. Subscription agreements are generally subject to price increases upon renewal reflecting both inflationary increases and the additional value provided by our solutions. In addition to the expected increase in subscription revenue from price increases over time, existing customers may subscribe for additional applications, users or sites during the terms of their agreements.

Our subscription model results in a high proportion of recurring revenue, which we define as subscription revenue plus maintenance and support revenue (see "Significant Factors Affecting Results of Operations – Revenue"). We believe the power of the subscription model is only fully realized when a vendor has high retention rates. High customer retention rates generate a long customer lifetime and a very high lifetime value of the customer. Our net revenue retention rates remain over 100%, which includes sales of additional applications, users and sites to existing customers.

The recurring nature of our revenue provides high visibility into future performance, and upfront payments result in cash flow generation in advance of revenue recognition. Typically, approximately 80% of our annual subscription revenue is recognized from customers that are in place at the beginning of the year (excluding the effect of renewals) and this continues to be our target model going forward. However, this also means that agreements with new customers or agreements with existing customers purchasing additional applications, users or sites in a quarter may not contribute significantly to revenue in the current quarter. For example, a new customer who enters into an agreement on the last day of a quarter will typically have no impact on the revenue recognized in that quarter.

Significant Factors Affecting Results of Operations

Our results of operations are influenced by a variety of factors, including:

Revenue

Our revenue consists of subscription fees, professional service fees and maintenance and support fees. Subscription revenue is comprised of fixed term fees for licensed on-premise use of RapidResponse or fees for provision as software as a service ("**SaaS**") in a hosted/cloud environment.

Subscription revenue includes maintenance and support for the solution for the term of the contract as well as hosting services when provided under a SaaS arrangement.

Professional services revenue is comprised of fees charged to assist organizations to implement and integrate our solution and train their staff to use and deploy our solution. Professional service engagements are contracted on a time and materials basis including billable travel expenses and are billed and recognized as revenue as the service is delivered. In certain circumstances, we enter into arrangements for professional services on a fixed price basis; in these cases, revenue is recognized by reference to the stage of completion of the contract.

Maintenance and support revenue relates to fees for maintenance and support for certain legacy customers who licensed our software on a perpetual basis prior to our conversion to a SaaS model in 2005. Over time, this revenue stream is expected to decline as more customers eventually convert to our more comprehensive, subscription based service or customers choose to let their support contracts lapse.

Cost of revenue

Cost of revenue consists of personnel, travel and other overhead costs related to implementation teams supporting initial deployments, training services and subsequent stand-alone engagements for additional services. Cost of revenue also includes personnel and overhead costs associated with our customer support team, the cost of our data center facilities where we physically host our on-demand solution, and network connectivity costs for the provisioning of hosting services under SaaS arrangements.

Sales and marketing expenses

Sales and marketing expenses consist primarily of personnel and related costs for our sales and marketing teams, including salaries and benefits, commissions earned by sales personnel, partner programs support and training, and trade show and promotional marketing costs.

We plan to continue to invest in sales and marketing by expanding our domestic and international selling and marketing activities, building brand awareness, developing partners, and sponsoring additional marketing events. We expect that in the future, sales and marketing expenses will continue to increase.

Research and development expenses

Research and development ("R&D") expenses consist primarily of personnel and related costs for the teams responsible for the ongoing research, development and product management of RapidResponse. These expenses are recorded net of any applicable scientific research and experimental development investment tax credits ("**investment tax credits**") earned for expenses incurred in Canada against eligible projects. We only record non-refundable tax credits to the extent there is reasonable assurance we will be able to use the investment tax credits to reduce current or future tax liabilities. As the Company has an established history of profits, we do expect to realize the benefit of these tax credits in the near term. Further, we anticipate that spending on R&D will also be higher in absolute dollars as we expand our research and development and product management teams.

General and administrative expenses

General and administrative expenses consist primarily of personnel and related costs associated with administrative functions of the business including finance, human resources and internal information system support, as well as legal, accounting and other professional fees. We expect that, in the future, general and administrative expenses will increase in absolute dollars as we invest in our infrastructure and we incur additional employee-related costs and professional fees related to the growth of our business and international expansion.

Foreign exchange

Our presentation and functional currency is U.S. dollars with the exception of our subsidiaries in South Korea (South Korean Won), Japan (Japanese Yen) and the Netherlands (Euro). We derive most of our revenue in U.S. dollars. Our head office and a significant portion of our employees are located in Ottawa, Canada, and as such approximately a third of our expenses are incurred in Canadian dollars.

Results of Operations

The following table sets forth a summary of our results of operations for the three and nine months ended September 30, 2017 and 2016:

	Three months ended September 30,		Nine months ended September 30,	
	2017	2016	2017	2016
	(In thousands of U.S. dollars, except earnings per share)			
Statement of Operations				
Revenue	$ 33,486	$ 29,921	$ 98,894	$ 85,687
Cost of revenue	9,681	9,466	30,043	26,284
Gross profit	23,805	20,455	68,851	59,403
Operating expenses	16,202	16,386	49,862	45,249
	7,603	4,069	18,989	14,154
Foreign exchange (loss) gain	(30)	(53)	(53)	25
Net finance income	276	96	753	229
Profit before income taxes	7,849	4,112	19,689	14,408
Income tax expense	1,817	1,687	4,791	5,374
Profit	$ 6,032	$ 2,425	$ 14,898	$ 9,034
Adjusted profit(1)	$ 8,331	$ 4,485	$ 22,310	$ 15,224
Adjusted EBITDA(1)	$ 10,813	$ 6,812	$ 28,918	$ 22,090
Basic earnings per share	$0.24	$0.10	$0.59	$0.37
Diluted earnings per share	$0.23	$0.09	$0.56	$0.35
Adjusted diluted earnings per share(1)	$0.31	$0.17	$0.84	$0.59

	As at September 30, 2017	As at December 31, 2016
	(In thousands of U.S. dollars)	
Total assets	$ 197,556	$ 168,292
Deferred revenue	68,620	68,656
Other non-current liabilities	1,113	1,430

Note:

(1) Adjusted profit, Adjusted EBITDA and Adjusted diluted earnings per share are non-IFRS measures. See "Non-IFRS Measures". For a reconciliation of these measures to the closest IFRS measure, where a comparable IFRS measure exists, see "Reconciliation of Non-IFRS Measures" below.

Reconciliation of Non-IFRS Measures

Adjusted profit and Adjusted diluted earnings per share

Adjusted profit represents profit adjusted to exclude our equity compensation plans. Adjusted diluted earnings per share represents diluted earnings per share using Adjusted profit. We use Adjusted profit and Adjusted diluted earnings per share to measure our performance as these measures better align with our results and improve comparability against our peers.

Adjusted EBITDA

Adjusted EBITDA represents profit adjusted to exclude our equity compensation plans, income tax expense, depreciation, foreign exchange loss (gain) and net financing (income) expense. We use Adjusted EBITDA to provide readers with a supplemental measure of our operating performance and thus highlight trends in our core business that may not otherwise be apparent when relying solely on IFRS financial measures.

We believe that securities analysts, investors and other interested parties frequently use non-IFRS measures in the evaluation of issuers. Management also uses non-IFRS measures in order to facilitate operating performance comparisons from period to period, prepare annual operating budgets and assess our ability to meet our capital expenditure and working capital requirements.

We have reconciled Adjusted profit and Adjusted EBITDA to the most comparable IFRS financial measure as follows:

	Three months ended September 30,		Nine months ended September 30,	
	2017	**2016**	**2017**	**2016**
	(In thousands of U.S. dollars, except percentages)			
Statement of Operations				
Profit	$ 6,032	$ 2,425	$ 14,898	$ 9,034
Share-based compensation	2,299	2,060	7,412	6,190
Adjusted profit	$ 8,331	$ 4,485	$ 22,310	$ 15,224
Income tax expense	1,817	1,687	4,791	5,374
Depreciation	911	683	2,517	1,746
Foreign exchange loss (gain)	30	53	53	(25)
Net finance income	(276)	(96)	(753)	(229)
	2,482	2,327	6,608	6,866
Adjusted EBITDA	$ 10,813	$ 6,812	$ 28,918	$ 22,090
Adjusted EBITDA as a percentage of revenue	32%	23%	29%	26%

Revenue

	Three months ended September 30,		2016 to 2017	Nine months ended September 30,		2016 to 2017
	2017	**2016**	**%**	**2017**	**2016**	**%**
	(In thousands of U.S. dollars, except percentages)					
Revenue						
Subscription	$ 25,796	$ 20,753	24%	$ 73,852	$ 59,178	25%
Professional services	7,431	8,918	-17%	24,267	25,760	-6%
Maintenance and support	259	250	4%	775	749	3%
Total revenue	33,486	29,921	12%	98,894	85,687	15%

Total revenue for the third quarter of 2017 was $33.5 million or an increase of 12% compared to the same period in 2016. For the nine months ended September 30, 2017 total revenue was $98.9 million compared to $85.7 million for the same period in 2016, representing an increase of 15%.

Subscription revenue

Subscription revenue for the three months ended September 30, 2017 was $25.8 million, up from $20.8 million for the same period in 2016, for an increase of 24%. For the nine months ended September 30, 2017, subscription revenue was $73.9 million or 25% higher than the same nine month period in 2016. Subscription revenue increased $5.0 million for the third quarter and $14.7 million for the first nine months compared to the prior year due to contracts secured with new customers in the last twelve months, as well as expansion of existing customer subscriptions. During the second quarter, an Asian-based customer did not make certain scheduled payments under its contract. We have since terminated the contract with this customer, ceased providing services to this customer, and, as per the dispute resolution procedures in our contract, we have initiated confidential, binding arbitration proceedings for payment of all amounts due under the contract and damages. The customer has denied our claims, alleges breach by Kinaxis, and has asserted its own counterclaims. We believe the customer's positions and assertions are without merit. We did not recognize subscription revenue in the second or third quarter beyond payments received from this customer, the effect of which was to reduce comparative subscription revenue for the three and nine months ended September 30, 2017 by approximately $1.0 million and $2.0 million, respectively. As at September 30, 2017, trade and other receivables from this customer totaled $2.5 million. We believe the receivables are collectible and we will be successful in asserting our claims.

Professional services revenue

Professional services revenue varies quarter to quarter due to the size, timing and scheduling of customer engagements and the level of partner engagements. Professional services revenue for the third quarter of 2017 decreased $1.5 million or 17% to $7.4 million from $8.9 million for the same period in 2016. For the nine months ended September 30, 2017, professional services revenue decreased $1.5 million or 6% to $24.3 million from $25.8 million for the same period in 2016. Professional services revenue was lower for the three and nine month period compared with the prior year due to the significant increase in our partners assuming deployment activity and the related professional services revenue.

Maintenance and support revenue

Maintenance and support revenue was $0.3 million for the third quarter of both 2017 and 2016. Maintenance and support revenue was $0.8 million for the nine months ended September 30, 2017, an increase of $0.1 million from the same period in 2016. We expect maintenance and support revenue to continue to account for less than 1% of total revenue.

Cost of Revenue

	Three months ended September 30,		2016 to 2017	Nine months ended September 30,		2016 to 2017
	2017	2016	%	2017	2016	%
	(In thousands of U.S. dollars, except percentages)					
Cost of revenue	$ 9,681	$ 9,466	2%	$ 30,043	$ 26,284	14%
Gross profit	23,805	20,455	16%	68,851	59,403	16%
Gross profit percentage	71%	68%		70%	69%	

Cost of revenue for the third quarter of 2017 increased $0.2 million or 2% to $9.7 million from $9.5 million for the same period in 2016. For the nine months ended September 30, 2017, cost of revenue increased 14% to $30.0 million from $26.3 million for the same period in 2016. The increase in costs was due to an increase in headcount and related compensation costs, which was driven by our customer growth and global expansion. The increase in costs also reflects increased use of third party providers as we continue to leverage our partners' expertise to support customer engagements. Higher depreciation and operating costs associated with the expansion of the data center capacity to support new and ongoing customer engagements as well as our expansion in Korea were also incurred for the first nine months of 2017 compared to the same period in 2016.

Gross profit for the three and nine months ended September 30, 2017 was $23.8 million and $68.9 million respectively, compared to $20.5 million and $59.4 million for the same periods in 2016. For the third quarter of 2017, gross profit as a percentage of revenue increased to 71% from 68% in the same period in 2016. For the nine months ended September 30, 2017, gross profit as a percentage of revenue increased to 70% from 69% in the same period in 2016. The percentage increase for the three and nine months ended September 30, 2017 reflects the higher growth rate of revenue.

Selling and Marketing Expenses

	Three months ended September 30,		2016 to 2017	Nine months ended September 30,		2016 to 2017
	2017	2016	%	2017	2016	%
	(In thousands of U.S. dollars, except percentages)					
Selling and marketing	$ 7,100	$ 8,085	-12%	$ 21,398	$ 21,847	-2%
As a percentage of revenue	21%	27%		22%	25%	

Selling and marketing expenses for the third quarter of 2017 decreased $1.0 million or 12% to $7.1 million from $8.1 million in the third quarter of 2016. For the nine months ended September 30, 2017, selling and marketing expenses decreased $0.4 million or 2% to $21.4 million from $21.8 million for the same period in 2016. Selling and marketing expenses decreased due to a decrease in sales commission expenses compared to the prior period due to timing of securing new contracts. Our policy is to expense sales costs related to new or expanded customer arrangements on commencement of the related revenue. The decrease in selling and marketing expenses was offset by an increase in headcount and related compensation to support our investment in our knowledge services organization, and an increase in share-based compensation.

As a percentage of revenue, selling and marketing expenses decreased by 6% to 21% in the third quarter of 2017 and decreased by 3% to 22% for the nine months ended September 30, 2017, reflecting the higher growth rate of revenue and lower sales commission expenses. Selling and marketing expenses will vary from quarter to quarter due to the timing of marketing programs and events and the timing of closing of customer contracts and related variable compensation.

Research and Development Expenses

	Three months ended September 30,		2016 to 2017	Nine months ended September 30,		2016 to 2017
	2017	2016	%	2017	2016	%
	(In thousands of U.S. dollars, except percentages)					
Research and development – gross	$ 6,442	$ 5,936	9%	$ 19,423	$ 16,250	20%
Less: Investment tax credits	(456)	(252)	81%	(1,340)	(1,093)	23%
Research and development	5,986	5,684	5%	18,083	15,157	19%
As a percentage of revenue						
Gross	19%	20%		20%	19%	
Net	18%	19%		18%	18%	

Gross research and development expenses for the third quarter of 2017 increased $0.5 million or 9% to $6.4 million and for the nine months ended September 30, 2017 increased $3.2 million or 20% to $19.4 million, compared to the same periods in 2016. The increase in research and development expenses was due to an increase in headcount and related compensation costs. The investment in headcount supports ongoing programs to develop the RapidResponse product and solution offering and our knowledge solutions for new and existing customers. Investment tax credits earned on research and development activity in Canada increased 81% in the third quarter of 2017 to $0.5 million and 23% for the first nine months of 2017 to $1.3 million, compared to the same periods in 2016. The increase in tax credits recognized was due to an increase in research and development activity. As a percentage of revenues, gross research and development expenses were 19% for the third quarter and 20% for year to date of 2017 compared to 20% and 19% for the same periods in 2016. Net research and development expenses as a percentage of revenue for the third quarter and year to date of 2017 was 18%, compared to 19% for the third quarter of 2016 and 18% for the year to date of 2016. These relatively comparable percentages reflect the growth in product development expenses matching the growth in revenue for the three and nine months ended September 30, 2017.

General and Administrative Expenses

	Three months ended September 30,		2016 to 2017	Nine months ended September 30,		2016 to 2017
	2017	2016	%	2017	2016	%
	(In thousands of U.S. dollars, except percentages)					
General and administrative.............	$ 3,116	$ 2,617	19%	$ 10,381	$ 8,245	26%
As a percentage of revenue	9%	9%		10%	10%	

For the third quarter of 2017, general and administrative expenses increased $0.5 million or 19% to $3.1 million from $2.6 million for the same period in 2016. For the nine months ended September 30, 2017, general and administrative expenses increased $2.1 million or 26% to $10.4 million from $8.2 million for the same period in 2016. The increase in general and administrative expenses was due to an increase in share-based payments, as well as allowances for overdue accounts recorded in the first quarter of 2017 and comparatively higher information technology, legal, compliance, and consulting costs supporting our growth. As a percentage of revenue, general and administrative expenses remained consistent at 9% for the third quarter of 2017 and 2016 and 10% for the year to date of 2017 and 2016.

Other Income and Expense

The following table provides a breakdown of other income and expense by type:

	Three months ended September 30,		2016 to 2017	Nine months ended September 30,		2016 to 2017
	2017	2016	%	2017	2016	%
	(In thousands of U.S. dollars, except percentages)					
Other income (expense)						
Foreign exchange gain (loss)...	$ (30)	$ (53)	-43%	$ (53)	$ 25	–(1)
Net finance income.................	276	96	188%	753	229	229%
Total other income (expense)..........	246	43	472%	700	254	176%

Note:
(1) The percentage change has been excluded as it is not meaningful.

For the three months ended September 30, 2017, total other income was $0.2 million compared to a nominal amount for the same period in 2016. For the nine months ended September 30, 2017, total other income was $0.7 million compared to $0.3 million for the same period in 2016. The increase in other income is due to an increase in interest income earned on the increased cash position during the first nine months of 2017.

Income Taxes

	Three months ended September 30,		2016 to 2017	Nine months ended September 30,		2016 to 2017
	2017	2016	%	2017	2016	%
	(In thousands of U.S. dollars, except percentages)					
Income tax expense	$ 1,817	$ 1,687	8%	$ 4,791	$ 5,374	-11%

For the three and nine months ended September 30, 2017, income tax expense of $1.8 million and $4.8 million was recognized, compared to $1.7 million and $5.4 million for the same periods in 2016. As a percentage of profit before income taxes, income tax expense for the nine months ended September 30, 2017 was 24% compared to 37%

for the nine months ended September 30, 2016. The decrease in income tax expense for the three and nine months ended September 30, 2017 compared to the same periods of 2016 was due to one-time adjustments to filed positions and estimates included in tax provisions, as well as foreign exchange losses incurred upon converting results to Canadian dollars for Canadian tax purposes. The percentage of profit before income taxes is generally higher than statutory income tax rates in Canada due primarily to share-based payments expense incurred not considered deductible for income tax purposes in Canada.

Profit

	Three months ended September 30,		2016 to 2017	Nine months ended September 30,		2016 to 2017
	2017	2016	%	2017	2016	%
	(In thousands of U.S. dollars, except percentages and earnings per share)					
Profit	$ 6,032	$ 2,425	149%	$ 14,898	$ 9,034	65%
Adjusted profit(1)	8,331	4,485	86%	22,310	15,224	47%
Adjusted EBITDA(1)	10,813	6,812	59%	28,918	22,090	31%
Basic earnings per share	$ 0.24	$ 0.10		$ 0.59	$ 0.37	
Diluted earnings per share	$ 0.23	$ 0.09		$ 0.56	$ 0.35	
Adjusted diluted earnings per share(1)	$ 0.31	$ 0.17		$ 0.84	$ 0.59	

Note:

(1) Adjusted profit, Adjusted EBITDA and Adjusted diluted earnings per share are non-IFRS measures. See "*Non-IFRS Measures*". For a reconciliation of these measures to the closest IFRS measure, where a comparable IFRS measure exists, see "*Reconciliation of Non-IFRS Measures*" above.

Profit for the three months ended September 30, 2017 increased $3.6 million to $6.0 million or $0.24 per basic share and $0.23 per diluted share, from $2.4 million or $0.10 per basic share and $0.09 per diluted share for the same period in 2016. For the year to date, profit increased $5.9 million to $14.9 million or $0.59 per basic share and $0.56 per diluted share, from $9.0 million or $0.37 per basic share and $0.35 per diluted share for the same period in 2016. The increase in profit was driven primarily by the increase in subscription revenue, partially offset by our investment in professional service and data center capacity, research and development and an increase in share-based payments.

Adjusted EBITDA for the third quarter of 2017 was $10.8 million, an increase of $4.0 million from $6.8 million for the same period in 2016. Adjusted EBITDA for the nine months ended September 30, 2017 was $28.9 million, an increase of $6.8 million from $22.1 million for the same period in 2016. The increase in adjusted EBITDA was due to a higher growth of revenue compared to operating expenses excluding share-based compensation.

Key Balance Sheet Items

	As at September 30, 2017	As at December 31, 2016
	(In thousands of U.S. dollars)	
Total assets	$ 197,556	$ 168,292
Total liabilities	80,972	80,581

An analysis of the key balance sheet items driving the change in total assets and liabilities is as follows:

Trade and other receivables

	As at September 30, 2017	As at December 31, 2016
	(In thousands of U.S. dollars)	
Trade and other receivables	$ 28,854	$ 23,820

Trade and other receivables were $28.9 million at September 30, 2017, an increase of $5.0 million compared to $23.8 million at December 31, 2016. The increase in trade and other receivables was due to timing of billings and collections on receivables, which can have a significant impact on the balance at any point in time due to the timing of the annual subscription billing cycle for each customer and when new customer contracts are secured. The aging of trade receivables is generally current. We have an allowance for doubtful accounts of $0.5 million as at September 30, 2017. Trade and other receivables includes the $2.5 million, referenced under our discussion of *Subscription Revenue*.

Investment tax credits

	As at September 30, 2017	As at December 31, 2016
	(In thousands of U.S. dollars)	
Investment tax credits receivable	$ –	$ 1,583
Investment tax credits recoverable	1,287	755

Investment tax credits receivable have decreased to $nil as at September 30, 2017 compared to $1.6 million as at December 31, 2016 due to the receipt of the tax credits during the second quarter of 2017. Investment tax credits recoverable are the non-refundable portion of investment tax credits earned. The balance increased $0.5 million to $1.3 million at September 30, 2017 from $0.8 million at December 31, 2016 due to the estimated non-refundable credits earned during the first nine months of 2017, offset by utilization of investment tax credits against current income taxes payable.

Deferred revenue

	As at September 30, 2017	As at December 31, 2016
	(In thousands of U.S. dollars)	
Current	$ 58,500	$ 55,458
Non-current	10,120	13,198
	68,620	68,656

Deferred revenue at September 30, 2017 was $68.6 million, consistent with the balance at December 31, 2016. We generally bill our customers annually in advance for subscriptions resulting in initially recording the amount billed as deferred revenue which is subsequently drawn down to revenue over the term. Deferred revenue varies depending upon the timing of billings for existing and new customer contracts. Deferred revenue relating to subscription term periods beyond one year totaled $10.1 million at September 30, 2017 compared to $13.2 million at December 31, 2016.

Summary of Quarterly Results

The following table summarizes selected results for the eight most recent completed quarters to September 30, 2017.

	Three months ended							
	September 30, 2017	**June 30, 2017**	**March 31, 2017**	**December 31, 2016**	**September 30, 2016**	**June 30, 2016**	**March 31, 2016**	**December 31, 2015**
Revenue:								
Subscription	$ 25,796	$ 24,202	$ 23,854	$ 22,660	$ 20,753	$ 19,935	$ 18,490	$ 16,963
Professional services	7,431	8,395	8,441	7,355	8,918	8,538	8,304	6,977
Maintenance and support	259	269	247	249	250	261	238	251
	33,486	32,866	32,542	30,264	29,921	28,734	27,032	24,191
Cost of revenue	9,681	9,985	10,377	9,493	9,466	8,713	8,105	6,789
Gross profit	23,805	22,881	22,165	20,771	20,455	20,021	18,927	17,402
Operating expenses	16,202	16,496	17,164	17,031	16,386	15,142	13,721	11,984
	7,603	6,385	5,001	3,740	4,069	4,879	5,206	5,418
Foreign exchange (loss) gain	(30)	(12)	(11)	(223)	(53)	(188)	266	(18)
Net finance income	276	310	167	78	96	59	74	32
Profit before income taxes	7,849	6,683	5,157	3,595	4,112	4,750	5,546	5,432
Income tax expense	1,817	1,043	1,931	1,884	1,687	1,510	2,177	4,146
Profit	$ 6,032	$ 5,640	$ 3,226	$ 1,711	$ 2,425	$ 3,240	$ 3,369	$ 1,286
Share-based compensation	2,299	2,397	2,716	1,950	2,060	1,850	2,280	1,229
Adjusted profit(1)	$ 8,331	$ 8,037	$ 5,942	$ 3,661	$ 4,485	$ 5,090	$ 5,649	$ 2,515
Income tax expense	1,817	1,043	1,931	1,884	1,687	1,510	2,177	4,146
Depreciation	911	818	788	748	683	543	520	499
Foreign exchange (gain) loss	30	12	11	223	53	188	(266)	18
Net finance (income) expense	(276)	(310)	(167)	(78)	(96)	(59)	(74)	(32)
	2,482	1,563	2,563	2,777	2,327	2,182	2,357	4,631
Adjusted EBITDA(1)	$ 10,813	$ 9,600	$ 8,505	$ 6,438	$ 6,812	$ 7,272	$ 8,006	$ 7,146
Basic earnings per share	$0.24	$0.22	$0.13	$0.07	$0.10	$0.13	$0.14	$0.05
Diluted earnings per share	$0.23	$0.21	$0.12	$0.07	$0.09	$0.13	$0.13	$0.05
Adjusted diluted earnings per share(1)	$0.31	$0.30	$0.23	$0.14	$0.17	$0.20	$0.22	$0.10

Note:

(1) Adjusted profit, Adjusted EBITDA and Adjusted diluted earnings per share are non-IFRS measures. See “Non-IFRS Measures”. For a reconciliation of these measures to the closest IFRS measure, where a comparable IFRS measure exists, see “Reconciliation of Non-IFRS Measures” above.

Subscription revenue has increased steadily over the last eight quarters due to the acquisition of new customers and expansion of existing customers. Professional services revenue varies quarter to quarter due to the size, timing and scheduling of customer engagements. Maintenance and support revenue has remained consistent over the quarters reflecting support contracts with legacy customers with perpetual licenses that continue to be renewed. Cost of revenue has increased as we continue to invest in the capacity to support the growth in our business with gross margin ranging from 68% to 72% of revenue. Operating expenses have increased as we invest in sales, marketing, and product development. In addition to increased investment, our quarterly operating expenses are impacted by timing of sales commissions and marketing events. As a significant component of our operating expenses are denominated in Canadian dollars, fluctuations in the foreign exchange rate with the U.S. dollar have had a positive impact on operating expenses and quarterly profit in fiscals 2015 to 2017.

Liquidity and Capital Resources

Our primary source of cash flow is sales of subscriptions for our software and sales of services. Our approach to managing liquidity is to ensure, to the extent possible, that we always have sufficient liquidity to meet our liabilities as they come due. We do so by continuously monitoring cash flow and actual operating expenses compared to budget.

	As at September 30, 2017	As at December 31, 2016
	(In thousands of U.S. dollars)	
Cash and cash equivalents	$ 151,435	$ 127,910

Cash and cash equivalents increased $23.5 million to $151.4 million at September 30, 2017 from $127.9 million at December 31, 2016.

In addition to the cash balances, we have a Cdn. $20.0 million revolving demand facility available to meet ongoing working capital requirements. Our principal cash requirements are for working capital and capital expenditures. Excluding deferred revenue, working capital at September 30, 2017 was $173.6 million. Given the ongoing cash generated from operations and our existing cash and credit facilities, we believe there is sufficient liquidity to meet our current contractual obligations of $22.3 million and our longer-term growth.

The following table provides a summary of cash inflows and outflows by activity:

	Three months ended September 30,		Nine months ended September 30,	
	2017	2016	2017	2016
	(In thousands of U.S. dollars)			
Cash inflow (outflow) by activity				
Operating activities	$ 3,271	$ (1,510)	$ 21,049	$ 14,037
Investing activities	(2,660)	(2,712)	(4,304)	(5,125)
Financing activities	510	1,199	6,432	2,967
Effects of exchange rates	(111)	(152)	348	392
Net cash inflows	1,010	(3,175)	23,525	12,271

Cash provided by operating activities

Cash generated by operating activities for the three months ended September 30, 2017 was $3.3 million, up from cash used of $1.5 million for the same period in 2016. This was due to an increase in profit and in trade and other receivables, partially offset by an increase in deferred revenue. Cash generated by operating activities for the nine months ended September 30, 2017 was $21.0 million, up from $14.0 million for the same period in 2016. This was due to an increase in profit and in trade and other receivables, partially offset by an increase in deferred revenue, taxes paid, and investment tax credits recoverable.

Cash used in investing activities

Cash used in investing activities is driven by purchases of property and equipment primarily related to computer equipment for use in our hosting facilities and to support research and development requirements. For the three months ended September 30, 2017 and 2016, cash used for the purchase of property and equipment was $2.7 million. For the nine months ended September 30, 2017, cash used for the purchase of property and equipment was $4.3 million, a decrease of $0.8 million from $5.1 million in 2016. Purchases will fluctuate period over period due to timing but we expect to continue to invest in additional property and equipment to support the growth in our customer base and to take advantage of new and advanced technology.

Cash provided by financing activities

Cash provided by financing activities was $0.5 million and $6.4 million for the three and nine months ended September 30, 2017, respectively compared to $1.2 million and $3.0 million for the same periods in 2016. These amounts represent proceeds received upon exercise of options.

Revolving Credit Facility and Term Loan

We have a Cdn. $20.0 million revolving demand credit facility (the "**Revolving Facility**"). As of September 30, 2017, and as of the date of this MD&A, no amounts have been drawn against the Revolving Facility.

The interest rate on the Revolving Facility is RBC U.S. prime plus 0.50% per annum for U.S. dollar denominated amounts and RBC U.S. base rate plus 0.50% per annum for Canadian dollar denominated amounts. In the event our aggregate borrowings under the Revolving Facility exceed Cdn. $2.5 million a borrowing limit applies that is based principally on our accounts receivable.

Contractual Obligations

Our operating lease commitments are primarily for office premises and secure data center facilities with expiry dates that range from August 2017 to May 2023. The majority of the lease commitments relate to our head office in Ottawa, Canada, the lease of which expires in May 2023. Given the ongoing cash generated from operations and our existing cash and credit facilities, we believe there is sufficient liquidity to meet our contractual obligations.

The following table summarizes our contractual obligations as at September 30, 2017, including commitments relating to leasing contracts:

	Less than 1 year	1 to 3 years	4 to 5 years	More than 5 years	Total amount
			(In thousands of U.S. dollars)		
Commitments					
Operating lease agreements.................	$ 2,619	$ 5,932	$ 2,510	$ –	$ 11,061
Financial Obligations					
Trade payables and accrued liabilities..	11,239	–	–	–	11,239
Total Contractual Obligations	$ 13,858	$ 5,932	$ 2,510	$ –	$ 22,300

The following table summarizes our contractual obligations as at December 31, 2016, including commitments relating to leasing contracts:

	Less than 1 year	1 to 3 years	4 to 5 years	More than 5 years	Total amount
			(In thousands of U.S. dollars)		
Commitments					
Operating lease agreements...................	$ 1,902	$ 3,637	$ 2,424	$ 501	$ 8,464
Financial Obligations					
Trade payables and accrued liabilities....	10,495	–	–	–	10,495
Total Contractual Obligations	$ 12,397	$ 3,637	$ 2,424	$ 501	$ 18,959

Off-Balance Sheet Arrangements

We have no off-balance sheet arrangements, other than operating leases (which have been disclosed under "*Liquidity and Capital Resources - Contractual Obligations*"), that have, or are likely to have, a current or future material effect on our consolidated financial position, financial performance, liquidity, capital expenditures or capital resources.

Transactions with Related Parties

We did not have any transactions during the three and nine months ended September 30, 2017 and 2016 that would be considered to be between the Company and a related party.

Financial Instruments and Other Instruments

We recognize financial assets and liabilities when we become party to the contractual provisions of the instrument. On initial recognition, financial assets and liabilities are measured at fair value plus transaction costs directly attributable to the financial assets and liabilities, except for financial assets or liabilities at fair value through profit and loss, whereby the transactions costs are expensed as incurred.

Credit risk

Credit risk is the risk of an unexpected loss if a customer or counterparty to a financial instrument fails to meet its contractual obligations. Our credit risk is primarily attributable to trade and other receivables.

The nature of our subscription based business results in payments being received in advance of the majority of the services being delivered; as a result, our credit risk exposure is low. As the majority of our revenues are earned over a period of time, the potential impact on our operating results is low as any uncollectible amounts would affect trade and other receivables and deferred revenue.

Currency risk

A portion of our revenues and operating costs are realized in currencies other than our functional currency, such as the Canadian dollar, Euros, the Hong Kong dollar, South Korean Won and Japanese Yen. As a result, we are exposed to currency risk on these transactions. Also, additional earnings volatility arises from the translation of monetary assets and liabilities, investment tax credits recoverable and deferred tax assets and liabilities denominated in foreign currencies at the rate of exchange on each date of our consolidated statements of financial position; the impact of which is reported as a foreign exchange gain or loss or as income tax expense for deferred tax assets and liabilities.

Our objective in managing our currency risk is to minimize exposure to currencies other than our functional currency. We do not engage in hedging activities. We manage currency risk by matching foreign denominated assets with foreign denominated liabilities.

Interest rate risk

Interest rate risk is the risk that the fair value or future cash flows of a financial instrument will fluctuate due to changes in market interest rates. We believe that interest rate risk is low for our financial assets as the majority of investments are made in fixed rate instruments. We do have interest rate risk related to our credit facilities. The rates on our Revolving Facility are variable to bank prime rate.

Capital management

Our capital is composed of shareholders' equity which includes our common shares. Our objective in managing our capital is financial stability and sufficient liquidity to increase shareholder value through organic growth and investment in sales, marketing and product development. Our senior management team is responsible for managing the capital through regular review of financial information to ensure sufficient resources are available to meet operating requirements and investments to support our growth strategy. The Board of Directors is responsible for overseeing this process. In order to maintain or adjust our capital structure, we could issue new shares, repurchase shares, approve special dividends or issue debt.

Critical Accounting Policies and Estimates

Revenue

We derive revenue from subscriptions for our product comprised of our hosted SaaS application and fixed term subscription licenses of our software products ("**On-premise licenses**"). In addition, we derive revenue from the provision of professional services including implementation services, technical services and training and, to a lesser degree, from maintenance and support services provided to customers with legacy perpetual licenses to our software products. Professional services do not include significant customization to, or development of, the software.

We commence revenue recognition when all of the following conditions are met:

- it is probable that the economic benefits of the transaction will flow to the entity;
- the amount of revenue can be measured reliably; and
- the costs incurred for the transaction and the costs to complete the transaction can be measured reliably.

We provide our SaaS, On-premise licenses and professional services on a stand-alone basis or as part of a multiple element arrangement. Stand-alone sales occur through renewals of the SaaS or On-premise license and stand-alone purchases of the same or similar professional services on an ongoing basis by customers. When sold in a multiple element arrangement, the SaaS or On-premise license and the professional services elements are considered separate units of accounting as they have stand-alone value to the customer. The total consideration for the arrangement is allocated to the separate units of accounting based on their relative fair value and the revenue is recognized for each unit when the requirements for revenue recognition have been met. We determine the fair value of each unit of accounting based on the selling price when they are sold separately. When the fair value cannot be determined based on when it was sold, we determine a value that most reasonably reflects the selling price that might be achieved in a stand-alone transaction. Inputs considered in making this determination include the specific parameters and model used in determining the contract price, contracted renewal rates, the history of pricing, renewals and stand-alone sales activity of similar customers.

Subscription revenue related to the provision of SaaS or On-premise term licenses is recognized ratably over the contract term as the service or access to the software is delivered. The contract term begins when the service is made available or the license is delivered to the customer.

We enter into arrangements for professional services primarily on a time and materials basis. Revenue for professional services entered into on a time and material basis is recognized as the services are performed. In certain circumstances, we enter into arrangements for professional services on a fixed price basis. Revenue for fixed price arrangements is recognized by reference to the stage of completion of the contract, taking into consideration the cost incurred to date in relation to the total expected cost to complete the deliverable. If the estimated cost to complete a contract results in a loss on the contract, the loss is recognized immediately in profit or loss.

Maintenance and support services provided to customers with legacy perpetual licenses are sold as a single element arrangement with one unit of accounting. Revenue for these arrangements is recognized ratably over the term of the maintenance contract.

Judgment is applied in determining the components of a multiple element revenue arrangement. In allocating the consideration received among the multiple elements of a revenue arrangement, we must make estimates as to the fair value of each individual element. The selling price of the element on a stand-alone basis is used to determine the fair value. Where stand-alone sales do not exist, various inputs are used to determine the fair value. Changes to these inputs may result in different estimates of fair value for an element and impact the allocation of consideration and timing of revenue recognition.

Income taxes

Current income tax assets and liabilities for the current and prior periods are measured at the amount expected to be recovered from, or paid to, the taxation authorities. The tax rates and tax laws used to compute the amount are those that are enacted or substantively enacted, by the reporting date, in the countries where we operate and generate taxable income.

Deferred income tax assets and liabilities are recorded for the temporary differences between transactions that have been included in the financial statements or income tax returns. Deferred income taxes are provided for using the liability method. Under the liability method, deferred income taxes are recognized for all significant temporary differences between the tax and financial statement bases of assets and liabilities and for certain carry-forward items. Deferred income tax assets are recognized only to the extent that, in the opinion of management, it is probable that the deferred income tax assets will be realized.

The recognition of deferred tax assets requires that we assess future taxable income available to utilize deferred tax assets related to deductible or taxable temporary differences. We consider the nature and carry-forward period of deferred tax assets, our recent earnings history and forecast of future earnings in performing this assessment. The actual deferred tax assets realized may differ from the amount recorded due to factors having a negative impact on our operating results and lower future taxable income.

Investment tax credits recoverable

The recognition of investment tax credits recoverable requires that we assess future tax payable available to utilize the investment tax credits. We consider the carry-forward period of the investment tax credits, our recent earnings history and forecast of future earnings in performing this assessment. We determine the value of effort expended towards research and development projects that qualify for investment tax credits and calculate the estimated recoverable to be recognized. The allocation of direct salaries to qualifying projects is derived from time records and assessment by management. The actual investment tax credits claimed and realized may differ from the estimate based on the final tax returns and review by tax authorities.

Fair value of share-based payments

We use the Black-Scholes valuation model to determine the fair value of equity settled stock options. Estimates are required for inputs to this model including the fair value of the underlying shares, the expected life of the option, volatility, expected dividend yield and the risk-free interest rate. Variation in actual results for any of these inputs will result in a different value of the stock option realized from the original estimate.

Adoption of New Accounting Standards

Amendments to IAS 7: Statement of Cash Flows (“IAS 7”)

In January 2016, the IASB issued amendments to IAS 7. These amendments require entities to provide disclosures that help users of the financial statements to better understand changes in liabilities that arise from financing activities, including both changes arising from cash flow and non-cash changes. These amendments became effective for annual periods beginning on or after January 1, 2017. The adoption of these amendments did not have a material impact on the consolidated financial statements.

Amendments to IAS 12: Income Taxes (“IAS 12”)

In January 2016, the IASB issued amendments to IAS 12. The amendments clarify the accounting for deferred tax assets for unrealized losses on debt instruments measured at fair value. These amendments became effective for annual periods beginning on or after January 1, 2017. The adoption of these amendments did not have a material impact on the consolidated financial statements.

Changes to standards and interpretations

IFRS 9: Financial Instruments (“IFRS 9”)

In July 2014, the IASB issued the final version of IFRS 9, bringing together the classification and measurement, impairment and hedge accounting phases of the project to replace IAS 39, Financial Instruments: Recognition and Measurement. This standard simplifies the classification of a financial asset as either at amortized cost or at fair value as opposed to the multiple classifications which were permitted under IAS 39. This standard also requires the use of a single impairment method as opposed to the multiple methods in IAS 39. The approach in IFRS 9 is based on how an entity manages its financial instruments in the context of its business model and the contractual cash flow characteristics of the financial assets. The standard also adds guidance on the classification and measurement of financial liabilities. IFRS 9 is to be applied retrospectively for annual periods beginning on or after January 1, 2018. Early application is permitted. We do not intend to adopt this standard early and are currently evaluating the impact of adopting this standard and accordingly cannot yet reasonably estimate its effect on the consolidated financial statements.

IFRS 15: Revenue from Contracts with Customers ("IFRS 15")

In May 2014, the IASB issued IFRS 15, with amendments in 2016, which provides a single, principles-based five-step model for revenue recognition to be applied to all customer contracts, and requires enhanced disclosures. The standard also provides guidance relating to recognition of customer contract acquisition and fulfillment costs. In April 2016, the IASB issued Clarifications to IFRS 15 in relation to the identification of performance obligations, principal versus agent considerations, as well as licensing application guidance. This standard will be effective January 1, 2018 and allows early adoption. We do not intend to adopt this standard early. IFRS 15 may be applied retrospectively to each prior period presented (full retrospective method) or with the cumulative effect of adoption recognized as at the date of initial application (modified retrospective method).

We continue our implementation plan for IFRS 15. The project plan includes developing the necessary accounting policies, estimates and judgments required to adopt IFRS 15, as well as any changes required to business processes, systems and internal controls to implement the policies and disclosures required upon adoption of IFRS 15. While we are continuing to assess all potential impacts of the new revenue recognition standard, we currently believe that the most significant impacts will relate to accounting for our on-premise, fixed term subscription arrangements, capitalization of contract acquisition costs and expanded disclosure on revenue, performance obligations and contract balances. In some instances, a fixed term license is provided to the customer for their use on-premise. Under current revenue recognition policies, license revenue from on-premise, fixed term subscription arrangements is deferred and recognized ratably over the contract term. Under IFRS 15, revenue attributable to the implied software component for on-premise license arrangements will be recognized upon term commencement and revenue associated with the implied maintenance and support component will be recognized ratably over the term. Under our current accounting policies, contract acquisition costs, including incremental commissions paid to employees, are expensed upon commencement of the related contract revenue. Under IFRS 15, we expect to capitalize and amortize such contract acquisition costs where revenue is recognized ratably over the term. We plan on adopting the standard using the modified retrospective method. The actual determination of revenue recognition under both existing and new guidance is dependent on contract-specific terms. We continue to evaluate the impact of adopting this standard including analysis of individual contracts and accordingly cannot yet reasonably quantify its effect on the consolidated financial statements.

IFRS 16: Leases ("IFRS 16")

In January 2016, the IASB issued IFRS 16, which specifies how to recognize, measure, present and disclose leases. The standard provides a single lessee accounting model, requiring lessees to recognize assets and liabilities for all leases unless the lease term is 12 months or less or the underlying asset has a low value. Consistent with its predecessor, IAS 17, the new lease standard continues to require lessors to classify leases as operating or finance. IFRS 16 is to be applied retrospectively for annual periods beginning on or after January 1, 2019. Earlier application is permitted if IFRS 15 has also been applied. IFRS 16 may be applied retrospectively to each prior period presented (full retrospective method) or with the cumulative effect of adoption recognized as at the date of initial application (modified retrospective method). We intend to adopt this standard effective January 1, 2018 using the modified retrospective method.

We are currently evaluating the impact of adopting this standard; however, we expect the adoption of this standard to increase assets and liabilities as we will be required to record a right-of-use asset and a corresponding lease liability in our financial statements.

Controls and Procedures

Disclosure Controls and Procedures

The Company's Chief Executive Officer ("**CEO**") and Chief Financial Officer ("**CFO**") are responsible for establishing and maintaining our disclosure controls and procedures. We maintain a set of disclosure controls and procedures designed to provide reasonable assurance that information required to be publicly disclosed is recorded, processed, summarized and reported on a timely basis. Our CEO and CFO have evaluated the design of our disclosure controls and procedures at the end of the quarter and based on the evaluation, have concluded that the disclosure controls and procedures are effectively designed.

Internal Controls over Financial Reporting

Our internal controls over financial reporting ("**ICFR**") are designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with IFRS. Our management is responsible for establishing and maintaining adequate ICFR. Management, including our CEO and CFO, does not expect that our ICFR will prevent or detect all errors and all fraud or will be effective under all future conditions. A control system is subject to inherent limitations and even those systems determined to be effective can provide only reasonable, but not absolute, assurance that the control objectives will be met with respect to financial statement preparation and presentation.

National Instrument 52-109 of the Canadian Securities Administrators requires our CEO and CFO to certify that they are responsible for establishing and maintaining ICFR and that those internal controls have been designed and are effective in providing reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements in accordance with IFRS. Our CEO and CFO are also responsible for disclosing any changes to our internal controls during the most recent period that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting. Our management under the supervision of our CEO and CFO has evaluated the design of our ICFR based on the Internal Control – Integrated Framework issued in 2013 by the Committee of Sponsoring Organizations of the Treadway Commission. As at September 30, 2017, management assessed the design of our ICFR. Management concluded that our ICFR is appropriately designed, and no material weaknesses were identified by management. There were no significant changes to our ICFR for the three and nine months ended September 30, 2017.

Outstanding Share Information

As of September 30, 2017, our authorized capital consists of an unlimited number of common shares with no stated par value. Changes in the number of common shares, options, restricted share units and deferred share units outstanding for the nine months ended September 30, 2017 and as of November 1, 2017 are summarized as follows:

Class of Security	Number outstanding at December 31, 2016	Net issued	Number outstanding at September 30, 2017	Net issued	Number outstanding at November 1, 2017
Common shares	24,940,114	501,824	25,441,938	1,050	25,442,988
Stock options	2,459,872	(453,087)	2,006,785	(1,050)	2,005,735
Restricted Share Units	70,728	29,303	100,031	–	100,031
Deferred Share Units	21,668	16,194	37,862	–	37,862

Our outstanding common shares increased by 501,824 shares in the first nine months of 2017 due to the exercise of 501,824 options.

Our outstanding stock options decreased by 453,087 options during the first nine months of 2017 due to the grant of 253,300 options less 501,824 options exercised and 204,563 options forfeited. Each option is exercisable for one common share.

Our outstanding restricted share units increased by 29,303 during the first nine months of 2017 due to the grant of 45,500 restricted share units less 16,197 restricted share units forfeited. Our outstanding deferred share units increased by 16,194 during the first nine months of 2017 due to the grant of 16,194 deferred share units. Upon vesting, each restricted share unit and deferred share unit can be paid out or settled in cash, an equivalent number of common shares, or a combination thereof, as elected by the Compensation Committee of the Board of Directors.