

SANGOMA TECHNOLOGIES CORPORATION
MANAGEMENT DISCUSSION AND ANALYSIS OF FINANCIAL
CONDITION AND RESULTS OF OPERATIONS
FIRST QUARTER FISCAL 2019 ENDED SEPTEMBER 30, 2018

November 22, 2018

INTRODUCTION

The Management Discussion and Analysis (“MD&A”) provides a detailed analysis of the financial condition and results of operations of Sangoma Technologies Corporation (hereinafter referred to as “Sangoma” or the “Company”). The MD&A compares the financial results for the fiscal first quarter of 2019 with those of the same quarter in the previous year. This MD&A should be read in conjunction with Sangoma’s audited annual consolidated financial statements and related notes for the year ended June 30, 2018 (“Financial Statements”) which are available at www.sedar.com. All amounts are in Canadian Dollars unless otherwise noted.

BASIS OF PRESENTATION

The Company reports in accordance with International Financial Reporting Standards (“IFRS”).

NON-IFRS MEASURES

This MD&A contains references to certain non-IFRS financial measures such as Operating Income, EBITDA and Adjusted Cash Flow. Non-IFRS financial measures are used by management to evaluate the performance of the Company and do not have any meaning prescribed by IFRS and therefore may not be comparable to similar measures presented by other reporting issuers. Non-IFRS financial measures used herein have been applied on a consistent basis. “Operating Income (Loss)” means gross profit less expenses before financing costs and one-time charges. “EBITDA” means earnings before interest, income taxes, depreciation, amortization and one-time charges. EBITDA is a measure used by many investors to compare issuers on the basis of their ability to generate cash from operations. “Adjusted Cash Flow” means cash flow from operations as defined by IFRS less the capitalized development costs that Sangoma amortized during the period and any one-time impacts at the time of an acquisition. We believe that Operating Income, EBITDA and Adjusted Cash Flow are useful supplemental information as they provide an indication of the results generated by the Company’s main business activities before taking into consideration how they are financed, taxed, depreciated or amortized. Investors are cautioned that non-IFRS measures, such as those presented herein, should not be construed as an alternative to net income or cash flow determined in accordance with IFRS.

FORWARD-LOOKING STATEMENTS

This report contains forward-looking statements, including statements regarding the future success of our business, development strategies and future opportunities.

Forward-looking statements include, but are not limited to, statements concerning estimates of expected expenditures, expected future product development, expected future production, anticipated cash flows, and other statements which are not historical facts. When used in this document, the words such as “could”, “plan”, “estimate”, “expect”, “intend”, “may”, “potential”, “should” and similar expressions indicate forward-looking statements.

Although Sangoma believes that its expectations reflected in these forward-looking statements are reasonable, such statements involve risks and uncertainties and no assurance can be given that actual results will be consistent with these forward-looking statements. Forward-looking statements are based on the opinions and estimates of management at the date that the statements are made, and are subject to a variety of risks and uncertainties and other factors that could cause actual events or results to differ materially from those projected in forward-looking statements. Except as required by law, Sangoma undertakes no obligation to update forward-looking statements if circumstances or management’s estimates or opinions should change.

Readers are cautioned not to place undue reliance on forward-looking statements, as there can be no assurance that the plans, intentions or expectations upon which they are based will occur. By their nature, forward-looking statements involve numerous assumptions, known and unknown risks and uncertainties, both general and specific, that contribute to the possibility that the predictions, forecasts, projections and other events contemplated by the forward-looking statements will not occur. Although Sangoma believes that the expectations represented by such forward-looking statements are reasonable, there can be no assurance that such expectations will prove to be correct as these expectations are inherently subject to business, economic and competitive uncertainties. Some of the risks and other factors which could cause results to differ materially from those expressed in the forward-looking statements contained in the management's discussion and analysis include, but are not limited to changes in exchange rate between the Canadian dollar and other currencies, changes in technology, changes in the business climate, changes in the regulatory environment, the imposition of tariffs, the decline in the importance of the PSTN (see glossary below), impairment of goodwill and new competitive pressures. The forward-looking statements contained in the management's discussion and analysis are expressly qualified by this cautionary statement.

DESCRIPTION OF THE BUSINESS

General (please also refer to the Glossary of Terms at the end of this document)

Sangoma's portfolio of products deliver complete, Unified Communications (UC) Solutions. As the communications landscape continues to grow in complexity, with more devices, networks, clouds, and systems needing to interoperate, Sangoma's portfolio of products enables service providers, carriers, enterprises, small and medium-sized businesses (SMBs), and original equipment manufacturers (OEMs) alike to leverage their existing infrastructure for maximum financial return, while still delivering the most advanced applications and services from the latest technologies available.

Sangoma's product portfolio includes a complete line of UC and PBX platforms, IP-Phones and UC Communicators, Cloud-based Services and Network Interconnection Products. Further, Sangoma has the world's two most widely used open source communications software projects: Asterisk and FreePBX.

Sangoma's latest innovations and expanded product portfolio include technology and appliances such as IP-PBXs based on FreePBX/PBXact/Switchvox, a range of IP-Phones and integration tools to enable automated configuration and management, a Unified Communication Server and Client with Zulu UC, Session Border controllers (SBCs) to provide VoIP Security, Network bridging and fail-safe VoIP gateways, UCaaS cloud-based service, SIP trunking service with SIPStation, fax-over-IP service with FaxStation and signalling gateways for enterprise, SMB, carrier, and OEM applications. Sangoma continues to invest and lead the market in VoIP-to-PSTN interface boards.

Unified Communications and PBX platforms

A Private Branch Exchange (PBX) is an enterprise communication system. An IP-PBX is a VoIP-based PBX that uses Internet Protocol. Sangoma offers feature rich FreePBX (the most widely used software PBX in the world), PBXact, and SwitchVox. FreePBX is available free of charge as an open source software download, or in three commercial variants. The first is the FreePBX phone system pre-installed on a telecom appliance, which can be enhanced a la carte with the purchase of individual add-on commercial modules (such as call center builder, high-availability, phone configuration management, enhanced reporting, etc.). The second is Sangoma's PBXact UC systems, which comes pre-packaged with add-on functionality, tighter release and revision control, and service contracts. The third one is PBXact SaaS, which offers flexible virtualization and licensing for OEMs and Service providers to run their own hosted UC/PBX services. Switchvox is the on-premise UC product from Digium and it is the basis for DCS (Digium Cloud Services) as well. Usage of FreePBX, PBXact and Switchvox by customers also pulls through complementary products such as IP-phones, PSTN interface cards, VoIP gateways, or SBCs.

IP-Phones and UC Communicators

Sangoma's range of S-series IP-Phones are customized to seamlessly integrate with all FreePBX and PBXact systems to provide zero touch installation, simplified system management and instant access to a wide range of features. The range of D-series phones from Digium seamlessly integrate with Switchvox and DCS.

Sangoma has also recently launched Zulu UC, a set of server, desktop and smartphone software integrated with FreePBX and PBXact that delivers unified communications features (presence,

contacts, chat, calling, screen sharing, audio and video conferencing, etc.) from a single application)

Cloud-Based Services

PBXact Cloud

PBXact Cloud service is a cloud based PBX service specifically designed to meet the needs of SMBs and small enterprise. PBXact Cloud uses Sangoma IP phones and delivers simple online signup, unlimited US/Canada calling, number portability and VoIP security.

DCS

Digium Cloud Service (DCS) is a robust UCaaS (Unified Communications as a Service) offering. DCS is available in the continental 48 states and integrates elegantly with the D-series phones.

SIPStation

SIPStation is a hosted, SIP trunking service. SIP trunking is fast becoming the technology of choice to interconnect an IP-PBX system to a telephone company (in this case an IP telephony service provider or ITSP). The main drivers are cost efficiencies (over fixed lines such as ISDN or analog lines from incumbent telcos) and end to end UC features/transparency. Cost efficiencies are realized because SIP Trunking uses already-available broadband connections at customer premises. SIPStation is tightly integrated into the Sangoma FreePBX graphical user interface (GUI); and customers can purchase and enable the service directly from that GUI.

Fax over IP (FoIP)

Faxing remains an important communications tool. Yet VoIP networks are sometimes unable to send faxes reliably because fax standards are based on very specific timing that can be interrupted in VoIP systems, especially where there is substantial latency. Sangoma's FoIP (Fax over Internet Protocol) service is a hosted service to remedy this problem. It features a telecom appliance with up to four analog connections for fax machines and operates in concert with Sangoma's fax server data center to encrypt and package the fax communication to make it fail safe. This is particularly useful for small businesses that rely on fax communications but also for industries with challenging network conditions such as mining, oil rigs, ship-to-shore over satellite.

Network Interconnection Products

Session Border Controllers (SBCs)

Anytime two VoIP networks interconnect, issues of security and interoperability arise. SBCs can manage these issues, including provider-to-provider connections, provider-to-enterprise connections, and enterprise-to-enterprise connections. Sangoma's SBCs are available as hardware appliances, as software-only solutions running on a virtual machine in hosted environments, or as a hybrid of both. The hybrid solution is unique to Sangoma and provides all the flexibility expected from virtual machine capability coupled with the scalability that is found in hardware-based solutions.

Sangoma's SBCs have interoperability certifications for Microsoft Skype for Business and Broadsoft (now part of Cisco), as well as hundreds of installations in other networks along with

such vendors as Telefonica, BT, ATT, Verizon, Genesys Call Centers, Cisco Call Manager, Avaya Call Manager, etc.

Customer Premise VOIP Gateways

VoIP gateways are needed any time voice traffic moves from a VoIP network to a traditional PSTN telephone network. As the traffic traverses these networks there are issues that need to be resolved regarding both the media (the sound of the caller's voice) and the signaling (the method used to control the media traveling over that connection).

Vega and Digium Enterprise Gateways are used by businesses that want to connect their traditional phone systems (PBX or key system) to a VoIP provider. These types of connections are referred to as SIP trunks, and Sangoma's gateways enable users to take advantage of the cost savings and flexibility of SIP trunks, without having to upgrade their entire phone system.

These same gateways can also be used to connect a newer IP-PBX to the PSTN. In addition to providing a backup to the service provided by their VoIP Provider, companies can use VoIP gateways for multi-site transitions from older phone systems to new IP-PBX phone systems.

VoIP Gateways are also needed to connect traditional telephones to an IP-PBX. For large companies, the cost of new IP phones can be higher than replacing the core system, so they keep the older phones and connect them to the new IP-PBX. This allows them to phase in the new phones over time without disrupting normal business operations. There may also be specialized telephones (elevator phones, door entry phones, ruggedized phones for use in hard industrial or outdoor conditions) for which there are no IP replacements. These phones can also be connected to the IP-PBX with a gateway.

Sangoma offers its Vega series, the Digium line of gateways, and the Dialogic DMG series of Enterprise gateways. The DMG series provides very specific features for the enterprise: Value Added Services Integration to a PBX such as speech recognition enabled IVRs and high-speed v.34 media processing for integration with IP Fax Server technologies.

Sangoma's Vega Gateways hold certifications for Microsoft Skype for Business, Cisco Call Manager and Broadsoft, as well as hundreds of installations in other networks alongside Genesys Call Centers, Avaya DevConnect, ATT, Verizon, Telefonica, BT, Orange, DT, etc.

Carrier and Core VoIP Gateways

In a service provider or carrier network, much larger gateways perform these same tasks. In addition, there are signaling protocols that are only used when carrier networks communicate with other carrier networks that are not included in the enterprise product line. The NetBorder SS7 VoIP Gateway is a carrier-specific product that enables a VoIP carrier to connect their network to the SS7 network for up to 960 channels.

The NetBorder SS7 gateways hold certifications and proven interoperability with Orange, BT, MTN, TATA, Telefonica, Telmex, MTT, etc.

In addition to the NetBorder product family, Sangoma markets the Dialogic IMG2020 Gateways. The Dialogic IMG2020 gateways perform similar functions as the NetBorder family with higher port densities – from 1 unit with support for 2016 channels and the ability to pool 6 units for over

12,000 ports. The IMG2020 also comes with a management system to configure, monitor, update systems from a central location.

PSTN Interface Boards

This product category is the one responsible for Sangoma's initial rise in market leadership. Sangoma continues to invest in this area and has maintained a leadership position with the sixteen-span board, the highest density TDM interface board on the market. This board can manage up to 480 calls using a single expansion slot in a server. Sangoma also has a complete line of boards that can interface a VoIP system with nearly every kind of telephony network on earth, including ISDN PRI and BRI, and analog FXO / FXS.

The above boards are primarily used in PC-Based VoIP telecommunications systems that connect to the PSTN and perform a very similar task to VoIP gateways, but are installed inside the server rather than being stand-alone devices. By providing customers with the option of using a PSTN interface board or a VoIP gateway, Sangoma maximizes flexibility based on installation requirements – particularly when space and power are at a premium. They may also be used in harsh conditions that require ruggedized servers.

In addition to the A and B series from Sangoma, the company also offers the Dialogic line of Media and Network Interface boards (consisting of the JCT, DNI, CG and Diva Series) and the Digium line of cards as well. The Dialogic line differs from the traditional boards in that they come with high end DSP media processing on board and with extensive programmable interfaces (APIs) for developers and integrators to design advanced telecom applications: IoT and modem banks, speech recognition systems, IVRs, call centers, etc.

Tapping Boards

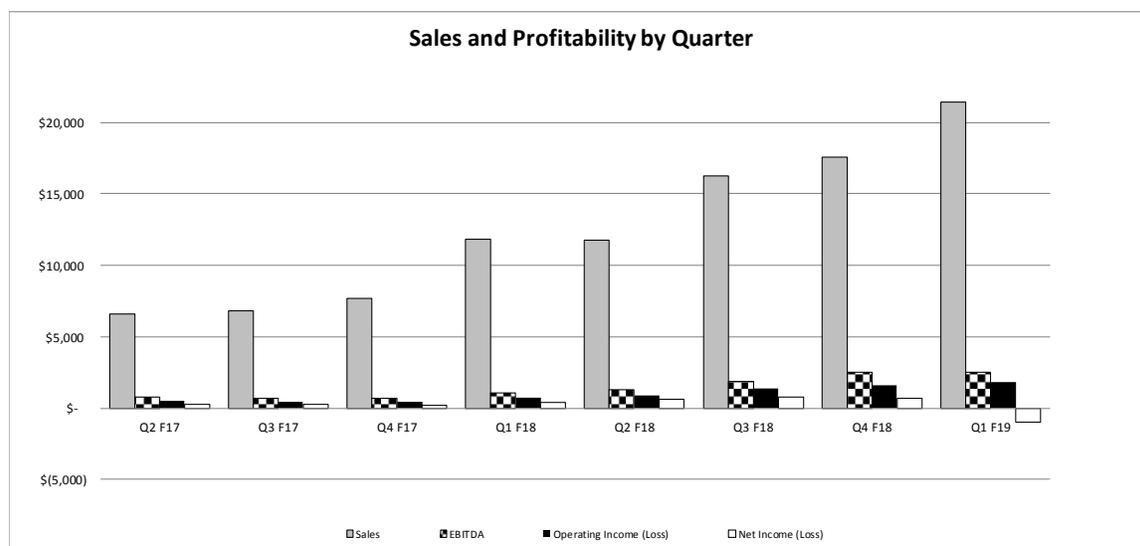
Recording calls has long been a requirement for call-center training purposes, for validating over-the-phone transactions such as stock orders placed with a broker, and a variety of other scenarios. The Sangoma T116 is a specialized, high-density board that can be used as part of large call recording platforms.

Transcoding Boards

One of the things that makes VoIP telephony different from traditional telephony is the way in which sound (media) is encoded for transmission. In the traditional telephony network, there is a universally agreed upon standard that has been in place for nearly 100 years. This means that the media can easily be moved across any number of networks or devices. However, there are a variety of methods that can be used to encode media for transmission over a VoIP Network. Transcoding boards and gateways are specially designed to translate media encoded by one method into another. This allows calls to pass between networks, even if they use different methods of encoding the media. Sangoma offers both board and appliance-based products to offer network providers the maximum flexibility when deploying a solution.

OVERALL PERFORMANCE

Financial



¹ Operating Income (Loss) and EBITDA are metrics used by the Company to monitor its performance and the definitions may be found in the section non-IFRS measures above.

For the first quarter of fiscal 2019, sales were a record \$21.44 million, 81% higher than the same quarter last year and 22% more than the immediately preceding quarter. This quarter's results include one month of the most recently completed acquisition of Digium, which closed in September.

Gross profit was \$12.44 million in the first quarter of fiscal 2019 at a gross margin on 58%, a figure that is expected to increase slightly in future quarters, as Digium results will be included for the entire quarter.

Operating expenses were \$10.63 million in the first quarter of fiscal 2019, essentially double those of the prior year as a result of the two acquisitions completed since then.

For the first quarter of fiscal 2019 ended September 30, 2018 both EBITDA at \$2.52 million and operating income at \$1.81 million were more than double the same period of fiscal 2018.

Net loss for the first quarter ended September 30, 2018 was \$1.00 million compared to net income of \$0.39 million in fiscal 2018, reflecting the estimated \$2.10 million of transaction costs incurred to complete the acquisition of Digium during the quarter.

Sangoma finished the quarter with a cash balance of \$5.00 million and total debt of \$24.91 million following the completion of the Digium transaction. During the quarter adjusted cash flow from operations, to exclude the impact of the Digium acquisition, was \$1.70 million.

Operational

Sangoma is a leading provider of software/hardware products and accompanying Cloud services that deliver Unified Communications capability or enhance IP communications systems, in both telecom and datacom applications. Enterprises, SMBs and carriers in more than 100 countries rely on Sangoma's technology as part of their mission-critical infrastructures. Through a worldwide network of distribution partners, Sangoma delivers high-quality products, some of which carry the industry's first lifetime warranty.

The Company has been a major player in the open source telephony ("OST") business for many years, is a respected contributor to open source telephony solutions, and contributes back to the OST community regularly. Sangoma provides the two most widely used open source communications software projects in the world. Asterisk is the communications engine that enables software developers to create UC applications easily. FreePBX is the most popular PBX software in the world, supporting millions of installs around the globe.

To protect its future, Sangoma recognized the critical need to evolve the Company beyond its reliance on PSTN-based products. This started with an operational rebuild, the acquisition of VegaStream, an internal build out of the product portfolio to compete in new market and customer segments such as SBCs, the addition of a core PBX product and introduction of cloud services with SIPStation, FoIP and cloud PBX offerings together with a range of IP phones.

Sangoma is now a stronger competitor in the larger, more typical telecom software/services/equipment market, which is not generally OST based. With its PSTN interface boards, Vega gateway products, SBCs, Free PBX, IP phones, Switchvox, and various Services (primarily Cloud-based and maintenance), Sangoma now sells to carriers, service providers, enterprises, SMBs, and OEM customers with several third-party application providers using Sangoma products.

In the first quarter of fiscal 2019, Sangoma Technologies US Inc. a wholly owned subsidiary of Sangoma Technologies Inc., acquired Digium Inc., a US based company to expand and broaden the suite of service offerings, add key customers and employees, and help to grow the business.

Innovation

Sangoma continues to invest in Research and Development (“R&D”) to develop new products and to improve existing offerings. New additions to the product portfolio over the last few years include:

- T3 Mux Appliance
- Version 4 of NetBorder SS7 Media Gateway
- Vega 50, 400 and 5000 series Gateways
- NetBorder Express Microsoft Lync Certification
- NetBorder SS7 VoIP Gateway Appliance
- W400 GSM Board
- Vega 100 and 200 Gateways
- NetBorder Transcoding Gateway
- NetBorder Lync Express Appliance
- Vega 400 Session Border Controller
- A116 16-Span Digital Telephony Interface Board
- B500 BRI Board
- STM1 Mux Appliance
- Call Progress Analysis for Asterisk Systems
- NetBorder SS7 Gateway Release 5.0
- Full line of Session Border Controllers
- T116 16-Span Tapping Board
- NetBorder VOIP Gateway
- Lync Express 2.0
- SBC 2.0
- Video Multipoint Control Unit (MCU)
- FreePBX
- SIP trunks for FreePBX users through SIPStation
- FoIP service
- Sangoma’s commercial IP-PBX range called PBXact
- IP-phones with instant connect to FreePBX and PBXact
- PBXact UCC Cloud PBX Service
- Zulu softphone client
- Digium lines of cards and gateways
- Switchvox
- D-series phones
- DCS

Sales and Marketing

Over the last few years the Company has steadily increased its investment in, and focus on, sales. Sangoma has professional sales teams across all key geographic regions to identify and engage local distributors and resellers to address opportunities with larger customers such as carriers and OEMs. Sangoma continues to use a dual sales path to customers: direct sales to large customers (typically OEMs and carriers) and distribution to others.

Carriers are typically telcos, ISPs, ITSPs, wireless/mobile operators, and service providers who resell services using either their own networks or those of others. All of these organizations are potential customers for Sangoma.

OEM partners are companies that “design in” Sangoma products as a component of their solutions. OEM customers tend to be committed participants in their given markets, and have longer-term focus. It is important to reach these potential customers in the early days of any project to secure design wins and to have sales and marketing programs that will ensure close collaboration during product and sales development cycles that may last as long as three years.

In other cases, Sangoma utilizes an indirect distribution model to reach the full breadth of customers in markets where such partners have established relationships. For enterprise and SMBs, the Company has built a network of distributors and resellers. Distributors typically sell to resellers. These resellers then sell, install, and support end users. Using regional distributors and resellers supported by Sangoma’s sales and marketing efforts has proven very successful. The impact of lower margins from a two-tier distribution model is offset by the net new growth of sales that distributors bring to Sangoma, as well as the cost reduction of handling relatively small orders. Distribution channels require frequent attention to keep Sangoma as the premier supplier in a crowded product marketplace. Sangoma has implemented several incentive programs with its resellers and distributors and has developed a comprehensive set of channel promotion programs to incent and reward its channel partners for performance and behaviours that Sangoma believes will grow its revenues.

Sangoma continues to increase its focus on, and investment in, marketing. The Company has assembled corporate marketing programs to promote its brand and products more aggressively and to convey the message about Sangoma’s full solutions of connectivity products, PBX’s, Phones, and SIP trunks. Sangoma is now using various marketing techniques typical of technology firms to generate greater awareness of the Company and its new products. This includes participation in tradeshow, speaking at selected industry events, attending specialized seminars run by Sangoma’s distribution channel and other partners, investing in electronic marketing strategies (e.g. web presence, social media and blogging, online advertising, search engine campaigns, etc.), conducting lead generation campaigns, and creating thought leadership pieces.

VoIP Supply LLC adds new unique marketing and sales strength to Sangoma, including an efficient ecommerce transaction business, backed by a professional inside sales organization, and tailored marketing programs to attract and drive traffic to the website.

RESULTS OF OPERATIONS

SUMMARY OF RESULTS FOR THE FIRST QUARTER OF FISCAL 2019

Sales

Sales for the quarter ended September 30, 2018 were \$21.44 million, up 81% from the \$11.85 million in the first quarter of fiscal 2018 ended September 30, 2017. The increase in sales was driven by organic growth in both products and services and by the acquisitions of the CCD business from Dialogic in January of 2018 and Digium Inc in September 2018. This quarters results therefore include one month of Digium results.

Cost of Sales and Gross Margin

The cost of sales for the quarter ended September 30, 2018 was \$9.00 million compared to \$5.73 million for the quarter ended September 30, 2017. Gross profit for the first fiscal quarter of 2019 was \$12.44 million, double the \$6.12 million realized in the first quarter of fiscal 2018. Gross margin for the first quarter was 58% of revenue, up from both last quarter and the same quarter a year ago. This increase is mostly due to the impact of the two acquisitions and gross margin is expected to increase slightly in future quarters when the Digium results will be included for the entire quarter.

Operational expense

Under IFRS costs are allocated to the respective departments except for the impact of foreign exchange which can result in material swings between time periods.

Selling and Marketing

Selling and marketing expenses were \$2.99 million for the quarter compared to \$1.80 million for the same quarter last year. The 66% increase is the additional costs from the newly acquired companies.

Research and Development

Certain development costs are capitalized each period and amortized on a straight-line basis over three years (see the Notes to the 2018 Annual Audited Consolidated Financial Statements available at www.sedar.com). The engineering expense incurred and the development costs amortized during the quarter ended September 30, 2018 were \$3.51 million, compared to that in the same quarter last year (\$1.41 million), following the addition of the teams acquired in the Dialogic and Digium transactions.

General and Administration

General and Administration expenses were \$4.02 million for the quarter ended September 30, 2018 an increase of 80% over the same period ended September 30, 2017 (\$2.24 million). The increased spend is from both acquisitions, CCD and Digium, and the amortization of intangibles from those acquisitions. For this quarter the intangible asset value and associated amortization is an estimate pending the completion and audit of the valuation expected to be complete for the second quarter results and as a result the quarterly amortization could change in future quarters.

Foreign Exchange

For the quarter ended September 30, 2018, there was a foreign exchange loss of \$0.11 million compared to a \$0.07 million gain in the first quarter of fiscal 2018.

Total operational expense

Operating expense for the first quarter of fiscal 2019 was \$10.64 million, a 98% increase over the same period last year (\$5.37 million), reflecting the additional costs resulting from the incorporation of the CCD and Digium teams.

Operating Income (before interest, tax and one-time acquisition expense)

Operating profit for the quarter ended September 30, 2018 was \$1.81 million, more than double the operating income of \$0.75 million in the first fiscal quarter of 2018.

Business acquisition costs

In the first quarter of fiscal 2019 Sangoma recorded \$2.10 million of costs directly associated with the legal, financing and closing of the acquisition of Digium Inc. on September 5, 2018. This is the estimated final total and as further described in the quarterly interim unaudited financial statements.

Net Income

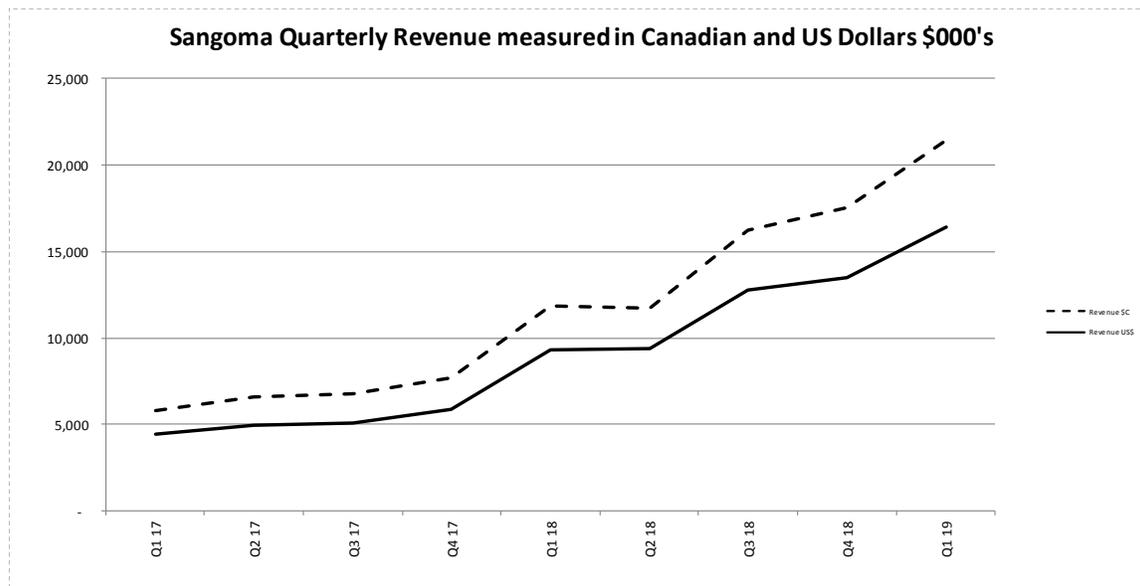
The Net Loss for the quarter ended September 30, 2018 was \$1.00 million (-\$0.019 per share fully diluted) compared to a net income of \$0.39 million (\$0.011 per share fully diluted) for the equivalent quarter ended September 30, 2017. This temporary swing is driven almost entirely by the one-time costs described immediately above.

EBITDA (Earnings before Interest, Depreciation, Amortization and One Time Items)

\$C Thousands	Three months ended	
	Sep 30, 2018	Sep 30, 2017
Net Income	(994)	390
Tax	522	213
Interest	(4)	(1)
Interest on Operating Line	187	42
Stock Based Compensation	32	34
Amortization of Property, Plant and Equipment	84	35
Amortization of Intangibles	588	288
One time acquisition related expense	2,100	100
	-	
EBITDA	2,515	1,101
Percent of revenue	14.3%	6.3%

The above table shows the reconciliation of net income and total comprehensive income to EBITDA which is a metric used by the Company to monitor its performance and the definition may be found in the section non-IFRS measures above.

QUARTERLY RESULTS TRENDS



When measured in source currency (predominantly US\$), sales in the quarter ended September 30, 2018 were 76% higher than in the first quarter of fiscal 2018 and 22% higher than in the immediately preceding quarter. Sangoma's quarterly revenue has now exceeded the same period in the prior year for each of the last fifteen quarters.

SALES AND NET INCOME BY QUARTER

C\$ thousands	Second quarter 2016-2017	Third quarter 2016-2017	Fourth quarter 2016-2017	First quarter 2017-2018	Second quarter 2017-2018	Third quarter 2017-2018	Fourth quarter 2017-2018	First quarter 2018-2019
Sales	\$ 6,570	\$ 6,812	\$ 7,678	\$ 11,846	\$ 11,736	\$ 16,244	\$ 17,536	\$ 21,439
Gross Margin	\$ 4,350	\$ 4,478	\$ 4,933	\$ 6,120	\$ 5,991	\$ 8,970	\$ 9,827	\$ 12,444
Operating Expense	\$ 3,859	\$ 4,025	\$ 4,519	\$ 5,374	\$ 5,083	\$ 7,558	\$ 8,226	\$ 10,635
Operating Income (Loss)	\$ 492	\$ 453	\$ 414	\$ 746	\$ 908	\$ 1,412	\$ 1,601	\$ 1,809
Net Income (Loss)	\$ 290	\$ 281	\$ 166	\$ 390	\$ 614	\$ 750	\$ 699	\$ (997)
Net Earnings per Share								
Non-diluted basis	\$0.009	\$0.009	\$0.005	\$ 0.012	\$ 0.018	\$ 0.016	\$ 0.019	\$ (0.021)
Fully diluted basis	\$0.009	\$0.008	\$0.005	\$ 0.011	\$ 0.017	\$ 0.015	\$ 0.017	\$ (0.019)
EBITDA	\$ 758	\$ 729	\$ 702	\$ 1,102	\$ 1,274	\$ 1,895	\$ 2,536	\$ 2,515

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LIQUIDITY

As of September 30, 2018, Sangoma had current assets of \$28.08 million and current liabilities of \$27.97 million, resulting in working capital of \$0.11 million. This compares to \$19.12 million on June 30, 2018 reflecting the acquisition of Digium and associated debt financing.

Sangoma closed the quarter with \$5.01 million of cash in the first fiscal quarter of 2019. Sangoma had an adjusted operating cash flow from operations of \$1.70 million before the one-time impact of the Digium acquisition.

	F2019	F2018
\$k	Q1	Q1
Operating activities cash per financial statements	25	2,231
Less capitalization of development costs	(617)	(482)
Interest Expense	187	42
Business acquisition costs	2,100	100
Adjusted cash flow from operations	1,695	1,891

Accounts Receivable of \$10.81 million on September 30, 2018 were \$3.59 million higher than as at June 30, 2018 (\$7.22 million), reflecting the addition of Digium receivables.

Inventories were \$10.37 million on September 30, 2018, \$3.64 million higher than for June 30, 2018 of which approximately \$3.33 million was related to inventory purchased as part of the Digium acquisition. As has been previously shared Sangoma expects inventories to have somewhat larger swings between quarters as orders for phones and other new products are filled from a supply chain that more regularly reaches back into Asia. There has been no change in our assessment of excess or obsolete inventory as the growth is all in products with growing demand.

There are no existing or anticipated defaults or arrears on lease payments or interest payments and Sangoma is in full compliance with all debt covenants. Management of the Company believes that the current working capital and expected funds generated from operations will be sufficient to meet the operating and planned capital expenditures of the Company for the foreseeable future and the Company has already commenced repayments on the additional debt taken on in September of 2018.

CAPITAL RESOURCES

There are no commitments for capital expenditures at this time.

OFF-BALANCE SHEET ARRANGEMENTS

There are no off-balance sheet arrangements that have, or are reasonably likely to have, a current or future effect on the results of operations or financial condition of Sangoma.

RELATED PARTY TRANSACTIONS

Except as disclosed in the interim financial statements, the Company is not party to any material transactions with related parties.

PROPOSED TRANSACTIONS

There are no proposed asset or business acquisitions as at the date of this MD&A.

FINANCIAL INSTRUMENTS AND OTHER INSTRUMENTS

Sangoma has determined the estimated fair value of its financial assets and liabilities based on generally accepted valuation methods.

Short-term financial instruments

Cash and equivalents, trade receivables, sales tax receivables, investment tax credits receivable, accounts payable and accrued liabilities and term loan are short-term financial instruments whose fair value approximates their carrying amount on the balance sheet due to their near-term maturities. During June 2017, Sangoma established a term loan of \$1.0 million and extended its operating line of credit from \$2.50 million to \$3.50 million to finance the cash component of the VoIP Supply LLC acquisition that closed during July 2017. In January 2018 the Company added a new term loan of \$4.00 million to fund the acquisition of the CCD business. In August of 2018 the Company drew down US dollars loans totalling \$16 million in order to finance the Digium acquisition.

OUTSTANDING SHARE DATA

As of November 22, 2018 there were 51,449,583 issued and outstanding common shares of Sangoma and as of the same date there were outstanding options to acquire 5,451,326 common shares. The increase in the number of outstanding shares from June 30, 2018 was mostly from the issuance of 3,943,041 shares as part of the acquisition of Digium Inc and the exercise of some warrants and stock options.

SIGNIFICANT EVENTS

None

POST REPORTING EVENTS

None

ADDITIONAL INFORMATION

Additional information relating to the Company is filed electronically on SEDAR at www.sedar.com.

GLOSSARY OF TERMS

Analog

Analog telephony is the telephone system that dates back to the original experiments by Alexander Graham Bell. The voice signal is picked up by a microphone and transmitted to the central office. Voice signals from the central office consist of voltages that drive a headset to produce sound. Analog means that the voice pressure signals are represented by voltages levels on the line.

API

Application Program Interface: An API is a purpose-built interface that allows fourth party software to interact with a particular application. A typical API is the user interface for Windows that allow programmers to write programs for Windows that use all its built-in utilities. APIs do not depend on revealing source code, in general. They are usually well documented and include sample programs that make development easy.

Codec

In the telephony context a codec is a mechanism of digitally encoding voice. On the PSTN a voice channel takes up 64kbps in a codec standard called G.711. Cell phones use a codec called GSM that compress the voice further so that a GSM call consumes about 24kbps. Other compressed codecs are used in VoIP to conserve bandwidth. These include standards such as G.729, G.723. Most audio codecs are lossy, in that some of the voice quality is degraded by the compression. On the other hand, as bandwidth becomes cheaper, VoIP allows one to use other codecs that in fact use more bandwidth than the PSTN, the so-called broadband codecs that have DVD-like voice quality.

Digital telephony

In the modern PSTN only the “last mile” line to the customer is still analog, all other internal parts of the network are digital. Digital in this case means that at the central office the analog signal from the subscriber’s telephone is sampled digitally, converting the line voltages to a series of numbers that can be easily transmitted error free over long distances. See T1, E1 below.

Gateway

In the telephony context this is typically a separate unit with its own case and power supply that provides VoIP-to-PSTN services for a VoIP network. Almost all gateway devices use SIP interfaces to the VoIP system over Ethernet and have analog or digital telephony interfaces that connect to the PSTN. VoIP gateways are available from many manufacturers including Audiocodes, Cisco, Grandstream, Patton Electronics and many others.

ISDN

Integrated Services Digital Network (“ISDN”) is a set of communications standards for simultaneous digital transmission of voice, video, data, and other network services over the traditional circuits of the public switched telephone network. Of the many variations of ISDN, Sangoma supports BRI (Basic Rate Interface) which is essentially an all-digital replacement for ordinary analog lines and PRI (Primary Rate Interface) which is used over T1 and E1 lines. BRI is very popular outside of North America. PRI is used worldwide.

IP

The Internet Protocol (“IP”) is the primary protocol in the internet layer of the Internet protocol suite, and delivers data packets from the source host to the destination host solely based on the IP address.

ISP

Internet Service Provider

ITSP

Internet Telephony Service Provider who offer telecommunications service including voice over internet type connections.

IVR

Interactive Voice Response: IVR systems use the phone to navigate a menu, for example those used by banks to allow access to customer’s account information. IVR systems have typically been driven by dial tones as the buttons on your phone are pressed, but increasingly they are using voice recognition for navigation.

Open Source

Open Source software is distributed free subject to certain conditions. Open Source licenses usually stipulate that source code must always be distributed or made available, and any improvements in the code have to be donated back to the community. It is possible to have dual licensing: Open Source to the community and also a closed, commercial license of the same or similar software.

NetBorder

This is the trade name of a Sangoma SIP to PSTN gateway product. It includes several other functions in addition to the PSTN gateway function. The mass marketed version is known as NetBorder Express or NBE.

PBX

Private branch exchange. A PBX is a premises based device to deliver calls from the PSTN or VOIP network to phones in a single or multiple locations.

PSTN

Public Switched Telephone Network: This is the standard telephone network that has been in operation for many decades. A telephone or FAX or PBX or other telephony device is generally connected to an analog line at a wall plug, which is connected by “last mile” cabling to the central office. The analog signal from the device is converted to a digital signal at the Telco central office and is multiplexed, 24 simultaneous voice channels per line (in North America) onto a T1 for onward transmission. At the other end of the line the digital channel is reconverted to analog for transmission over the “last mile” to the receiving phone or other device.

SBC

A Session Border Controller (“SBC”) is a device deployed in Voice over Internet Protocol (“VoIP”) networks to exert control over the signaling and usually also the media streams involved in setting up, conducting, and tearing down telephone calls or other interactive media communications. SBCs are deployed as demarcation points between enterprises and service providers and between service provider networks.

Signalling

Call setup and tear down is remarkably complicated, involving such things as responding to the different tones as well as generating them, caller identification and handling the different features like hook-flash and voicemail properly. There are different signalling mechanisms for different types of circuits. Analog circuits use tones such as out-of-order, busy, ringing as well as the dialling tones. T1 lines often use a data protocol called ISDN PRI, where packets of control data are exchanged on a separate data channel. ISDN PRI is a simplification of the general signalling protocol used internally by the telecommunications networks known as SS7. In all cases signalling has to be exactly compatible with what the Telco expects, so interoperability and standards are important.

SIP

Session Initiation Protocol: SIP is the emerging standard signalling protocol for VoIP, though it has much broader applications. SIP is responsible for setting up and teardown of two party and multiparty calls, as well as a host of management features. To a great and increasing extent, VoIP calls are SIP based. The term SIP Trunk is used to describe the provision of a SIP line to an end customer.

T1, E1

A T1 line is a circuit that carries 24 digital telephone calls simultaneously. At higher densities, 28 T1s are aggregated into a T3 line carrying 672 calls. Larger offices can also connect to the central office via T1 directly, so as to have only one circuit for up to 24 calls. T1 is standard in North America and Japan while E1 is the standard in the rest of the world. E1 carries 30 channels of digitized voice per line.

TDM

Time Division Multiplexing (“TDM”) is used in circuit switched networks to increase the number of calls carried simultaneously on any one circuit and formed the basis for the digital telephony networks.

Unified Communications

Unified communications is a concept in which voice, email, messaging, video and any other type of communication are all considered forms of data that can be combined, manipulated and used in intelligent applications in a seamless way.

VoIP

Voice over IP: The transfer of voice traffic over the Internet Protocol. IP is used universally for all networking including local area networks and private networks, not just the Internet. So VoIP is not necessarily voice over the Internet, but voice over general data networks.