SANGOMA TECHNOLOGIES CORPORATION

MANAGEMENT DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

SECOND QUARTER FISCAL 2020 ENDED DECEMBER 31, 2019

February 27, 2020

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 second quarter of 2020 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, 2019 ("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 (including for right-of-use assets), amortization and one-time charges. EBITDA is a measure used by many investors to compare issuers. "Adjusted Cash Flow" means cash flow from operations as defined by IFRS less the capitalized development and lease costs that Sangoma amortized during the period excluding interest expense 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 rates 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 is available 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.). Sangoma's PBXact UC systems come pre-packaged with add-on functionality, tighter release and revision control, and service contracts. Switchvox is the flagship on-premise UC product and it is the basis for our DCS UCaaS service 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

Sangomas has two lines of IP deskphones. The S-series IP-Phones are customized to seamlessly integrate with Sangoma's UC systems to provide zero touch installation, simplified system management and instant access to a wide range of features. The range of D-series premium phones seamlessly integrate with Switchvox and DCS.

Sangoma has also launched Zulu UC, our desktop and smartphone software applications. The

desktop application installs on a standard computer or laptop, while the smartphone app runs on mobile devices (iOS or Android). Both deliver 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 S-series phones and delivers simple online signup, unlimited US/Canada calling, number portability and other integrated features.

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.

SIPTrunking

VoIP Innovations provides its customers wholesale access to Tier 1 SIP trunking providers together with a series of tools to manage the services and billing. In addition, VoIP Innovations offers APIdaze a new Communications Platform as a Service ("CPaaS") offering.

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.

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).

Enterprise Gateways are used by businesses that want to connect their traditional (non-IP based) 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 multiple lines of Enterprise gateways.

Carrier gateways are used in a service provider or carrier network, where these larger gateways perform these same tasks. In addition, there are signaling protocols (such as SS7) that are only used when carrier networks communicate with other carrier networks, that are not included in the enterprise product line.

Sangoma also offers multiple lines of Carrier gateways.

PSTN interface boards

Sangoma also has a complete line of PSTN 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. Sangoma continues to invest in this area and has maintained a leadership position, including with data cards that support non-voice applications.

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 for our customers.

Open Source Software

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 and has been downloaded over 25 million times. FreePBX is the most popular PBX software in the world, supporting millions of installs around the globe.

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 second quarter of fiscal 2020, sales were a record $32.29 million, 10% higher than the same quarter in fiscal 2019 and 15% above the immediately preceding first quarter of this year. EBITDA at $5.19 million was an all-time high, and the first time ever that Sangoma has generated more than $5 million in EBITDA in a single quarter.

Gross profit was $21.32 million in the second quarter of fiscal 2020 at a gross margin of 66%, 5% higher than for the same quarter last year and continuing the trend of slightly stronger gross margins as the percentage of Sangoma revenue from recurring revenue continues to increase, bolstered this quarter by the inclusion of the VoIP Innovations acquisition for part of the quarter.

Operating expenses were $19.17 million in the second quarter of fiscal 2020, $2.14 million higher than last year almost entirely from the inclusion of VoIP Innovations early in the quarter.

For the second quarter of fiscal 2020, EBITDA at $5.19 million was more than twice that in the same quarter last year, primarily resulting from the inclusion of VoIP Innovations for part of the quarter, growing services revenue, and the adoption of IFRS 16 at the beginning of this fiscal year.

Net loss for the second quarter ended December 31, 2019 was $1.33 million including the $2.60 million of acquisition costs, compared to a net loss of $0.27 million in the second quarter of fiscal 2019.

Sangoma finished the quarter with a cash balance of $13.36 million, working capital of $2.03 million and total debt of $43.31 million. Adjusted cash from operations, excluding the impact of the acquisition of VoIP Innovations was $0.95 million. The lower than usual adjusted cash flow was caused by the previously communicated re-alignment of our supply chain, eliminating a large contract manufacturer and requiring a temporary build in inventory, together with movements in a few working capital items, including accounts receivable and deferred revenue.

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. To protect its future, Sangoma recognized the critical need to evolve the Company beyond its reliance on PSTN-based cards that often connected to open source installations.

This started with an operational rebuild, which included an internal build out of the product portfolio (such as gateways, SBCs, a core PBX, IP phones, and cloud services), broadening from SM to enterprise/Service Provider/OEM customer segments as well, and expanding geographically form a North American focused company to a global enterprise with customers/staff around the world.

As a result, Sangoma is now a stronger competitor in the larger, more typical communications market, which is not generally OST based.

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
- Digium Cloud Services
- VoIP Innovations wholesale SIP Trunking
- APIDaze Communications Platform as a Service

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/resellers, and 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 tradeshows, 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.

RESULTS OF OPERATIONS

SUMMARY OF RESULTS FOR THE SECOND QUARTER OF FISCAL 2020

Sales
Sales for the quarter ended December 31, 2019 were a record $32.29 million, up 10% from the $29.22 million in the second quarter of fiscal 2019 ended December 31, 2018. The increase in sales was due to the acquisition of VoIP Innovations, the continued growth and compounding of our Services business where our recurring revenue is generated, all partly offset by some softening in demand for our one-time revenue Product Sales. Overall services revenue as a percentage of total revenue continues to increase and nearly reached 50% this quarter for the first time as recurring revenue continues to grow.

Cost of sales and gross profit
The cost of sales for the quarter ended December 31, 2019 was $10.96 million compared to $11.39 million for the quarter ended December 31, 2018. Gross profit for the second fiscal quarter of 2020 was $21.32 million, 20% higher than the $17.83 million realized in the second quarter of fiscal 2019. Gross margin for the second quarter was 66% of revenue, 5% higher than in the same quarter a year ago mostly due to the impact of the VoIP Innovations acquisition and the steady increase in the percentage of revenue from services.

Operational expense
As permitted under IFRS, costs are allocated by function except for the impact of foreign exchange, which can result in material swings between time periods.

Selling and marketing
Selling and marketing expenses were $5.41 million for the quarter compared to $4.92 million for the same quarter last year. The increase is primarily a result of the addition of VoIP Innovations expense.

Research and development
A portion of the Company's development costs are capitalized each period and amortized on a straight-line basis over three years (see the Notes to the 2019 Annual Audited Consolidated Financial Statements available at www.sedar.com). The engineering expenses incurred, and the development costs amortized during the quarter ended December 31, 2019 were $5.72 million, slightly lower than the $6.01 million in the same quarter last year reflecting the staffing changes made post the Digium acquisition.

General and administration
General and administration expenses were $7.77 million for the quarter ended December 31, 2019 compared to $6.12 million over the same period ended December 31, 2018. The increased spend is mostly from the amortization of intangibles post the VoIP Innovations acquisition.

Foreign exchange
For the quarter ended December 31, 2019, there was a foreign exchange loss of $0.27 million compared to a $0.02 million gain in the second quarter of fiscal 2019.

Total operational expense

Operating expense for the second quarter of fiscal 2020 was $19.17 million versus $17.03 million over the same period last year and was primarily accounted for by the acquisition of VoIP Innovations early in the quarter.

Operating income (before interest, tax, business integration and acquisition related expenses)

Operating income for the quarter ended December 31, 2019 was $2.15 million, 171% higher than the $0.79 million in the same period last year.

Interest

Net interest for the quarter ended December 31, 2019 was $0.79 million, 93% higher than the $0.41 million in the same period last year as a result of the debt taken on to finance the VoIP Innovations acquisition.

Business integration and acquisition related costs

In the quarter ended December 31, 2019, the Company incurred $2.60 million of transaction costs for the acquisition of VoIP Innovations. In the same quarter of fiscal 2019, $0.60 million of expense was incurred as part of the restructuring undertaken in the first full quarter following the acquisition of Digium.

Net loss

Net loss for the quarter ended December 31, 2019 was $1.33 million ($0.018 loss per share) compared to a net loss of $0.27 million ($0.005 loss per share) for the equivalent quarter ended December 31, 2018.

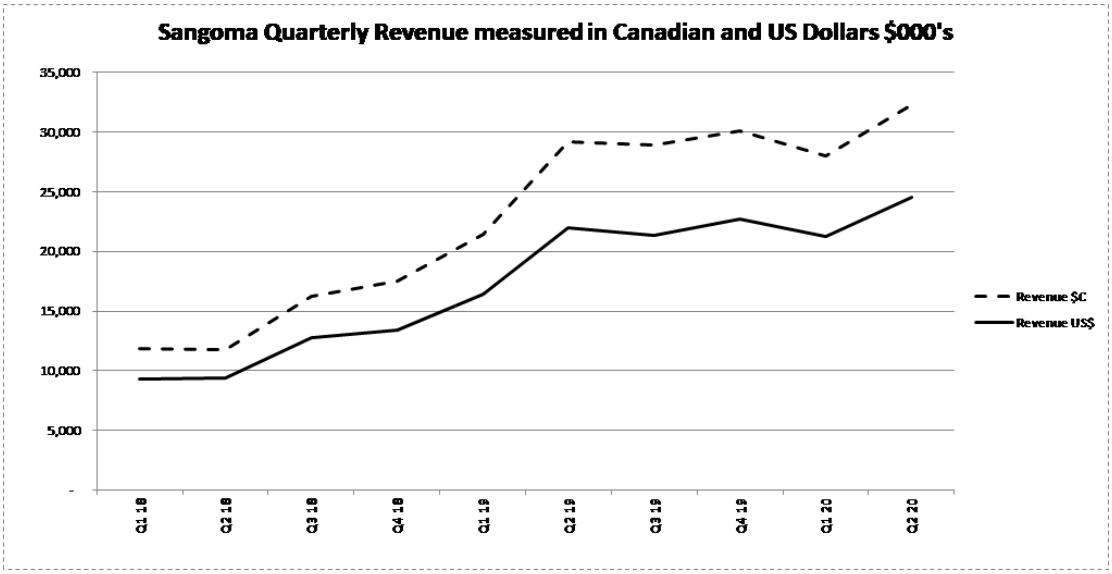
EBITDA (earnings before interest, depreciation, amortization, one-time business integration and acquisition related expenses)

For the second quarter of fiscal 2020, EBITDA at $5.19 million was more than double that of the same quarter last year resulting from the inclusion of VoIP Innovations for part of the quarter, the operational efficiencies introduced during fiscal 2019 and the adoption of IFRS 16 at the beginning of this fiscal year, and the gradually increasing fraction of recurring revenue as our Services business continues to compound.

	Three months ended	
$C Thousands	**Dec 31, 2019**	**Dec 31, 2018**
Net income	**(1,331)**	**(275)**
Tax	**91**	**60**
Interest income	**(21)**	**(4)**
Interest	**813**	**412**
Stock based compensation	**138**	**33**
Depreciation of property, plant and equipment	**175**	**109**
Depreciation of right-of-use assets	**915**	**-**
Amortization of intangibles	**1,813**	**1,462**
Acquisition related expense	**2,599**	**601**
EBITDA	**5,192**	**2,398**
Percent of revenue	**16.1%**	**8.2%**

The above table shows the reconciliation of net 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 December 31, 2019 were 11% higher than in the second quarter of fiscal 2019 and 15% 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 twenty quarters.

SALES AND NET INCOME BY QUARTER

C$ thousands	Third quarter 2017-2018	Fourth quarter 2017-2018	First quarter 2018-2019	Second quarter 2018-2019	Third quarter 2018-2019	Fourth quarter 2018-2019	First quarter 2019-2020	Second quarter 2019-2020
Sales	$ 16,244	$ 17,536	$ 21,439	$ 29,220	$ 28,915	$ 30,073	$ 28,005	$ 32,286
Gross Margin	$ 8,970	$ 9,827	$ 12,445	$ 17,826	$ 17,898	$ 18,659	$ 17,483	$ 21,322
Operating Expense	$ 7,558	$ 8,226	$ 10,636	$ 17,032	$ 16,155	$ 15,962	$ 15,877	$ 19,170
Operating Income (Loss)	$ 1,412	$ 1,601	$ 1,809	$ 794	$ 1,743	$ 2,697	$ 1,606	$ 2,152
Net Income (Loss)	$ 750	$ 699	$ (997)	$ (275)	$ 1,070	$ 1,740	$ 906	$ (1,331)
Net Earnings (Loss) per Share								
Non-diluted basis	$ 0.016	$ 0.019	$ (0.021)	$ (0.005)	$ 0.021	$ 0.034	$ 0.014	$ (0.018)
Fully diluted basis	$ 0.015	$ 0.017	$ (0.021)	$ (0.005)	$ 0.019	$ 0.032	$ 0.013	$ (0.018)
EBITDA	$ 1,895	$ 2,537	$ 2,512	$ 2,398	$ 3,264	$ 4,124	$ 3,666	$ 5,192

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

SUMMARY OF RESULTS FOR YEAR TO DATE FISCAL 2020

Sales
Sales for the six months ended December 31, 2019 were $60.29 million, 19% higher than the $50.66 million in the first six months of fiscal 2019 ended December 31, 2018. The increase in sales was due to the acquisition of Digium in the first quarter of 2019 and so partially impacting the comparative period, the acquisition of VoIP Innovations early in the most recent quarter, and the ongoing growth and compounding of our Services business more than offsetting a slight decline in one-time Product sales. On a year to date basis the percentage of sales from services has grown from 32% in the first half of fiscal 2019 to 45% for the same period in fiscal 2020.

Cost of sales and gross profit
The cost of sales for the six months ended December 31, 2019 was $21.49 million compared to $20.39 million for the six months ended December 31, 2018. Gross profit for the first six months of 2020 was $38.80 million, 28% higher than the $30.27 million realized in the first six months of fiscal 2019. Gross margin for the first six months of fiscal 2020 was 64% of revenue, up 4% from the 60% last year reflecting slightly higher margins in the newly acquired businesses and a higher percentage of revenue coming from higher margin services year over year.

Operational expense
As permitted under IFRS, costs are allocated by function except for the impact of foreign exchange which can result in material swings between time periods. The primary driver of increased cost year over year were the acquisition of Digium during the first quarter of fiscal 2019 and VoIP Innovations during the second quarter of fiscal 2020.

Selling and marketing
Selling and marketing expenses were $10.34 million for the six months ended December 31, 2019 compared to $7.91 million for the same period last year. The increase is entirely from the additional staff, marketing programs and agent commissions from the newly acquired businesses.

Research and development
A portion of the development costs are capitalized each period and amortized on a straight-line basis over three years (see the Notes to the 2019 Annual Audited Consolidated Financial Statements available at www.sedar.com). The engineering expenses incurred and the development costs amortized during the six months ended December 31, 2019 were $11.20 million, compared to $9.52 million during the same period last year. The increase arises from the impact of a full half year of Digium and the addition of VoIP Innovations for much of the second quarter of fiscal 2020.

General and administration
General and administration expenses were $13.23 million for the first six months ended December 31, 2019 versus $10.15 million over the same period ended December 31, 2018. The increased spend is a result of the addition of acquired businesses' headcount related costs and intangible amortization.

Foreign exchange
For the six months ended December 31, 2019, there was a foreign exchange loss of $0.28 million compared to a $0.09 million loss in the first six months of fiscal 2018.

Total operational expense

Operating expense for the first six months of fiscal 2020 was $35.05 million compared to $27.67 for the same period last year reflecting the additional costs of the most recent acquisitions.

Operating income (before interest, tax, one-time business integration and acquisition related expenses)

Operating income for the six months ended December 31, 2019 was $3.76 million substantially higher than the operating income of $2.60 million in the first six months of fiscal 2019.

Interest

Net interest for the six months ended December 31, 2019 was $1.17 million, versus $0.59 million in the same period last year as a result of the debt taken on to finance the VoIP Innovations acquisition.

Business integration and acquisition related costs

In the first half of fiscal 2020, Sangoma recorded $2.60 million of costs directly associated with the legal, financing and closing of the acquisition of VoIP Innovations LLC on October 18, 2019. In the same period of fiscal 2019, the Company incurred $2.10 million for the acquisition of Digium, and an additional $0.60 million for integration costs.

Net loss

Net loss for the first six months ended December 31, 2019 was $0.42 million ($0.006 loss per share) compared to a net loss of $1.27 million ($0.025 loss per share) for the equivalent period ended December 31, 2018.

EBITDA (earnings before interest, depreciation, amortization, one-time business integration and acquisition related expenses)

For the first half of fiscal 2020, EBITDA at $8.86 million was 81% higher than in the same period last year resulting from the inclusion of VoIP Innovations for part of the quarter, the operational efficiencies introduced during fiscal 2019, the adoption of IFRS 16 at the beginning of this fiscal year, and the gradually increasing fraction of revenue from Services.

	Six months ended	
$C Thousands	**Dec 31, 2019**	**Dec 31, 2018**
Net income	**(425)**	**(1,272)**
Tax	**416**	**582**
Interest income	**(43)**	**(8)**
Interest	**1,210**	**599**
Stock based compensation	**280**	**65**
Depreciation of property, plant and equipment	**292**	**181**
Depreciation of right-of-use assets	**1,524**	**-**
Amortization of intangibles	**3,006**	**2,050**
Acquisition related expense	**2,599**	**2,701**
EBITDA	**8,859**	**4,898**
Percent of revenue	**14.7%**	**9.7%**

The above table shows the reconciliation of net 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.

LIQUIDITY

As of December 31, 2019, Sangoma post the acquisition of VoIP Innovations had current assets of $42.22 million and current liabilities of $40.19 million, resulting in working capital of $2.03 million. This compares to $5.32 million on June 30, 2019.

Sangoma closed the second quarter of fiscal 2020 with $13.36 million of cash and generated $0.95 million of adjusted operating cash flow from operations during the second quarter of fiscal 2020 compared to $3.76 million in the same period last year. The lower than usual adjusted cash flow was caused by the previously communicated re-alignment of our supply chain, eliminating a large contract manufacturer and requiring a temporary but significant build in inventory (see note below), together with an increase in accounts receivable and a reduction in deferred revenue.

	Three-months Ended December 31,		Six-months Ended December 31,	
$k	**2019**	2018	**2019**	2018
Operating activities cash per financial statements	**(2,638)**	3,240	**337**	3,865
Less capitalization of development costs	**(584)**	(490)	**(995)**	(1,032)
Interest earned	**(21)**	(4)	**(43)**	(8)
Interest expense	**813**	412	**1,210**	599
Acquisition related expense	**2,599**	601	**2,599**	2,701
One time refundable duty payment not received in quarter	**778**	-	**778**	-
Adjusted cash flow from operations	**947**	3,759	**3,886**	6,125

Accounts receivable of $11.45 million on December 31, 2019 including VoIP Innovations were $0.20 million higher than as at June 30, 2019 ($11.25 million).

Inventories were $14.10 million on December 31, 2019, $2.99 million higher than as at June 30, 2019. As was shared in the last MD&A, Sangoma expected a substantial increase in inventory as a result of the re-configuration of the supply chain to eliminate one of the contract manufacturers. Sangoma bought the entire parts inventory from the prior supplier to facilitate the transition and it will take a few quarters to work this back down. There has been no material change in our assessment of excess or obsolete inventory.

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 paid down $1.99 million of the credit facility established in October of 2019.

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

Subsequent to December 31, 2019, the Company entered into an agreement to purchase e4 Strategies LLC, which is expected to close at the end of February 2020. The transaction is on track and given the size of the deal, financial terms are not being shared.

FINANCIAL INSTRUMENTS AND OTHER INSTRUMENTS

The fair values of the cash and cash equivalents, trade receivables, contract assets, accounts payable and accrued liabilities approximate their carrying values due to the relatively short-term nature of these financial instruments and fair values of operating facility and loans approximate their carrying values due to variable interest loans.

OUTSTANDING SHARE DATA

As of February 27, 2020, there were 73,489,532 issued and outstanding common shares of Sangoma and as of the same date there were outstanding options to acquire 4,969,715 common shares. The decrease in the number of outstanding shares from December 31, 2019 was from the exercise of 11,285 stock options and a return of 21,673 shares for cancellation as part of the

settling of the last remaining Digium share escrow.

SIGNIFICANT EVENTS

During the quarter Sangoma acquired VoIP Innovations LLC which was financed from existing cash and through the replacement of the existing loans with a single larger facility as more fully described in the December 31, 2019 financial statements notes 9 and 18.

POST REPORTING EVENTS

On January 21, 2020, the Company converted its US Base Rate loan to a one-month LIBOR loan plus the credit spread based on the syndicated loan agreement entered into on October 18, 2019. This brought the effective rate on the facility to around 4.2% and this will fluctuate according to the monthly LIBOR rate. Separately, as required under the agreement, the Company locked in half of the original loan amount by entering into a 5 year interest rate credit swap with the two banks for US$8.7m each. The swaps together with protection against the 0% LIBOR floor have effectively converted one half of the variable LIBOR rate to a fixed rate of approximately 4.2% for five of the approximately six year remaining balance on the loan. The repayment schedule for the loan has not been impacted by either of these changes.

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 premised basis 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.