



*Management discussion and analysis of financial  
condition and results of operations for the  
three month period ended September 30, 2023*

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## **INTRODUCTION**

As used in this Management Discussion and Analysis (“MD&A”), unless the context indicates or requires otherwise, all references to the “Company”, “Sangoma”, “we”, “us”, or “our” refer to Sangoma Technologies Corporation, together with our subsidiaries, on a consolidated basis as constituted on September 30, 2023. The MD&A is for the first quarter of fiscal 2024 ended September 30, 2023 and is comparing it with the same period in the previous year. This MD&A should be read in conjunction with Sangoma’s unaudited interim consolidated financial statements for the three month period ended September 30, 2023 and Sangoma’s audited annual consolidated financial statements and related notes for the year ended June 30, 2023 (“Financial Statements”), which have been prepared in accordance with International Financial Reporting Standards (“IFRS”). All amounts are in thousands of United States dollars except where otherwise indicated.

Additional information about us, including copies of our continuous disclosure materials, is available on our website at [www.sangoma.com](http://www.sangoma.com), through the EDGAR website at [www.sec.gov](http://www.sec.gov) or through the SEDAR+ website at [www.sedarplus.ca](http://www.sedarplus.ca).

This MD&A is dated as of November 8, 2023.

## **NON-IFRS MEASURES**

This MD&A contains references to certain non-IFRS financial measures such as Adjusted 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. “Adjusted EBITDA” means earnings before income taxes, interest expense (net), share-based compensation, depreciation (including for right-of-use assets), amortization, restructuring and business integration costs, exchange listing expense, business acquisition costs, goodwill impairment and change in fair value of consideration payable. Adjusted EBITDA is a measure used by many investors to compare issuers. “Adjusted Cash Flow” means net cash flows from operating activities as defined by IFRS less the capitalized development costs that Sangoma amortized during the period, plus interest expense (net), business acquisition costs paid, restructuring and business integration costs, and exchange listing expense. We believe that Adjusted 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 financial measures, such as those presented herein, should not be construed as an alternative to net income or cash flow determined in accordance with IFRS. The reconciliation of the closest IFRS measure to each non-IFRS measure is set out on pages [16](#), and [19](#) herein.

## **FORWARD-LOOKING STATEMENTS**

This MD&A contains forward-looking statements, including statements regarding the future success of our business, development strategies and future opportunities. Forward-looking statements are provided for the purpose of presenting information about management’s current expectations and plans relating to

the future and readers are cautioned that such statements may not be appropriate for other purposes. Forward-looking statements include, but are not limited to, statements relating to management's guidance on revenue and Adjusted EBITDA, statements relating to expected inventory levels, statements relating to future lease and interest payments, statements relating to the impact of the continuing COVID-19 pandemic, statements concerning estimates of expected expenditures, statements relating to expected future production and 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.

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 and contingencies. Some of the risks and other factors which could cause results to differ materially from those expressed in the forward-looking statements contained herein include, but are not limited to, risks and uncertainties associated with changes in exchange rate between the Canadian dollar and other currencies (in particular the United States' ("US") dollar), changes in technology, changes in the business climate, changes to macroeconomic conditions, including (i) inflationary pressures and potential recessionary conditions, as well as actions taken by central banks and regulators across the world in an attempt to reduce, curtail and address such pressures and conditions, including any increases in interest rates, and (ii) the effects of adverse developments at financial institutions, including bank failures, that impact general sentiment regarding the stability and liquidity of banks, and the resulting impact on the stability of the global financial markets at large, risks related to the COVID-19 (coronavirus) pandemic and any resurgence thereof, our ability to identify and remediate material weaknesses and significant deficiencies in our internal controls, changes in the regulatory environment, the imposition of tariffs, the decline in the importance of the PSTN (as hereinafter defined), impairment of goodwill and new competitive pressures, and acts of terrorism and war, hostilities and conflicts, including, but not limited to, Russia's invasion of Ukraine in February 2022 (and associated changes in global trade policies and economic sanctions), and the other risk factors described in our most recently filed Annual Information Form for the fiscal year ended June 30, 2023.

The forward-looking statements contained in this MD&A are expressly qualified by this cautionary statement. Sangoma undertakes no obligation to update forward-looking statements if circumstances or management's estimates or opinions should change except as required by law.

## **OVERVIEW**

Sangoma's products and services are used by leading companies throughout the world and in leading UC, PBX, IVR, contact center, carrier networks, and data communication applications worldwide. Sangoma's portfolio of products also enable service providers, carriers, enterprises, SMBs, and 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. Please refer to the Glossary of Terms for detailed definitions of terms used throughout this MD&A.

### **Communications as a Service (CaaS) Portfolio**

Sangoma is a trusted leader in delivering value-based Communications as a Service solutions for businesses of all sizes. The value-based communications segment includes small businesses to large enterprises who are looking for all the advantages of cloud-based communications at a fair price. Sangoma's current Communications as a Service offerings are typically offered with monthly, yearly, or multi-year contracts and include:

- Unified Communications as a Service ("UCaaS")
- Trunking as a Service ("TaaS")
- Contact Center as a Service ("CCaaS")
- Communications Platform as a Service ("CPaaS")
- Video Meetings as a Service ("MaaS")
- Collaboration as a Service ("CollabaaS")
- Desktop as a Service ("DaaS")

### ***Unified Communications as a Service (UCaaS)***

Sangoma's UC solutions are business communication systems (PBX's with advanced UC features, such as presence/chat, conferencing, mobility, fax, and more) that can be deployed on-premise or hosted in the Cloud, allowing businesses to select the best option for their needs. Unified Communication systems, because of their mobility features such as having the business phone number ring on an app on your smartphone and/or desktop and instant messaging capability, enable remote work and work from home much more efficiently. Sangoma's Unified Communication solutions fully integrate with our phones, soft clients, and network interoperability products to provide a fully interoperable solution from a single vendor.

#### ***Cloud-Based Business Phone Solution***

Sangoma offers its customers full-scale cloud-based Unified Communications solutions. With Sangoma, businesses can get contact center, mobility, softphone, call control, and productivity features included for every user at a reasonable price. Sangoma's hosted phone service delivers the customer experience businesses demand at an affordable price point. Customers can also choose pre-provisioned phones that customers simply plug into their network.

#### ***On-Premise Business Phone Solution***

Sangoma also offers the more traditional on-premise UC phone system, for businesses still wanting to deploy their business phone system on premise. Whether deployed on a dedicated appliance or in the customer's virtual environment, Sangoma provides the power and connectivity necessary.

IP Deskphones, Headsets and UC Clients: Sangoma provides desktop and softphone collaboration clients that integrate seamlessly with our UC solution offerings and deliver UC features (presence, contacts, chat, calling, audio and video conferencing, etc.) from a single application, on any device, at any location.

IP Deskphones: Sangoma offers a full line of phones that work with both our cloud and on-premise systems that are perfect for every user type, from casual to call center to managers and executives.

Sangoma's product line includes entry-level, mid-range, and executive-level phones. All models include HD Voice and plug-and-play deployment. Sangoma's range of IP phones are customized to seamlessly integrate with all of our UC Systems and provide zero touch installation, simplified system management, and instant access to a wide range of features.

Headsets: Sangoma also offers headsets that either work in conjunction with the desktop phones (by plugging into the phone) or work in conjunction to our desktop soft client (by plugging directly into the computer). These headsets enable roaming of up to 325 feet from the phone or desk computer.

UC Clients and Softphones: Unified Communication Clients (or softphones) are used to make or receive phone calls with your business phone number and can be used as your main phone or as an extension of your desk phone. They are available as an app on your smartphone or computer. These UC clients have enabled employees to work remote seamlessly by enabling phone calls to customers and other employees as if they were in a physical office. Sangoma offers UC clients with all of our Unified Communication / Business phone system product lines.

### ***Trunking as a Service (TaaS)***

SIP trunks deliver Internet-based telephony services to businesses using their existing internet connection, eliminating the need for separate traditional PSTN or digital telecom connections. SIP trunking is fast becoming the technology of choice to interconnect an IP PBX system to a telephone company. 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. Sangoma offers both retail and wholesale SIP Trunking which allows our customers to choose the service that best meets their needs. Either service offers DIDs and number porting.

#### ***Retail SIP Trunking***

Retail SIP trunking offers predictable monthly expenses with pricing based per trunk. SIPStation, Sangoma's retail SIP trunking service, is seamlessly integrated into our various UC platforms, making it easy to get up and running. It also includes an integrated fax service option, enabling a business to send and receive faxes from a web interface or from a local fax machine. Typically, small to mid-sized businesses and enterprises would utilize this type of service.

#### ***Wholesale SIP Trunking***

Sangoma's wholesale SIP trunking offer is now available following the acquisition of VoIP Innovations. Pricing for wholesale SIP trunking is usage-based but with a larger monthly minimum commitment. This

includes origination, termination, SMS/MMS, e911, and fraud mitigation. Typically, very large businesses or service providers who resell SIP trunks would utilize this type of service.

### *Fax as a Service*

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 service, FaxStation, is a hosted service to remedy this problem, available with our TaaS. 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, and ship-to-shore over satellite.

### **Contact Center as a Service (CCaaS)**

Contact Center as a Service (CCaaS) is our cloud-based contact center, or customer experience, offering. It provides robust contact center capabilities running in various ways: either standalone, in conjunction with our other cloud services (such as UCaaS), or integrated "inside" our UCaaS product in a simplified version. This latter solution is intended for 'departmental' type usage, by companies that are not pure-play contact centers, but that might have a department such as customer service or technical support that operate inside that company almost like a mini contact center.

### *Communications Platform as a Service (CPaaS)*

Communications Platform as a Service (CPaaS) allows developers to easily build services and applications using real-time communication features, such as voice, video, chat, and SMS, via the cloud. Our platform enables Sangoma, our integrator/developer partners, and advanced customers to build new communications services based on voice, rest APIs, WebRTC, and SMS. When running an application on a CPaaS platform, performance is critical. To ensure peak performance, Sangoma offers its own SIP trunking service, providing optimized connectivity in addition to easy access to phone numbers. Sangoma also sells a series of 'applications' (or Apps) based upon our CPaaS product that customers can purchase.

### *Video Meetings as a Service (MaaS)*

Sangoma Meet is our video meetings, cloud-based service accessible from any device, be it desktop or mobile. It enables file sharing on screen so collaboration with co-workers is enhanced, integrates seamlessly with your calendar, and enables PSTN phone calls. Sangoma Meet is available in free and chargeable tiers.

### *Collaboration as a Service (CollabaaS)*

Collaboration as a Service (CollabaaS) is Sangoma's cloud-based offering for enabling people to work together more productively. This service is called TeamHub. It allows users to interact using any of the various forms of communications, including chatting, calling, and video. TeamHub integrates Sangoma's softphone client software applications (desktop and mobile) and is designed to allow communications to start in one mode (such as chat), and move through different modes very elegantly, in effect 'upgrading'

that mode of communications to a voice call in real time, and/or upgrading that voice call to a video meeting.

### ***Desktop as a Service (DaaS)***

Sangoma's Desktop as a Service helps companies adapt to today's modern, flexible, and remote workforce. It is the most secure method for staff to access their tools and applications from any location to do their work, delivers simplified IT administration and cuts down on the CapEx of deploying PCs. Sangoma is one of the only companies that can offer communications capability inside a DaaS product.

### **MSP Portfolio**

Sangoma's cloud-based Managed Service Provider ("MSP") offerings deliver mission critical communication services that businesses need and complement our full line of Communications as a Service solutions. The MSP product line is built upon a tightly integrated, enterprise grade, and end-to-end managed network, which is all supported by an expert 24/7 network engineering team. The current MSP offering includes three primary services:

**Managed Security:** Sangoma provides a cloud-based service, sometimes called Unified Threat Management ("UTM"), whereby the customers network, including voice and data traffic, are secured by intrusion prevention and detection capabilities. The network security service helps protect customers against attacks and data losses from spam, viruses, ransomware, botnets, etc.

**Managed SD-WAN:** Sangoma offers a cloud-based software-defined approach to managing a customers wide area network. The SD-WAN service enables network redundancy through the ability to manage multiple internet connections from multiple providers, which is seen as one seamless connection for the customer. If one connection fails, the customer does not lose connectivity and has uninterrupted uptime. The service also provides traffic shaping whereby certain types of traffic can be given priority or forced in priority.

**Managed Access:** Sangoma also provides a robust broadband connectivity solution, including network monitoring, analytics, backup, and a fully PCI-compliant offering for payment card and credit card transactions. Additionally, our Managed Access solution integrates with Managed Security and Managed SD-WAN services, delivering unique capabilities such as secure, end-to-end peering connections to critical destinations (such as Public Cloud sites like AWS and Azure) and Quality of Service commitments.

### ***Network Interconnection Products***

In addition to the CaaS and MSP offerings described above, Sangoma also offers network interconnection products. These products connect different types of networks together, such as VoIP networks to PSTN networks, or VoIP networks to mobile networks or different types of VoIP networks.

### ***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 broad interoperability certifications.

### *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).

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.

All Sangoma's gateways have broad interoperability certifications.

### *PSTN Interface and Media Processing Boards*

Sangoma's complete line of boards connect and interface to the PSTN. Even though IP networks are growing and quickly becoming the standard, the PSTN still exists, and new communication solutions often need to connect to the PSTN. These boards are primarily used by communications solution developers in PC/Server based telecommunications systems that connect to the PSTN. They 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.

## **Open-Source Software Products**

### *Asterisk and FreePBX*

Sangoma is the primary developer and sponsor of the Asterisk project, the world's most widely used open-source communications software, and the FreePBX project, the world's most widely used open-source PBX software.

Sangoma also offers revenue-generating products and services, beyond the open-source Asterisk or FreePBX software, to users of these open-source software projects. The types of products and services Sangoma offers includes software add-ons to Asterisk or FreePBX, IP phones, SIP trunking, cloud-based fax, training, technical support, maintenance, PSTN cards, VoIP gateways, session border controllers, and commercial/hardened versions of the PBX/UC software.

## **OVERALL PERFORMANCE**

### **Operational**

Sangoma is a trusted leader in delivering cloud-based CaaS and MSP solutions for businesses of all sizes. Customers include companies from small/medium businesses (SMB's) right up to large enterprises who are looking for all the advantages of cloud-based communications and managed network services at a fair price. In addition to those cloud-based Services, Sangoma also has a broad suite of Products to complement its Services.

Enterprises, SMBs and carriers in over 150 countries rely on Sangoma's technology as part of their mission-critical infrastructures. Through a worldwide network of distribution partners, Sangoma delivers high-quality services and products, some of which carry the industry's first lifetime warranty.

Sangoma has always been operated and managed as a single economic entity. There is one management team that directs the activities of all aspects of the Company and it is managed globally by our executive team. As a result, we believe that we have one reporting segment, being the consolidated Company. Over time, this may change as the Company grows and when this occurs, we will reflect the change in our reporting practice.

### **Revenue**

Sangoma generates revenue from both Services and Products. Our Services revenue is generated primarily from customers entering recurring revenue agreements. Product revenues are comprised of the sale of products and services that generate non-recurring revenue.

### **Innovation**

As a technology company, Sangoma is continuously working on a large number of projects across its broad portfolio of existing products and services. While the Company has introduced several new additions to its portfolio over the last few years, the majority of the Company's investment in Research and Development ("R&D") is dedicated to sustaining, improving on and enhancing its broad portfolio of existing products and services. Sangoma believes that innovation is essential to a technology company's future. The Company also believes that R&D investment is necessary in order to address the needs of the Company's wide-ranging group of customers (which include business of all sizes including service providers, enterprises, small-medium sized businesses, and original equipment manufacturers) in over 150 countries, to keep pace with technology developments in the cloud communications industry, to meaningfully compete in that industry, and to achieve and maintain market acceptance.

The Company focuses on creating and introducing products to the market as soon as commercially practical and, thereafter, focuses on enhancements to further improve its products. Such product introductions enable the Company to validate product acceptance to some degree, and to get products to market efficiently to start generating revenue. Furthermore, the Company focuses on keeping its product development costs for new projects under control in a number of ways, including by reusing its existing code base where applicable and by leveraging open-source software.

Sangoma continues to invest in R&D to develop new products and to improve existing offerings with spending on R&D increasing each year.

## **Sales and marketing**

R&D is important, but without Sales and Marketing, customers can be too unaware of the advancements that Sangoma has made in innovation. So, Sangoma continues to increase its investment in both Sales and in Marketing, to promote awareness of the Company, to communicate the critical shift from single products to full solutions to cloud, and to drive customer acquisition.

### *Sales*

Sangoma uses a dual sales path ‘go to market’ approach: direct sales to some of our largest customers and indirect distribution to most of our other clients.

- **Direct Sales** is typically used for selling to ‘service providers’, OEMs and large enterprise type businesses.

Service Providers is a broad category of customers that included telcos, ISPs, ITSPs, wireless/mobile operators, MSPs, UCaaS operators, etc. These types of 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.

Enterprise customers are the classic ‘larger’ companies who buy products or services for their own use. This type of customer has similar ‘use cases’ to a SMB type customer but is large enough that some prefer to do business directly with Sangoma, the Company often wants a direct relationship with them as well, and they are buying enough for Sangoma to cost effectively service them directly.

- **Indirect Sales:** In most cases, Sangoma uses the indirect or channel model. We value the ‘multiplier effect’ of a channel model (i.e., one of our salespeople sells to dozens of partners who sell to hundreds/thousands of customers), the more ‘local nature’ of a channel partner who is often based quite near to their end customers, and the more cost-effective structure of indirect distribution in a typical sales cycle. In such cases, Sangoma utilizes this indirect distribution model to reach the full breadth of customers, often based upon a two-tier Channel model:

The ‘upper tier’ of the indirect model is typically made up of Distributors or Master Agents, who normally sell not to the end customer, but to the ‘second tier’ of the channel. Master Agents are now sometimes called Technology Service Brokers or Telecom Solution Distributors. This upper tier of the channel tends to be larger organizations and cover broader geographic regions.

The ‘second tier’ of the indirect model is normally made up of Resellers and Agents. Distributors typically sell to resellers, and Master Agents typically sell to Agents. The Resellers and Agents then sell to end users (with some performing other ancillary services such as installation and/or support).

The second tier tend to be smaller organizations (though not always) and are usually more ‘local’ in nature.

Sangoma has parts of its sales team that focus on Direct customers, whereas the majority focuses on the Channel. In the Channel, partners require frequent attention to keep Sangoma ‘on their mind’ in a crowded product marketplace. Therefore, a portion of the Channel sales team services the distributors and master agents as the upper tier of the channel, while a different part of the team focuses on the resellers/agents. Finally, Sangoma has professional sales teams across all our key geographic regions as well.

### *Marketing*

Sangoma also continues to increase its efforts in marketing. The Company has assembled corporate marketing programs with two key objectives in mind:

- to promote the Sangoma brand and positioning, which included conveying the message about the Company’s full solutions and its Cloud-First approach.
- leads generation as one of the front-end steps in customer acquisition.

Sangoma is now using various marketing techniques typical of technology firms to accomplish those two objectives. 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 via email/social media/etc., webinars, creating thought leadership pieces, PR, etc.

In addition to the overall corporate messaging, in support of the above two objectives, Sangoma has developed a comprehensive set of channel promotion programs, aimed at the Company’s indirect partners described above, both distributors/master agents as well as resellers/agents. The Company seeks to attract new channel partners and to grow the business with existing partners. Sangoma has implemented several incentive programs to reward its channel partners for performance and behaviours that Sangoma believes will grow revenues.

## **RESULTS OF OPERATIONS**

All amounts are in thousands of United States dollars except where otherwise indicated.

### **SUMMARY**

The following table outlines our unaudited condensed consolidated interim statements of loss and comprehensive loss for the periods indicated:

	<b>Three month periods ended</b>				
	<b>2023</b>	<b>2022</b>	<b>Change</b>	<b>Change</b>	
	\$	\$	\$		%
<b>Revenue</b>	<b>63,028</b>	64,051	(1,023)	(2)	%
Cost of sales	<b>19,000</b>	20,714	(1,714)	(8)	%
Gross profit	<b>44,028</b>	43,337	691	2	%
Expenses					
Sales and marketing	<b>16,517</b>	15,648	869	6	%
Research and development	<b>9,315</b>	9,429	(114)	(1)	%
General and administration	<b>19,114</b>	19,293	(179)	(1)	%
Foreign currency exchange loss	<b>55</b>	36	19	53	%
Interest expense (net)	<b>1,662</b>	1,578	84	5	%
Restructuring and business integration costs	<b>156</b>	52	104	200	%
Gain on change in fair value of consideration	<b>—</b>	(1,581)	1,581	(100)	%
Loss before income tax	<b>(2,791)</b>	(1,118)	(1,673)	150	%
Provision for income taxes					
Current	<b>385</b>	41	344	839	%
Deferred	<b>(732)</b>	817	(1,549)	(190)	%
<b>Net loss</b>	<b>(2,444)</b>	(1,976)	(468)	24	%
Other comprehensive income					
Items to be reclassified to net income					
Change in fair value of interest rate swaps, net of tax	<b>(93)</b>	437	(530)	(121)	%
<b>Comprehensive loss</b>	<b>(2,537)</b>	(1,539)	(998)	65	%
<b>Loss per share</b>					
Basic	<b>\$ (0.07)</b>	\$ (0.06)	(0.01)	23	%
Diluted	<b>\$ (0.07)</b>	\$ (0.06)	(0.01)	23	%
<b>Weighted average shares outstanding (thousands)</b>					
Basic	<b>33,127</b>	32,953	174	1	%
Diluted	<b>33,127</b>	32,953	174	1	%

## REVIEW OF OPERATIONS

### Revenue

	Three month periods ended						
	September 30, 2023	September 30, 2022	Change	Change	June 30, 2023	Change	Change
	\$	\$	\$	%	\$	\$	%
Service revenues	<b>51,156</b>	48,324	2,832	6%	50,214	942	2%
Percent of total revenues	<b>81%</b>	75%	6%	8%	79%	2%	2%
Product revenues	<b>11,872</b>	15,727	(3,855)	(25)%	13,466	(1,594)	(12)%
Percent of total revenues	<b>19%</b>	25%	(6)%	(24)%	21%	(2)%	(2)%
<b>Total revenues</b>	<b>63,028</b>	64,051	(1,023)	(2)%	63,680	(652)	(1)%

Sales for the first quarter of fiscal 2024 ended September 30, 2023 were \$63,028, down 2% from the \$64,051 in the comparable first quarter of fiscal 2023. The year-over-year decrease in quarterly revenue primarily resulted from the decline in product revenue. The decreased Product revenue is now more in line with the Product revenue we experienced prior to the COVID-19 outbreak and the corresponding hold on Capex spending by customers given the resulting global economic conditions. Services revenue was up 6% from the same quarter of the prior year and up 2% from the immediately preceding quarter. Service revenue represented 81% of total revenue this quarter, up from 75% in the same quarter of the prior year, and consistent with our organic growth objective.

When compared sequentially, sales was down 1% from \$63,680 in the fourth quarter of fiscal 2023. This decrease is a reflection of the increase in Services revenue and a larger decrease in Product revenue.

### Cost of revenue and gross profit

	Three month periods ended September 30			
	2023	2022	Change	Change
	\$	\$	\$	%
Cost of sales	<b>19,000</b>	20,714	(1,714)	(8)%
Gross profit	<b>44,028</b>	43,337	691	2%

The cost of sales for the first quarter ended September 30, 2023 was \$19,000 compared to \$20,714 last year, drive primarily by the decrease in Product revenues.

Gross profit for the first quarter ended September 30, 2023 was \$44,028, up 2% from the \$43,337 realized in the same quarter ended September 30, 2022. Gross margin for the first quarter of fiscal 2024 was approximately 70% of revenue. This is up 2% from the same quarter last year helped by the increase in the service revenues and the revenue mix.

### Expenses

Consistent with IFRS, costs are allocated by function except for the impact of foreign exchange, which can result in swings between time periods.

	Three month periods ended September 30			
	2023	2022	Change	Change
	\$	\$	\$	%
Sales and marketing	16,517	15,648	869	6%
Research and development	9,315	9,429	(114)	(1)%
General and administration	19,114	19,293	(179)	(1)%
Foreign currency exchange loss	55	36	19	53%

### Sales and marketing

Sales and marketing expense was \$16,517 for the first quarter of fiscal 2024, an increase from the \$15,648 incurred in the same quarter of fiscal 2023, as the Company builds out a stronger and more effective sales and marketing team, which results in higher operating expenses.

### Research and development

A portion of the Company's R&D costs are capitalized each period and amortized on a straight-line basis over three years (see the audited consolidated financial statements and related notes for the fiscal year ended June 30, 2023, available at [www.sedarplus.ca](http://www.sedarplus.ca) and [www.sec.gov](http://www.sec.gov)).

The engineering expenses incurred, and the development costs amortized during the first quarter of fiscal 2024 were \$9,315. This was lower than the \$9,429 incurred in the same quarter last year, mostly as a result of higher capitalization of labor costs on development projects, but no change as a percentage of revenue at approximately 15% due to the nature of the development projects being worked on. For the quarter ended September 30, 2023, the Company did not have any significant projects that have not yet generated revenue, nor did it have any products or services that are not fully developed, and which are material to the Company.

### General and administration

General and administration expenses were \$19,114 for the quarter ended September 30, 2023, compared to \$19,293 in the same period of fiscal 2023. The decrease in spending is driven primarily by the non-cash expenses including share-based compensation, amortizations, projects depreciation, and early stages of cost savings initiatives.

### Foreign exchange

Foreign exchange loss for the quarter ended September 30, 2023 was \$55, compared to a loss of \$36 in the same period of fiscal 2023.

	<b>Three month periods ended</b>			
	<b>September 30</b>			
	<b>2023</b>	2022	Change	Change
	\$	\$	\$	%
Interest expense (net)	<b>1,662</b>	1,578	84	5%
Restructuring and business integration costs	<b>156</b>	52	104	200%
Gain on change in fair value of consideration payable	—	(1,581)	1,581	(100)%

### Interest expense (net)

Net interest expense for the quarter ended September 30, 2023 was \$1,662, higher than the \$1,578 in the same period last year, reflecting the higher interest rate environment.

### Restructuring and business integration costs

For the first quarter of fiscal year 2024, Sangoma recorded immaterial costs of \$156 directly associated with a reduction of staff. In the same period last year, Sangoma recorded restructuring and integration costs of \$52.

### Consideration payable

As part of the agreement for the purchase of StarBlue, Sangoma processes certain payroll transactions for Star2Star Holdings (“Holdings”) option holders each time an installment of the remaining share consideration is distributed. All of the remaining common shares were issued to the StarBlue sellers in the prior fiscal year ended June 30, 2023, and following this issuance, the Company has no further obligation to issue any additional shares in connection with the StarBlue acquisition. As of September 30, 2023, the Company in accordance of the agreement, has crystallized \$1,894 which will be distributed to the seller in cash before June 30, 2024.

### **Net loss**

Net loss for the first quarter was \$2,444 (\$0.07 loss per share fully diluted), compared to a net loss of \$1,976 (\$0.06 loss per share fully diluted) for the equivalent quarter of the prior year.

### **Adjusted EBITDA**

The derivation of Adjusted EBITDA and the reconciliation of net income to Adjusted EBITDA for the comparable quarter and each fiscal year is shown in the table below.



	<b>Three month periods ended September 30</b>			
	<b>2023</b>	2022	Change	Change
	\$	\$	\$	%
Net loss	<b>(2,444)</b>	(1,976)	(468)	24%
Tax	<b>(347)</b>	858	(1,205)	(140)%
Interest expense (net)	<b>1,662</b>	1,578	84	5%
Share-based compensation	<b>662</b>	915	(253)	(28)%
Depreciation of property and equipment	<b>1,073</b>	1,306	(233)	(18)%
Depreciation of right-of-use assets	<b>759</b>	996	(237)	(24)%
Amortization of intangibles	<b>8,361</b>	8,577	(216)	(3)%
Restructuring and business integration costs	<b>156</b>	52	104	200%
Gain on change in fair value of consideration payable	—	(1,581)	1,581	(100)%
Adjusted EBITDA	<b>9,882</b>	10,725	(843)	(8)%
Percentage of revenue	<b>16%</b>	17%	—	(1)%

Adjusted EBITDA for the first quarter ended September 30, 2023 was \$9,882, down from \$10,725 in the equivalent quarter of the prior year, primarily due to gain in the fair value of consideration payable.

## **QUARTERLY RESULTS OF OPERATIONS**

Selected financial information over the prior eight quarters is shown in the table below.

	Second quarter	Third quarter	Fourth quarter	First quarter	Second quarter	Third quarter	Fourth quarter	First quarter
	2022	2022	2022	2023	2023	2023	2023	2024
Sales	\$ 53,186	\$ 53,366	\$ 66,301	\$ 64,051	\$ 62,035	\$ 62,764	\$ 63,680	\$ 63,028
Gross Profit	\$ 38,353	\$ 37,201	\$ 44,461	\$ 43,337	\$ 42,789	\$ 44,424	\$ 42,241	\$ 44,028
Operating Expenses <sup>1</sup>	\$ 39,194	\$ 40,137	\$ 45,714	\$ 44,406	\$ 44,258	\$ 43,368	\$ 43,708	\$ 45,001
Net loss	\$ (2,477)	\$ (6,755)	\$ (99,247)	\$ (1,976)	\$ (2,735)	\$ (685)	\$ (23,630)	\$ (2,444)
Net loss per share								
Non-diluted basis	\$ (0.08)	\$ (0.21)	\$ (2.99)	\$ (0.06)	\$ (0.08)	\$ (0.02)	\$ (0.72)	\$ (0.07)
Fully diluted basis	\$ (0.08)	\$ (0.21)	\$ (2.99)	\$ (0.06)	\$ (0.08)	\$ (0.02)	\$ (0.72)	\$ (0.07)
Adjusted EBITDA	\$ 10,433	\$ 10,469	\$ 11,129	\$ 10,725	\$ 10,566	\$ 12,243	\$ 10,860	\$ 9,882

<sup>1</sup> Operating Expenses consist of sales and marketing, research and development, general and administration and foreign exchange (gain) loss.

### **Sales and Net Loss by Quarter**

Revenue over the comparative periods has been positively impacted by the acquisition of NetFortris in March 2022, the organic growth within the existing Services business. As anticipated, fiscal 2024 has seen a decline in the Product business to levels more in line with the Product revenue we experienced prior to the COVID-19 outbreak and the corresponding hold on Capex spending by customers given the resulting global economic conditions. While Product revenue continued to decline, this decline was partially offset by the increase in Services revenue during the quarter. The increasing Services revenue trend resulted in a favorable revenue mix and contributed to a higher gross profit and gross profit percent. Building out a stronger and more effective sales and marketing team is resulting in higher operating expenses, higher net loss, and lower EBITDA this quarter over the comparative periods.

## **LIQUIDITY AND CAPITAL RESOURCES**

As of September 30, 2023, Sangoma had current assets of \$58,845 and current liabilities of \$58,940, compared with \$61,623 and \$63,191 at June 30, 2023, respectively. The decrease in current assets is mainly due to the collection of trade and other receivables and other current assets, while the decrease in current liabilities is primarily due to the payment of accounts payable and accrued liabilities.

The Company ended the first quarter with \$11,139 of cash compared to \$11,156 at June 30, 2023. The Company used a portion of its cash to continue paying down the debts, accounts payable and accrued liabilities.

Trade receivables of \$15,753 on September 30, 2023, were slightly lower than the \$16,060 on June 30, 2023, primarily as a result of the tightening of credit policies and increased focus on collection efforts.

Inventories were \$17,890 on September 30, 2023, \$80 lower than the \$17,970 at June 30, 2023, primarily a reflection of management's position to continue drawing down on existing inventories for product sales.

Sangoma generated \$7,644 of Adjusted Cash Flow from operations during the first quarter of fiscal 2024, more than double compared to \$3,201 in the same quarter last year. The reconciliation of net cash flows from operating activities to Adjusted Cash Flow for the three month periods ended September 30, 2023, and 2022 are shown in the table below.

	Three month periods ended September 30			
	2023	2022	Change	Change
	\$	\$	\$	%
Net cash flows from operating activities	7,849	3,642	4,207	116%
Less capitalization of development costs	(1,915)	(1,768)	(147)	8%
Interest expense on term loans and operating facility	1,554	1,275	279	22%
Restructuring and business integration costs	156	52	104	200%
<b>Adjusted cash flow from operations</b>	<b>7,644</b>	<b>3,201</b>	<b>4,443</b>	<b>139%</b>

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.

### Credit Facility

On October 18, 2019, the Company entered into a new credit agreement (the “Original Credit Agreement”) in favour of its subsidiaries, Sangoma Technologies Inc. and Sangoma US Inc. (the “Borrowers”) with inter alia The Toronto-Dominion Bank and The Bank of Montreal, as lenders (the “Lenders”). Under the terms of the Original Credit Agreement, the Lenders provided the Borrowers with a term loan facility to refinance the Company’s existing credit facilities and to fund part of the purchase of VI Acquisition.

On March 31, 2021, the Company entered into an amended and restated credit agreement (the “Amended and Restated Credit Agreement”) which amended and restated the Original Credit Agreement to allow the Company to fund part of the StarBlue Acquisition.

On March 28, 2022, the Company entered into the Second Amended and Restated Credit Agreement (the “Second Amended and Restated Credit Agreement”) which amended and restated the Amended and Restated Credit Agreement to allow the Company to fund part of the NetFortris Acquisition. The Second Amended and Restated Credit Agreement is comprised of: (i) a \$6,000 revolving credit facility, (ii) a \$21,750 term credit facility, which was used to partially fund the Voip Innovation Acquisition (iii) a \$52,500 term credit facility, which was used to partially fund the StarBlue Acquisition, (iv) a \$45,000 term credit facility, which was used to partially fund the NetFortris Acquisition (the “Term 3 Facility”), and (v) a \$1,500 swingline credit facility.

On June 28, 2022, the Company entered into the first amendment to the Second Amended and Restated Credit Agreement to reflect certain administrative amendments and to amend the amount of the Term 3 Facility quarterly principal installments.

On October 19, 2022 and January 31, 2023 the Company drew down \$3,000 and \$2,300 from the revolving credit facility, respectively. As of September 30, 2023, these amounts remain outstanding.

On April 6, 2023 the Company entered into a second amendment to the Second Amended and Restated Credit Agreement to reflect certain administrative amendments and to amend the amount of the revolving

credit facility from \$6,000 to \$20,000 and the amount of the swingline credit facility from \$1,500 to \$5,000.

On April 23, 2023 the Company, as was originally intended on closing of the NetFortris acquisition, drew down \$8,600 from the revolving credit facility primarily to fund the earn-out owing to the sellers pursuant to the stock purchase agreement dated March 28, 2022 (the “NetFortris Purchase Agreement”). As of September 30, 2023, this amount remains outstanding.

Under its Second Amended and Restated Credit Agreement with its lenders, the Company must satisfy certain financial covenants, principally in respect of total funded debt to earnings before interest, taxes and amortization, and debt service coverage ratio. As at September 30, 2023, the Company was in compliance with all covenants related to its Credit Agreement.

## **CONTRACTUAL OBLIGATIONS**

The following table shows the movement in contractual liabilities from July 1, 2023 to September 30, 2023:

	\$
Opening balance, July 1, 2022	15,067
Revenue deferred during the period	23,839
Deferred revenue recognized as revenue during the period	(24,355)
Additions through business combination	—
<b>Ending balance, June 30, 2023</b>	<b>14,551</b>
Revenue deferred during the period	9,185
Deferred revenue recognized as revenue during the period	(10,157)
<b>Ending balance, September 30, 2023</b>	<b>13,579</b>
<b>Contract liabilities - Current</b>	<b>10,053</b>
<b>Contract liabilities - Non-current</b>	<b>3,526</b>
	<b>13,579</b>

## **Commitments**

The table below outlines our contractual commitments as of September 30, 2023:

	within 12 months	12-24 months	24-36 months	>36 months	Total
	\$	\$	\$	\$	\$
Accounts payable and accrued liabilities	20,144	—	—	—	<b>20,144</b>
Sales tax payable	5,802	—	—	—	<b>5,802</b>
Consideration payable	1,894	—	—	—	<b>1,894</b>
Operating facility and loans	17,700	22,050	20,600	36,050	<b>96,400</b>
Lease obligations on right of use assets	3,281	3,097	2,144	6,863	<b>15,385</b>
Other non-current liabilities	—	—	—	1,546	<b>1,546</b>
	<b>48,821</b>	<b>25,147</b>	<b>22,744</b>	<b>44,459</b>	<b>141,171</b>

## **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 notes to the consolidated financial statements, the Company is not party to any material transactions with related parties.

## **CRITICAL ACCOUNTING POLICIES AND ESTIMATES**

The preparation of our consolidated financial statements in conformity with IFRS requires management to make estimates and assumptions that affect the amounts reported in the consolidated financial statements and accompanying notes. We review these estimates on an ongoing basis based on management's best knowledge of current events and actions that we may undertake in the future. Actual results could differ from these estimates. All significant estimates and critical judgments, estimates, and assumptions are described in Note 3 of the Company's Financial Statements.

## **FINANCIAL INSTRUMENTS AND OTHER INSTRUMENTS**

The fair values of the cash and cash equivalents, trade and other receivables, contract assets, other current assets, accounts payable and accrued liabilities, approximate their carrying values due to the relatively short-term nature of these financial instruments or as these financial instruments are fair valued at each reporting period. The fair values of operating facility and loans approximate their carrying values due to variable interest loans or fixed rate loan, which represent market rate. Derivative assets and liabilities and consideration payable are recorded at fair value. Further details relating to our financial instruments, the risks associated with the financial instruments and how we manage those risks, are described in Note 4 of the Company's Financial Statements.

## **OUTSTANDING SHARE INFORMATION**

We are currently authorized to issue an unlimited number of common shares. As of the date hereof, 33,184,200 common shares and 699,395 stock options and 253,891 share units are issued and outstanding.

## **CONTROLS AND PROCEDURES**

Management of the Company, under the supervision of the Chief Executive Officer and Chief Financial Officer, is responsible for establishing and maintaining (i) disclosure controls and procedures, and (ii) adequate internal control over financial reporting ("ICFR") (as defined under applicable Canadian securities laws and by the United States Securities and Exchange Commission ("SEC") in Rule 13a-15(e) under the Securities Exchange Act of 1934, as amended (the "Exchange Act") for the company to ensure that (i) material information relating to the Company is made known to management by others,

particularly during the period in which the annual and interim filings are being prepared; and (ii) information required to be disclosed by the Company in its annual and interim filings or other reports filed or submitted under securities legislation is recorded, processed, summarized and reported within the time period specified in securities legislation.

Management, under the supervision and with the participation of our Chief Executive Officer and Chief Financial Officer and oversight of the Board of Directors evaluated the effectiveness of our ICFR as of September 30, 2023 against the criteria set forth in Internal Control – Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission. Based upon the evaluation, management has concluded that the Company’s disclosure controls and procedures were effective.

The Company identified a significant deficiency in its annual management discussion & analysis dated September 27, 2023 (the “**2023 Annual MD&A**”), which continues to exist as of September 30, 2023 and which the Company is addressing through the implementation of mitigation processes set out in the 2023 Annual MD&A.

## **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 allows 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 compresses 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.

### DID

Direct Inward Dialing (“DID”) is a virtual phone number that uses the existing phone lines to route incoming calls. Callers can connect to a phone extension directly without an operator. This offers convenience for both employees and callers alike. DID offers a cost saving on its own and is less expensive when purchased with a SIP trunk.

### 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.

### IoT

Internet of Things (“IoT”) refers to a system of interrelated, internet-connected objects that are able to collect and transfer data over a wireless network without human intervention.

### 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.

### SD-WAN



A Software-defined Wide Area Network (“SD-WAN”) uses software to control and manage connectivity across a customer's wide area network. While traditional wide area networks rely on physical routers to connect remote users, this centralized software solution can help customers monitor their performance of the network and manage traffic.

#### 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. VoIP is not necessarily voice over the Internet, but voice over general data networks.