MEGATRENDS IT & Telecom

The Smart Cube

The latest developments, innovations and players in the market — August 2021

1 Rise in remote working accelerates cloud services

Drivers

Large companies are **shifting towards a cloud-based infrastructure** from traditional data centres, driven by enhanced **cost optimisation, and increased flexibility and productivity**

According to **Gartner**, spending on public cloud services is expected to post a growth of **23%** (Y-o-Y in 2021) and reach **$332 billion**

During the **COVID-19 pandemic**, the process of migration to cloud data centres has accelerated as companies move to a **remote working set-up**

According to **Cisco Systems** cloud data centres will hold **95%** of total data centre traffic share globally by 2021

Reflecting strong growth in cloud hosting over traditional data centres

Companies are increasingly adopting **hybrid cloud**, a combination of private and public cloud, to retain critical information on private servers and transfer what is less critical onto public cloud; public cloud offers **low cost**, **flexibility** and **scalability** whereas private cloud offers security

In April 2021

Google Cloud signed a partnership with Broadcom (a US-based IT firm) to offer its cloud infrastructure capabilities for the latter's security and enterprise operations software

In May 2021

Vodafone (a UK-based telecom company) signed a 6-year partnership with Google Cloud; the company aims to utilise Google's cloud offering to transfer data from multiple systems and develop Nucleus, a new integrated data platform

Software as a Service (SaaS), Platform as a Service (PaaS) and Infrastructure as a Service (IaaS) – companies now prefer to use these services on a subscription basis - rather than owning them – for the following reasons: cost savings due to lower upfront cost, time savings due to quick configuration and deployment, high accessibility as it is hosted centrally and high scalability

According to **Gartner**

Desktop as a Service (DaaS) markets are expected to post **67.7%** Y-o-Y sales growth in 2021

Infrastructure as a Service (IaaS) markets are expected to post **38.5%** Y-o-Y sales growth in 2021

As organisations focus on infrastructure that can support remote workforce demands

Key insights

For suppliers

- Companies that provide physical data centres will increasingly launch and improve cloud services to meet increasing demand for cloud-based services
  - Data centre networking providers, such as Cisco, VMware, Arista and Extreme, are transforming their on-premise capabilities into public cloud infrastructures
  - In April 2021, Tencent Cloud (a Chinese cloud firm) launched its first Tencent Cloud Internet Data Center (IDC) in Jakarta, Indonesia, to strengthen its geographical presence in APAC; companies such as Google, AWS and Microsoft are also expanding in the region
- Suppliers may reconsider their pricing and offerings strategy as a rising number of buyers are preferring a subscription-based model instead of owning the product

For buyers

- A rise in the number of companies in the cloud market will increase the bargaining power of buyers
- Buyers should clearly identify information that they want to keep on the private and public cloud to optimise cost savings
- Buyers should develop stringent service-level agreements (SLAs) and clearly specify all the terms and conditions
- Buyers' dependence on suppliers will increase; buyers may set up a Point of Contact (PoC) to engage regularly with the software company and monitor its progress

Impact of COVID-19

↑ Retailers are increasingly leveraging cloud-based infrastructure, instead of traditional web hosting platforms, to avoid downtime as they face a significant surge in orders/transactions during the current situation

↑ Hospitals, healthcare institutions and government health service agencies are also increasingly leveraging cloud-based platforms for storing and sharing patient-related documents/information, along with genome sequencing data for the novel Coronavirus

2 Advanced technologies to improve efficiency and service offerings

Drivers

IT service providers are using advanced technologies such as **AI, blockchain, Internet of Things (IoT), mixed reality and RPA** (Robotics Process Automation) to minimise energy consumption in data centres, enhance security of the value chain network, reduce human effort and efficiently utilise resources

The market for **artificial intelligence** as a service is forecast to post **48.9%** CAGR during 2020–2025 to reach **$28.6 billion** (from $2.7 billion in 2019) driven by strong demand for intelligent automation and cost savings

RPA is also gaining traction in the telecom industry as it significantly reduces cost by automating processes such as billing, invoice processing and document verification

only **10%** of midsized–large telecom companies used RPA in 2018 and by 2021 **90%** of those companies are expected to use RPA, according to **Gartner**

	Examples	Benefits
AI	**May 2021:** Veritone (a US-based AI technology firm) launched an **end-to-end voice-as-a-service** (VaaS) solution, which enables users to create, license, monetise and manage hyper-realistic synthetic voices through an **AI-powered operating system**	**The AI-powered operating system** is expected to help users in the media and entertainment industries reduce time to market, and easily manage compliance and clearance for synthetic voice content
BLOCKCHAIN	**May 2021:** Nokia unveiled a blockchain-powered data marketplace as a service for **digital transformation and data monetisation**	It is expected to help **enterprises develop predictive models** and **accrue profits through data monetisation**
IoT	**April 2021:** Verizon (a US-based telecom company) unveiled IoT connectivity services for enterprises; on a single SIM, the company offers **permanent roaming options in North America and Western Europe**	**IoT connectivity services** will help enterprises better manage various instruments such as asset trackers, sensors and industrial gateways

Key insights

For suppliers

- Large IT and telecom companies may collaborate with start-ups to leverage advanced technologies
  - In April 2021, Siemens Digital Industries Software (a US-based software firm) partnered with Tangent Works (a Belgium-based IT services company) to strengthen its industrial IoT as a service solution
- Cost of service may increase in the short run due to high investment in R&D

For buyers

- Buyers may incur heavy initial investments in adoption of advanced technologies; however, in the long run, they will benefit from improved efficiency and scalability of devices
- Buyers can boost their overall performance by bringing synergies into tech-related tasks; they need to check integration of new technologies with their existing systems
- Buyers can bundle purchase of services with 1–2 suppliers to negotiate discounts
- Buyer can also strategically partner with suppliers to develop customised solutions

Impact of COVID-19

↑ The pandemic has accelerated the roll-out of AI-based solutions due to increasing data complexity and safety concerns

↑ Telecom operators are likely to invest in AI and IoT to come up with technologically advanced solutions and applications, to facilitate a better remote working environment

3 MPLS to SD-WAN and 4G to 5G for better and faster connectivity

MPLS — SD-WAN

High bandwidth at a lower cost

Full visibility into the network

Better connectivity with branch networks

Companies are shifting towards software-defined wide area network

Traditional WAN does not properly support SaaS apps, multi- and hybrid-cloud usage, and other advanced technology-based applications, whereas SD-WAN simplifies network management, is compatible with all applications and **reduces cost (up to 80%) by optimising connections to cloud**

The global SD-WAN market is expected to post a CAGR of 38.5% during 2019–2026 to reach >$19 billion

In April 2021

BT (a UK-based telecom firm) launched new managed secure SD-WAN services, in partnership with Fortinet (a US-based cybersecurity firm); these services will be more secure with enhanced firewall capabilities backed by Fortinet's SD-WAN security

5G implementation is in the initial stages, and several telecom providers started rolling out 5G services at the end of 2018 – it offers higher device capacity and spectrum band, and can improve the communication speed of IoT devices

According to GSMA Intelligence, **$949 billion** will be spent on 5G mobile networks globally during 2019–2025

by 2025, there will be **1.6 billion** 5G connections globally

Several telecom providers in various countries are rolling out 5G connection in phases, as it is associated with strict regulatory approvals and high network construction costs

In April 2021

MAVENIR NVIDIA

Mavenir (a US-based cloud software company), in partnership with Nvidia (a US-based technology firm), launched AI-on-5G Edge to provide better speed, latency and quality to network solutions

By 2023, 32% of North America's mobile connections are expected to be on 5G networks

In Europe, more countries (in addition to countries where 5G is already live) will get new 5G connections in 2021

In other continents 5G rollout will be relatively slow

Key insights

For suppliers

- IT service providers will acquire companies that provide solutions for enterprise networking to enhance their offerings
  - In May 2021, Aryaka (a US-based SD-WAN company) acquired Secucloud (a German network security firm) to offer managed SD-WAN and SASE solutions for the enterprise segment
- Rising demand for SD-WAN and 5G services due to better connectivity will increase the bargaining power of suppliers in the short run as few players offer these services; however, in the long run, the supplier market may become fragmented, and this will reduce suppliers' bargaining power
- 5G service providers will incur heavy spending to develop infrastructure – network-related capital expenditure may increase up to 60% during 2020–2025 (vs. 2018 levels)

For buyers

- Keep a close eye on the rollout of 5G as it will facilitate the implementation of advanced technologies such as AI, IoT and blockchain
  - AT&T postponed its US-wide 5G rollout plans from 2020 to 2021 due to COVID-19
- Buyers should evaluate SD-WAN on the basis of its cloud compatibility, i.e., whether it can be integrated with leading cloud platforms

Impact of COVID-19

↑ Demand for SD-WAN and 5G is likely to witness a significant increase in the short–medium term, as employees increasingly work from home

↑ Telecom operators are expected to make operational investments to ensure better service offerings in terms of network connectivity and internet speed

4 Increasing focus on data security due to rising breach costs

Cause

Rise in:

- **Data breaches**
- **Consumers' fear of identity theft**
- **Anti-trust backlash against large technology companies**

Effect

- **Brand and reputational damage for firms**
- **Increased regulatory fines and remediation costs due to data breaches**

Impact

Data privacy and security has become the top priority for IT and telecom companies

Various governments have implemented data protection rules that lay out strict guidelines for companies that use personal information of individuals

Examples includes

GDPR — **General Data Protection Regulation Implemented in May 2018 for EU**

CCPA — **California Consumer Privacy Act Implemented in January 2020**

A 2021 IBM study found the global average cost per data breach incident was $3.86 million and the life cycle[1] of breach incidents stood at 280 days

The average cost per data breach for these industries rose Y-o-Y in 2020

- 14% Energy
- 11% Healthcare
- 9% Retail

The **global big data security market** is projected to record an **18.8%** CAGR during 2020–2027 to reach **$54 billion** (from $13 billion in 2019) as enterprises need to strengthen security for a **decentralised workforce during the COVID-19 pandemic;** hackers continue to target companies that are unable to protect their systems due to lack of security and poorly trained remote workers

The **launch of various data protection** and **privacy solutions** will improve data security across platforms and raise regulatory adherence

In April 2021, the cybersecurity division of AT&T launched a new managed endpoint security solution to help enterprises safeguard their network and cloud infrastructure from ransomware and other cyberattacks using AI and ML

1) Life cycle of an incident breach is the time it takes an organisation to identify and contain a data breach

Key insights

For suppliers

- High investment is required to introduce changes in technology for data protection; suppliers may pass on price investments to customers by marketing benefits such as reduced man-hours on security checks and time savings in audits and investigations
- Suppliers may collaborate with advanced technology-based companies to enhance the security of their solutions
  - In May 2021, IBM partnered with NeuVector (a US-based security platform provider) to enhance its container security capabilities

For buyers

- In the long run, with reduced data breaches, buyers may realise savings from fewer shutdowns, improved brand image and lower regulatory costs in the IT category
- Buyers may need to train their employees on all potential risks that may lead to a data breach
- Buyers should evaluate supplier's preparedness regarding cybersecurity by sharing a questionnaire on different security parameters

Impact of COVID-19

↑ Cybercrime is expected to grow as companies increase the use of virtual communication platforms in a remote working environment; this is likely to enhance buyers' focus and expenditure on data security solutions

↑ Virtual communication platform providers (e.g. Zoom) and IT firms (e.g. Cognizant) are likely to invest in enhancing their cybersecurity measures

5 Increasing demand for Unified Communications as a Service (UCaaS)

Increasing demand for Unified Communications as a Service

UCaaS

Growing adoption of mobility

Bring your own device (BYOD) model

COVID-19 & WFH

Remote operations and teleconferencing

Collaborative applications

The **global unified communications** and **collaboration market** is forecast to register a CAGR of **8.2%** (2021–2028) ↑ **$30.5 billion** (from $16.2 billion in 2020)

Driven by increasing demand for cloud solutions, mobility and collaborative applications

Gartner predicts that **40%** **of all global telephonic purchases by 2023 will be based on cloud-based unified communications suites,** reflecting growing demand for cloud-based communication tools over on-premises ones

According to IDC, ICT spend in APAC is expected to increase 5% Y-o-Y in 2021, driven by a widespread shift towards long-term remote working set-ups due to the COVID-19 pandemic

IT and telecom players are building stronger UCaaS portfolios through strategic partnerships and launching new communication tools to tap growing market demand

In May 2021

ERICSSON

Ericsson (a Swedish multinational networking and telecom company) launched Remote Office as a Service in the US; the service provides small and midsized businesses in the US with bundled applications, storage and 5G-ready communications tools to enhance flexibility to work from any location/device and reduce dependency on in-house IT teams

In July 2020

aryaka The Cloud-First WAN Company

Aryaka (a UK-based SD-WAN company) partnered with 8x8 (a US-based unified cloud communications provider) to enhance cloud communications' performance across the WAN

In July 2020

zoom

Zoom Video Communication launched a new hardware as a service (HaaS) offering, a cost-effective and flexible solution for its enterprise customers that need higher video conferencing capabilities with minimal upgrade requirements in hardware

Key insights

For suppliers

- Suppliers may reconsider their pricing and offerings strategy to remain competitive, as many new players are offering solutions at lower prices to attract new customers
- Suppliers may collaborate with advanced technology-based companies to enhance the capability of their solutions
  - In April 2021, Maintel (a UK-based UCaaS solution provider) extended its cloud communication partnership with RingCentral (a US-based cloud communications firm); the partnership will give customers an option to integrate Maintel's contact centre solution with RingCentral's UCaaS offering

For buyers

- Rise in the number of companies in the UCaaS market will increase the bargaining power of buyers
- Buyers can also strategically partner with suppliers to develop customised solutions
- Buyers may need to hire or train employees, so that they can use these advanced technology-based solutions properly

Impact of COVID-19

↑ UCaaS demand is expected to grow as companies increase the use of virtual communication platforms in a remote working environment; this is likely to enhance buyers' focus and expenditure on communication solutions

↑ Telecom operators are expected to make operational investments to provide better end-user experience at competitive prices