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Frost Industry Quotient (IQ)

ASIA-PACIFIC HOSTED TELEPHONY AND UNIFIED COMMUNICATIONS SERVICES PROVIDERS, 2015
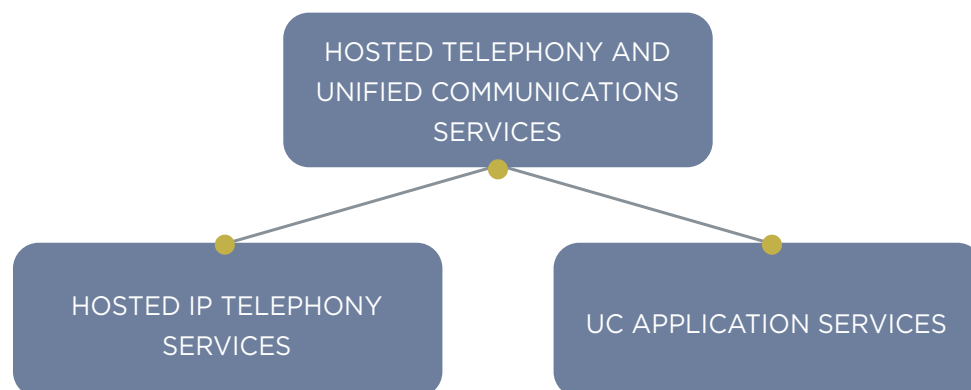
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1. MARKET DEFINITION AND SCOPE

The Hosted telephony and Unified Communications (UC) Application Services are part of the Unified Communications as a Service platform provided by market participants. The following definitions explain the features and components of the services involved.[1]

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                    ┌─────────────────────────┐
                    │  HOSTED TELEPHONY AND   │
                    │  UNIFIED COMMUNICATIONS │
                    │        SERVICES         │
                    └─────────────────────────┘
                       ╱                   ╲
        ┌──────────────────────┐    ┌──────────────────────┐
        │  HOSTED IP TELEPHONY │    │ UC APPLICATION       │
        │      SERVICES        │    │     SERVICES         │
        └──────────────────────┘    └──────────────────────┘
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HOSTED IP TELEPHONY (IP CENTREX AND HOSTED IP PBX)
Hosted IP telephony (IP Centrex or hosted IP PBX) services refer to network-based voice services where all call control, voice switching, PBX functionality and network infrastructure related to service provisioning are owned, maintained and managed by a third-party (i.e., a service provider). Hosted IP telephony services are usually delivered over an IP connection and terminate at an IP endpoint. Mobile hosted IP PBX users are an exception as the service can be delivered over the cellular network and terminates on a mobile device.

A bundled IP Centrex/hosted IP PBX offering may include local and long-distance voice, call control and management features, a data transport line, and Internet access services. The service also provides administrators with a Web-based interface to manage moves, adds and changes (MACs), obtain usage reports and other tasks. Hosted IP telephony typically involves the use of a shared services provider network infrastructure where several clients/customers are supported via the same softswitch or application server. Software instances may be shared or dedicated.

HOSTED/CLOUD UNIFIED COMMUNICATIONS
A hosted UCC solution involves the delivery of pre-integrated network-based applications. The benefits of hosted UCC solutions are based on the vision for ultimate flexibility in accessing communications and collaboration capabilities   anywhere, anytime, on any device and any network.

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[1] The scope of this research study covers only services delivered through hosted/cloud and managed platforms on a subscription basis. Premise-based deployments are not included.

Revenue is calculated based on the end-user price, which is the actual price paid by customers for the service.

UCaaS solutions are sometimes defined by the number of integrated applications sharing presence information and a common/unified user interface. For example, certain service providers have integrated the BroadSoft BroadWorks hosted IP telephony platform with Microsoft Lync (recently rebranded as Skype for Business) to enable a common/unified user interface for both messaging and calling. In such scenarios, the telephony capabilities are supported on a multi-tenant platform, where both the hardware and software components are shared across customer organizations.

In other instances, UCaaS refers to a specific architecture, typically founded upon a virtualized UCC suite of applications hosted in a data center and leveraging a shared hardware infrastructure, yet offering dedicated software instances to individual customer organizations. Examples of this type of architecture include Alcatel-Lucent OpenTouch Cloud Solution, Cisco Hosted Collaboration Suite (HCS), Mitel MiCloud, NEC UNIVERGE Cloud Services, and Toshiba VIPedge. In such scenarios, customers may only be deploying certain elements of the solution (e.g., telephony); however, vendors and service providers use the term UCaaS or cloud UC to refer to the underlying multi-instance architecture.

2. MARKET ASSESSMENT: SIZE AND FORECAST

Hosted Telephony and UC services market has shown signs of strengthening in Asia-Pacific region. Frost and Sullivan estimated that the total spending on Hosted Telephony and the Unified Communication Services has risen to $516.2 million and expected to grow to $1051.3 million at a CAGR of 12.6% (see Figure 1). The market has grown but also become more concentrated with the top players in the market. The industry of BFSI, manufacturing and high-technologies are expected to remain the leading verticals for the conferencing services market. Emerging verticals such as IoT (Internet of Things) companies and education is giving huge growth potential to the market players in the industry. Large state-owned enterprises are also expected to embrace advanced communications technologies to improve their operational efficiency and accelerate business processes.

KEY TRENDS FOR THE ASIA-PACIFIC HOSTED TELEPHONY AND UNIFIED COMMUNICATIONS SERVICES MARKET INCLUDE:

| INCREASING DEMAND FOR CONVERGED COMMUNICATIONS IN OPEX MODEL DRIVING THE SHIFT OF TRADITIONAL PBX INTO HOSTED MODE. | Telephony solutions have evolved considerably over the years. Traditionally deployed and managed separately from IT, telephony solutions are increasingly integrated with other communications and productivity applications on the Internet protocol (IP) network. While converged communications provide significant cost savings and operational efficiencies, they also increase infrastructure complexity. Technology advancements, coupled with tough macroeconomic conditions, have given rise to new technology delivery and consumption models, including hosted IP telephony and cloud unified communications and collaboration (UCC) services. . |

SERVICE PROVIDERS ENRICHING THE SERVICES PORTFOLIO TO CATER TO VARIOUS CUSTOMER NEEDS	Product differentiation is the key to winning customers in hosted/cloud services. Service providers are making substantial investments to create a diversified end-to-end service portfolio. For example, major telecoms operators such as BT, NTT Com launched SIP trunking services in selected Asian countries and are expected to expand to other countries in the short-term. NTT Com also launched Smart PBX that targets SMB sectors with fewer than 30 seats.
OVER-THE-TOP (OTT) PLAYERS EXPECTED TO BE A POTENTIAL THREAT TO INCUMBENT TELECOMS OPERATORS IN THE VOICE SPACE	Emerging OTT players such as Google and Tencent (China) are providing voice and IM capabilities over mobile messaging applications. These solutions are attractive to the SMB sector that looks for cost-effective and low investment technology solutions, posing a huge threat to the revenue stream of telecoms operators in the space.
DYNAMIC REGULATIONS IN THE ASIA-PACIFIC REGION THAT HAMPER THE GROWTH	Many countries in the Asia-Pacific are seeing an early adoption of hosted telephony. However, growth in some countries is restricted due to regulations to protect the voice revenue of local telecoms providers. Regulations such as restrictions in number portability hold back growth in customer base.

Figure 1 - Total Hosted Telephony and Unified Communication Services Market Sizing and Forecast, Asia-Pacific, 2014 – 2021F
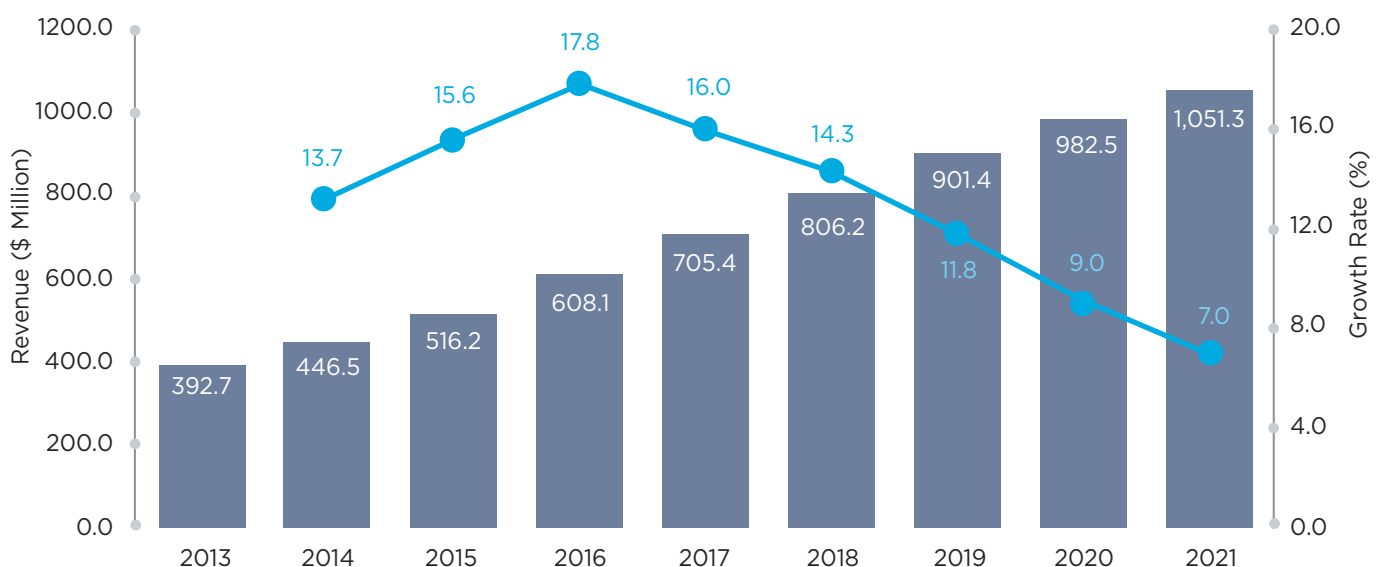
The base year of the study is CY2014.

3. INDUSTRY TRENDS

3.1 REGULATORY

Countries like Australia, Singapore and Hong Kong have few barriers for the service providers to operate in, encouraging more focus on the type of offerings. These countries have seen an upsurge in the hosted telephony market share in the fixed line industry. Service providers offer packages bundled with UC application subscriptions for better collaboration.

Stringent telecoms regulations in countries such as India, China, Indonesia and Vietnam are among of the biggest hurdles for foreign companies to provide hosted telephony services in these areas. Hence, the local telecoms companies in these markets gain a vast monopoly.

In recent years, these country's governments are gradually opening doors for companies to come and invest in the local markets by the use of telecom licensing. In Japan, the government is trying to encourage more competition in the market. Telecoms and service providers join forces to provide value-added service. These activities are likely to continue in these markets, contributing to revenue growth.

3.2 ECONOMIC

Economic growth in the Asia-Pacific region remains favourable compared to other regional blocs. However, there are signs of a slowdown, especially in China, India and Australia, with softened growth projections for these economic powerhouses. However, growing domestic consumption is expected to drive economic recovery.

The countinued depreciation of the regional currencies against the US Dollar brings in drop in profitability for the foreign players in the market. The revenue growth for these foreign service providers remains flat.

Due to this economic outlook, service providers are looking for advanced technologies to add to their profile of solutions and services. However, on global economic cues, the technology investment by foreign players has been slightly declined.

3.3 TECHNOLOGY

In the Asia-Pacific region, technology drives the model of delivery available in multiple deployment methods. Such methods are on-site, private cloud, hybrid cloud and public cloud. Due to the developed nature of Japan, Korea and Australia, the infrastructure supports technology advancements and the product roll out for different types of customers is easy and fast. Developing countries still prefer cloud as an option.

The focus on SMEs in these countries is important as the limitations of the technology such as a minimum user base hampers its penetration into the specific markets. The integration of SIP

trunking remains in the early stages of rapid growth forecasts. The limitation of service providers means the technology is provided as an add-on service to existing users.

3.4 COMPETITION

Competition in the market appears fragmented with the hosted telephony market and on-premise telephones competing on the same servicescape. Service providers are looking at expanding the base of services to most of the countries in the region as a result of improvements in infrastructure and other business strategic moves.

The operational prowess of service providers is an important factor that dictates their eventual success in the market. Regional players in the market are important as well as they dictate the landscape of vendor services in these markets. Regulations by the authorities in certain countries are leading to a higher concentration of local participants.

Figure 2 displays the service providers' market share by revenues in Asia-Pacific for the hosted telephony and unified communication application services market in 2015.

Figure 2 – Asia-Pacific Hosted Telephony and Unified Communication Application Services Market Share, 2015
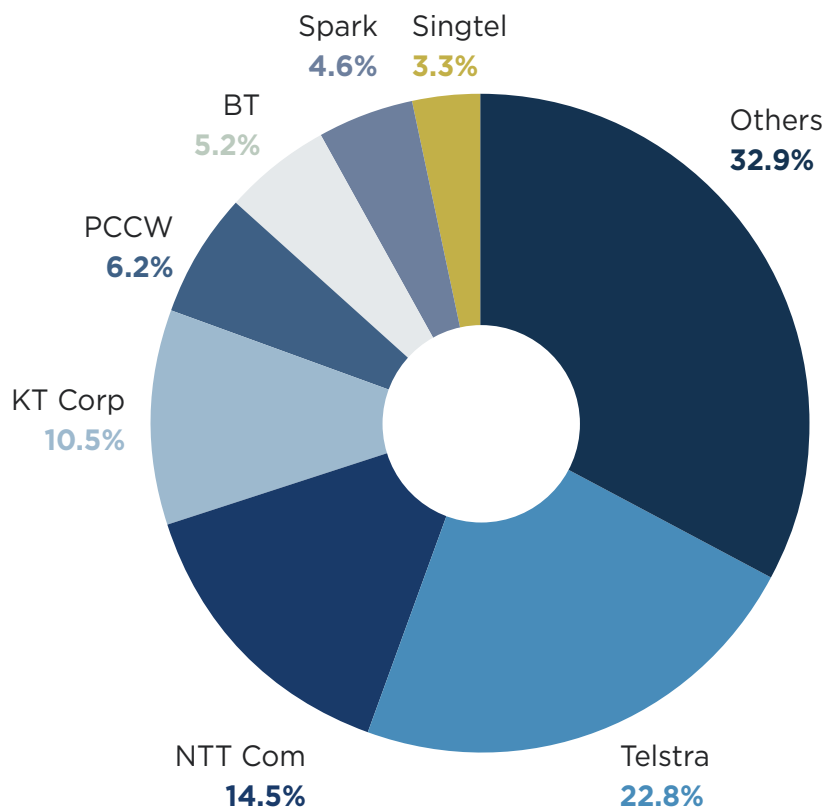
4. FROST IQ MATRIX: ASIA-PACIFIC HOSTED TELEPHONY AND UNIFIED COMMUNICATIONS SERVICES PROVIDERS, 2015

Frost & Sullivan evaluated 11 major service providers in the Asia-Pacific region to identify their position on the Frost IQ matrix. The key criteria used to evaluate the position of service providers on the matrix are:

- Market Share
- Product/Service Strategy
- People and Skills Strategy
- Ecosystem Strategy
- Business Strategy

Frost IQ: Asia Pacific Hosted Telephony and Unified Communication Services, 2015
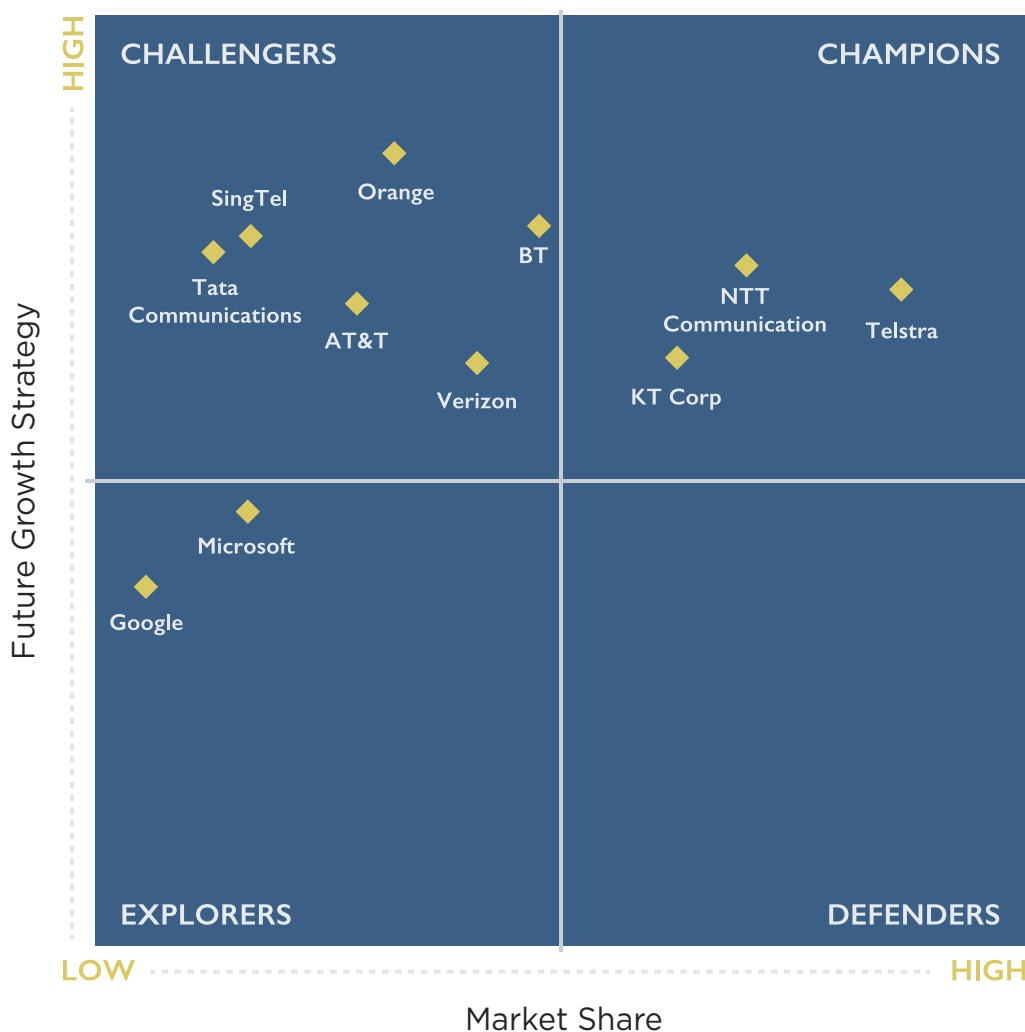
5. PROFILES OF HOSTED TELEPHONY AND UNIFIED COMMUNICATIONS SERVICE PROVIDERS

5.1 AT&T

In the region since 1979, AT&T is known for its infrastructure integrity and service quality. Asia-Pacific is an integral part of the AT&T Mobile & Business Solutions network with regional presence in most countries including India, China, Japan, and South Korea. Its UC solution portfolio is experiencing a rise in customer engagement leading to wider deployment. AT&T cloud-based UCaaS services, based on includes AT&T UC Voice - a cloud-based IP telephony solution, based on Cisco HCS, that offers a rich range of easy-to-use, high-quality voice features. It has the ability to integrate to a number of leading UC clients including natively with Cisco Jabber, Microsoft Lync, IBM Sametime and Google.

STRENGTHS	The company has world-class infrastructure providing stable, reliable and secure unified communications and collaboration services to clients in the region. Servicing 60+ countries globally and 14 countries in the Asia-Pacific region including China, AT&T's broad product portfolio of managed services, MPLS integration and the secure and flexible NetBond cloud connectivity portfolio enables the company to offer complete ICT solutions to customers. The ability to serve the needs of mobile users and the federation of collaboration tools are also attracting customer acquisition.
CHALLENGES	While AT&T's transformative capabilities are compelling, the company has a limited presence among the SMB segment in Asia Pacific. This is mainly due to the fact that the company's primary target customer base outside the US is the top 1,700 multinational corporations globally.

5.2 BT

BT is one of the leaders in service management of telephony and UC and rapidly expanding in the market. Solutions offered by BT are popular and further bolstered by the company's excellent people skills. BT offerings are continuously scaling up especially in the fields of SIP trunks. Data services and converged solutions are also fast expanding BT's presence in the region.

STRENGTHS	Strong sales and marketing activities are pushing BT to the forefront of the ever-growing telephony and UC markets in the region. Brand recognition coupled with an equally extensive product line is also helping BT to outdo the competition by aiming for innovative services and solutions.. Partnerships with vendors such as Cisco, Microsoft and Avaya are also enhancing the reputation of the company in the market.

CHALLENGES	The company's primary focus on large enterprise customer segments has left a gap for competitors to explore the increasingly attractive SME segments. The SME customer segments are crucial to the success of the company in the long run. Developing and nurturing the SME market for BT can lead to higher benefits for its brand.

5.3 GOOGLE

Google is expanding its consumer solutions for businesses and doing it successfully with strong channel partners. Although the presence of the Google ecosystem is low in the Asia-Pacific region, it is certainly on the rise. Google's list of leading channel partners is helping to push its ecosystem of collaboration and conferencing services, audio and web to customers.

STRENGTHS	The Google ecosystem is proven with consumers and has a vast existing customer base. The deployment of Google enterprise solutions promises better efficiency that has in its network some of the world's biggest organizations as clients. Google's productivity clients are set to make telephony easier and faster for companies. There are also plans to integrate Google Voice into the work platform at some point, giving businesses the power to move across platforms for voice.
CHALLENGES	Though the Google ecosystem is well defined with products for telephony and UC services, its portfolio is not as robust. The audio conferencing solution is not that well integrated into the scape, leading to a slower adoption by companies of the Google Work products.

5.4 KT CORP

KT Corp is the biggest service provider of hosted telephony in Korea with an ever-increasing base in its home country. With the increasing adoption of VoIP services, Korea Telecom has partnered with leading channel and infrastructure vendors to provide the level of services needed for the market.

STRENGTHS	KT Corp's services offer excellent connectivity and cross-platform integration. Mobile connectivity and use of fast data services such as LTE increase the efficiency for end-users. Strong partner collaboration also aids the company's expansion into other markets, leveraging its brand proposition of quality and fast services.

CHALLENGES	Expansion outside South Korea is not as rapid with intense competition from other providers' Go-To-Market strategy.

5.5 MICROSOFT

Microsoft is gradually building a wide market presence with its well-articulated UC Services. Microsoft Lync offers superior features and is creating significant value for the brand as a vendor in the market. The integration of Skype has led to market share growth, giving traditional UC vendors like Cisco stiff completion. The integration of Skype and Office 365 into the PSTN network is opening up a gulf of opportunities to explore.

STRENGTHS	Deep integration capabilities with different service providers and vendors' products are making a mark on the market. Microsoft is looking to increase its market share in the area of hosted telephony integration with UC clients such as Lync. The administrative complexities have been simplified keeping ease of use in mind. The long-term prospects for Microsoft look bright with proper implementation.
CHALLENGES	While Microsoft products come with excellent services, the integration capabilities may decline once a full-fledged hosted telephony solution is released. Partnering with the right channel partners to push the Microsoft product portfolio is essential. Innovations in hosted telephony could see a major reshuffle in leading vendors in this space.

5.6 NTT COMMUNICATIONS

The largest telecoms operator in Japan, NTT Com has established an extensive network infrastructure worldwide. Its hosted telephony and UC services are spread uniformly over the Asia-Pacific region with markets in Singapore, Malaysia, and Australia showing healthy growth prospects. The company focused on building its UC services capabilities in 2014, strengthening its SIP trunking portfolio of customers.

STRENGTHS	The Arcstar UcaaS portfolio based on Cisco's HCS system provides all-in-one cloud offerings including voice, IM/presence, and conferencing. Its SIP trunking portfolio is attracting more customers from the large organisation segment. The flexibility brought in by the SIP trunking is increasing the visibility of NTT Communications in the highly-competitive market. Besides, NTT Com is expected to launch UcaaS services on the Microsoft platform in other Asian countries in FY2016.

CHALLENGES	While NTT Com's attention to large enterprises in the region is having a big payoff, it is leaving out the potentially high growth SME segment, especially in countries like China, India, and Indonesia. The ability to serve SME customers with less than 100 licences needs to be enhanced further.

5.7 ORANGE BUSINESS SERVICES

Amidst ever-growing competition, Orange is one of the self-sustaining service providers expanding rapidly. With a keen focus on feature-rich UC solutions, Orange Business Services (Orange) is a prime candidate for innovation. The creation of ecosystems around the services and careful integration of UC services with hosted telephony is one of Orange's key differentiators.

STRENGTHS	The strength of Orange lies in the management of its hosted telephony services. Orange's expansion into the local organization segment has led to a better understanding of the UC market and the solution strategy in demand. A presence in the Asia-Pacific has exposed the company to new organizational expansion strategies in the form of multiple platform system integration. With strong partner base from Cisco, Avaya and Microsoft (Skype for Business), Orange is strengthening its UC market roots.

CHALLENGES	Increasing threat from OTT players in the telephony business with declining fixed line usage are being met with mobility solutions. Low customer penetration into markets with high regulatory policies is a challenge for the future growth strategy of Orange.

5.8 SINGTEL

With a growing presence in developed markets of Australia and Singapore, SingTel has a well-established services portfolio to offer clients. The main offering in the portfolio now includes the cloud-based PBX system, SIP trunking services, Cisco HCS portfolio and so on. The focus on customer experience is a key driver for all of SingTel's core offerings.

STRENGTHS	The aim of making all its solutions easy to use by converging them onto a single platform is being enhanced with excellent system integration. The strength of retaining existing customers and acquiring new ones in the hosted telephony service in ASEAN region has been a highlight of SingTel's business strategy. The success of its cloud integration services with existing equipment, is a major reason SingTel customers are satisfied with its services. The expansion into the SMB segment is possible with its flexible offerings to suit the needs of employees.

CHALLENGES	The growth prospects of SingTel are bright, but integration and branding of the product have to be more in line with customer education in these markets.

5.9 TATA COMMUNICATIONS

With the evolution of the UCaaS market in Asia-Pacific, Tata Communications is leading the way in connecting the business hubs of the world with its SIP Connect service. In 2014, the main focus area for Tata Communications in the telephony services was optimisation of its SIP ConnectTM services as this is a highly lucrative market currently. Tata Communications' channel partners and service providers are helping the company expand into Asia-Pacific with a key focus on Australia, India, and Japan markets.

STRENGTHS	The unification of the telephony and hosted contact centers is what customers demand; which Tata understands well due to its wide presence in the region. The growing demand for unified telephony and on-cloud telephony requirements are being fulfilled by Tata Communications' systems giving companies greater flexibility in their budgetary planning. The market is driven by upgradation demands of customers. The potential of IP telephony and lower cost are attracting customers to the world-class services of Tata Communications.
CHALLENGES	The large presence of Tata Communications in the infrastructure field is not being leveraged for the right sales and marketing strategy even with powerful players such Arkadin and Cisco as its partners.

5.10 TELSTRA

Telstra has emerged as an overall leader in the Asia-Pacific UC services market in 2015. Although Telstra has been focused on the Australian market, its expansion into other markets such as Singapore, Malaysia, Philippines and Indonesia is growing rapidly. Telstra is experiencing growth in its IP telephony, contact centres and conferencing services base. Partnerships with Microsoft, Cisco and Broadsoft provide Telstra with end-to-end UC services platforms.

STRENGTHS	Telstra's acquisition of Pacnet provides the company with a good footprint in Asia. The joint venture with Telekom Indonesia also offers Telstra a good base to roll out its Network Application Services (NAS) portfolio. The mergers and joint ventures with local telecoms companies are helping Telstra to overcome barriers in the markets and strengthen its service delivery. As organisations in Asia look to invest in managed, hosted and cloud services, Telstra is well-placed to offer UC Services due to its end-to-end services offering, cloud, and data center expertise in Asia.
CHALLENGES	The Asia market has an established set of system integrators and highly reputable local players that offer UC Services, presenting a short-term challenge for Telstra. The Telstra brand is still new in Asia, and it will be important for the company to embark on strong marketing initiatives in Asia to promote its UC services.

5.11 VERIZON

Verizon is one of the largest telephony solutions providers in the US. In March 2015, Verizon announced its global expansion strategy, including the next-generation cloud UCaaS. Target markets in Asia-Pacific are Australia, Singapore, Taiwan, China, India, and Hong Kong. Verizon has data centers in major business hubs such as China, Singapore and Australia to provide customers with global unified services.

STRENGTHS	Verizon's overall growth strategy in the region leverages Cisco's advanced system integration platform. Its telephony solutions are becoming more popular with SMBs that are largely ignored by other service providers. This could be a growth opportunity for the company to build its brand.
CHALLENGES	Verizon lacks the local resources to reach local enterprises and government entities in the Asia-Pacific region. Also, the presence of only Cisco systems may limit its reseller proposition.

6. ANALYST WORD

The Asia-Pacific UCaaS market is expected to grow from USD 516.2 Million in 2015 to USD 1051.3 Million in 2021, at an estimated CAGR of 12.6%. Telephony services is the most widely adopted segment in UCaaS while hosted cloud unified communications is the least adopted yet remains an important segment for service providers, presenting robust growth prospects.

Service providers like Telstra, NTT Communications and KT Corp, are in the Champions quadrant because of superior innovation and performance in 2015. The companies are positioned in this section due to their large revenue share in the industry, future growth strategy and positive prospects. With growth-oriented services, these service providers have an extensive number of channel partners aligned with their market presence strategy.

Service providers in the Challenger quadrant are Verizon, BT, SingTel, Tata Communications, AT&T and Orange. While these companies display huge potential in expanding through their current product portfolios, they are in this quadrant due to their limited business presence in the region. SingTel and Tata Communications are Asian-based telecoms operators with core offerings present only in their respective home countries. For Verizon, AT&T, BT and Orange, presence may not be an issue. Instead, there are concerns related to revenue generated despite their regional presence.

Google and Microsoft are in the Explorer quadrant as these participants are still developing their telephony prowess. However, both players are constantly looking to expand and innovate the ecosystems they represent. Both these service vendors are integrating the systems of their its UC clients and hosted telephony for easy management of resources.

7. FROST IQ METHODOLOGY

The focus of Frost IQ is to provide a balanced assessment of selected markets. These markets have been tracked rigorously by Frost & Sullivan's analysts for a period of time. Data collected, such as vendors' revenue, is scrutinized and forms part of the input for the Frost IQ matrix. Information on vendors has been collated from various sources and interviews with over 11 companies.

The study approach provides a mix of quantitative and qualitative assessments. The Frost IQ matrix has two major attributes: Market Share and Future Growth Strategy.

1. MARKET SHARE	Market share information is derived from Frost & Sullivan's research programs that include market trackers and syndicated research reports. Based on regular research studies conducted at quarterly, semi-annually or annual intervals, analysts build a strong revenue database of key participants in the market. According to the Frost IQ Matrix, the X-axis measures the share on a percentage scale. The dividing line on the matrix is set at 50 percent of the market share of the leading player in that market.
2. GROWTH STRATEGY	Frost & Sullivan considers 4 main components in the growth strategy assessment of Frost IQ. The guiding principle is that these components and their subcomponents follow the MECE (Mutually Exclusive and Comprehensively Exhaustive) test. The proposed components are as follows: ○ Product/Service Strategy ○ People and Skills Strategy ○ Ecosystem Strategy ○ Business Strategy There is equal weightage to all the components with measurement on a 10-point scale. The dividing line on the Y-axis is at the mid-point, i.e., a weighted score of 5 on a 10-point scale. Analysts provide feedback on industry participants on the above parameters based on their expertise in the industry. Details of the sub-components are available, if required.

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