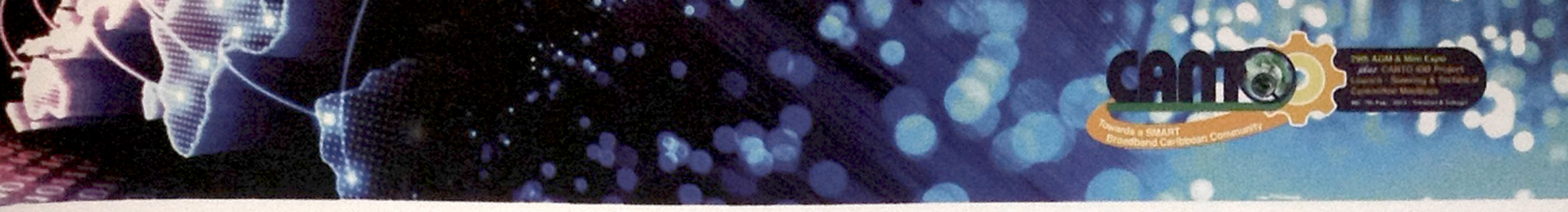

ADVANTAGES OF THE CLOUD IN TODAY'S MOBILE ECOSYSTEM

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In today's challenging economic environment, many mobile network operators are shifting away from a traditional turnkey network infrastructure in favor of cloud-based deployments. Research firm IDC calls cloud computing "one of the most transformative developments in how information technology services are created, delivered, and accessed in the last 20 years." Indeed, this approach has emerged as a way for operators to realize significant economies while introducing new services quickly. Caribbean operators considering the merits of such a strategy should understand how a cloud-based deployment approach can help them achieve their business goals.

Rapidly Changing Ecosystem

Network operators face growing pressure to maintain average revenue per user (ARPU) in the face of increased data demands and competition from new, "over-the-top" (OTT) service providers such as Skype and WhatsApp. These communication options provide IP-based, feature-rich services at little to no cost to subscribers while resulting in no revenue for the operator. As OTT options begin to cannibalize revenues from core services like SMS and voice, operators worldwide seek to remain relevant to their subscribers by introducing new, feature-rich options while maximizing revenue from legacy messaging services.

Despite the worldwide OTT trend, SMS traffic and revenues are projected to increase in Latin America and the Caribbean through year-end 2016, according to Portio Research. However, as the product matures in this region, use of SMS will likely decline. This has been the case in markets such as the United States, where significant smartphone penetration has led to widespread OTT service adoption. As a result, the United States saw a decline of both SMS volume and revenue for the first time in third quarter 2012, according to Chetan Sharma Consulting. Although subscribers in the United States still send an average of more than 650 text messages per month, revenue from this core service has peaked due to the shift to IP-based services. Because smartphone penetration in the Caribbean is currently only 20 percent, operators in this region are likely to see continued growth of SMS—though the lifecycle is likely to follow that of developed markets as smartphone adoption continues. Given this competitive environment, a cloud-based deployment strategy can provide Caribbean operators with a number of advantages as they seek to combat the threat of OTT players and maximize revenues:

Reduced CAPEX – With the rapid rate of transition to all-IP networks, operators can anticipate the introduction of new services to support the more fully featured messaging experience demanded by today's subscribers—but they will also continue to support legacy messaging services. By choosing cloud-based solutions that leverage a shared technology environment rather than buying solutions outright, operators can minimize their required up-front expenditure during this period of evolution.

The cloud-based approach also eliminates the need to create separate platforms on the operator's network, resulting in more streamlined and efficient systems.

Improved Time to Market – The time required to implement turnkey deployments can be significant due to required training of operator personnel, installation of equipment, and configuration and testing of systems. By eliminating these tasks, operators launching cloud-based services can go to market much more quickly than would be possible with a traditional turnkey deployment. This can represent a significant competitive advantage when introducing new services. For example, operators worldwide are enhancing existing messaging services by launching Rich Communication Services (RCS), which give subscribers innovative, IP-based communication options, including video chat, one-to-one and group messaging, and real-time exchange of image or video files during communication sessions. Given growing

popularity of OTT options, time to market is a critical issue for operators that wish to compete with OTT services.

Reduced OPEX – Adding platforms to an existing network translates to higher long-term operational costs and higher total cost of ownership, as each platform typically must be implemented, managed, and supported separately. In a traditional deployment where support personnel must be trained, operators may experience less efficient troubleshooting and an inconsistent subscriber experience, resulting in higher support costs and increased customer churn. With a cloud-based deployment, operators can benefit from support from highly trained professionals, while internal resources can focus on other mission-critical business activities. Additional operational costs, such as real estate, power to run additional systems, equipment maintenance, insurance, and depreciation expense of equipment are also eliminated with a cloud-based approach. Unlike a single operator, a cloud solution provider is likely to benefit from significant economies of scale in these areas.

Improved Scalability – In a turnkey environment, an operator typically estimates its required capacity and sizes its solution accordingly. This results in a "ceiling" for the expected utilization of messaging services in an operator's network and places significant risk on the operator in terms of its estimates. A cloud-based solution eliminates this risk, enabling operators to scale as needed to support growth. This can be critical for operators likely to experience SMS growth over time and for those that wish to mitigate risk associated with introduction of new services.

Cloud Considerations

All cloud-based offerings are not created equal. When evaluating a service provider, operators should understand answers to the following:

- *What is the provider's history with cloud-based deployments? Does it have a lengthy record of success?*
- *Does the solution provider have a demonstrated history of providing secure solutions?*
- *What is its record of reliability?*
- *Does the provider own its own data centers?*
- *Does the provider offer geo-redundant systems?*
- *What deployment flexibility does the service provider offer? Is a private cloud option available, where the technology is installed at the operator's site for its exclusive use but the service provider manages the solution?*
- *What support services are included in the offering?*
- *Is technical support offered 24x7x365?*
- *Does the service provider offer standardized solutions that eliminate vendor lock-in concerns?*

Conclusion

Today's mobile network operators are faced with the challenge of providing high quality legacy services like SMS while planning their next-generation communication strategies. Cloud-based deployments can enable operators to cost-effectively manage existing services while reducing the risks associated with the introduction of new communication tools, such as RCS. Selecting a service provider with a track record of reliability, security, and flexibility, as well as a robust level of support can enhance operators' competitive position in the current mobile environment.