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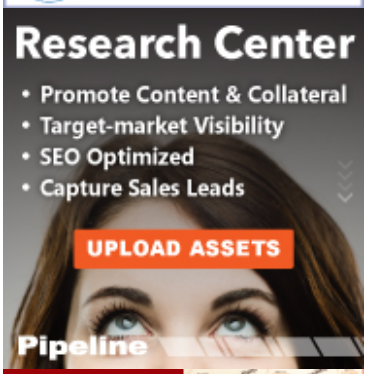

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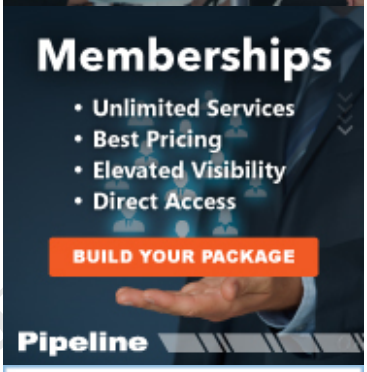

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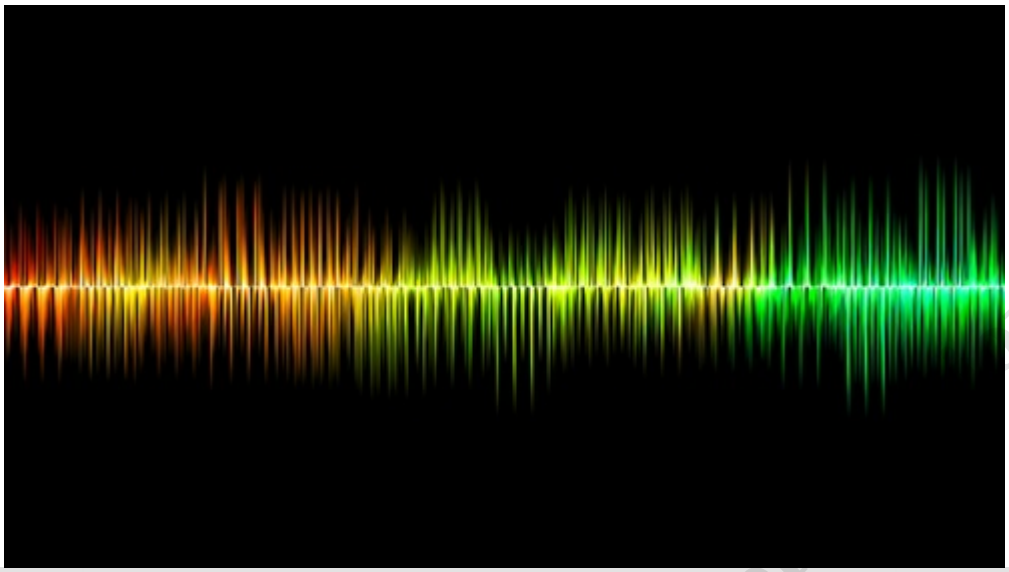

Predicting Colonial Pipeline: Mitigating Risk and Compliance

Mitigating risk and compliance for lawful intercept using lawful intelligence is explored in this Pipeline article feature SS8. Learn how CSPs can comply with lawful intercept regulation, while empowering law information with critical, real-time data.

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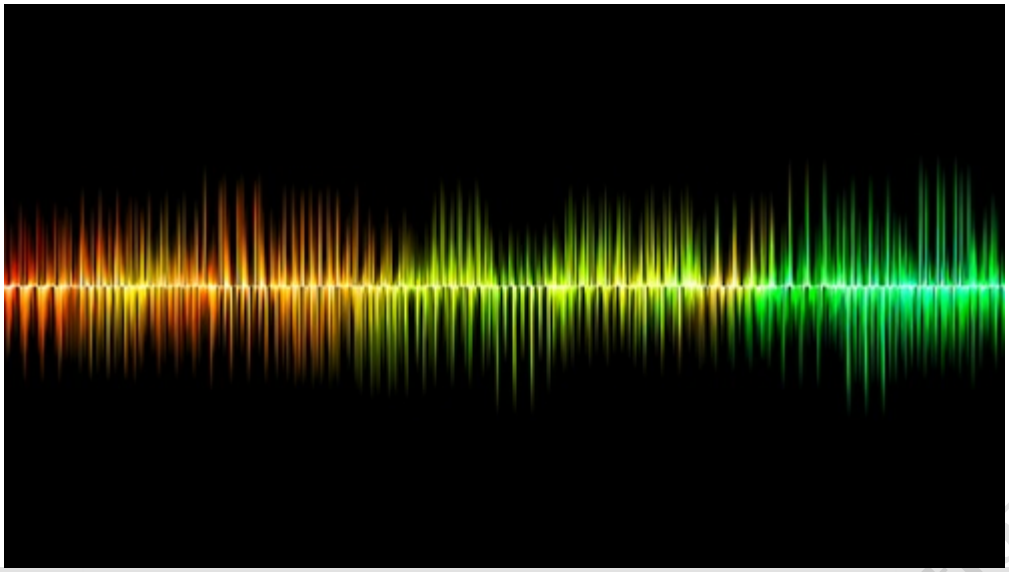
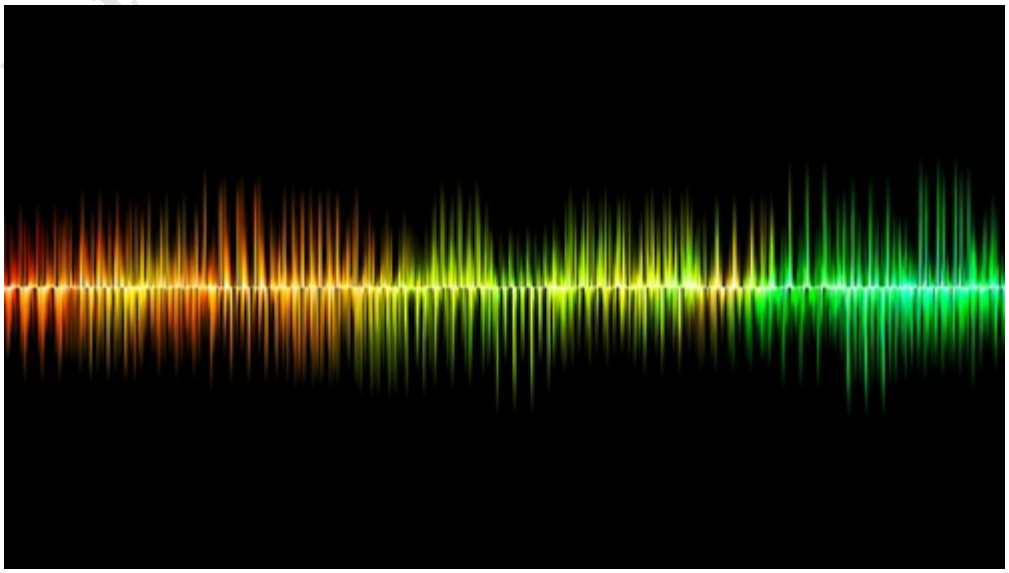


Podcast: The Evolution to 6G

The world’s eyes are already looking forward to the potential of 6G. Demands resulting from innovative use cases, for instance specific requirements from different industries and other user groups, as well as overarching goals like sustainability, are driving the standardization and development of mobile technologies.



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Podcast: AI Gets Personal

Providing an AI-driven network and customer experience and a 360-degree view of the customer journey, including use cases such as gaming, is explored in this Pipeline article by Nokia.

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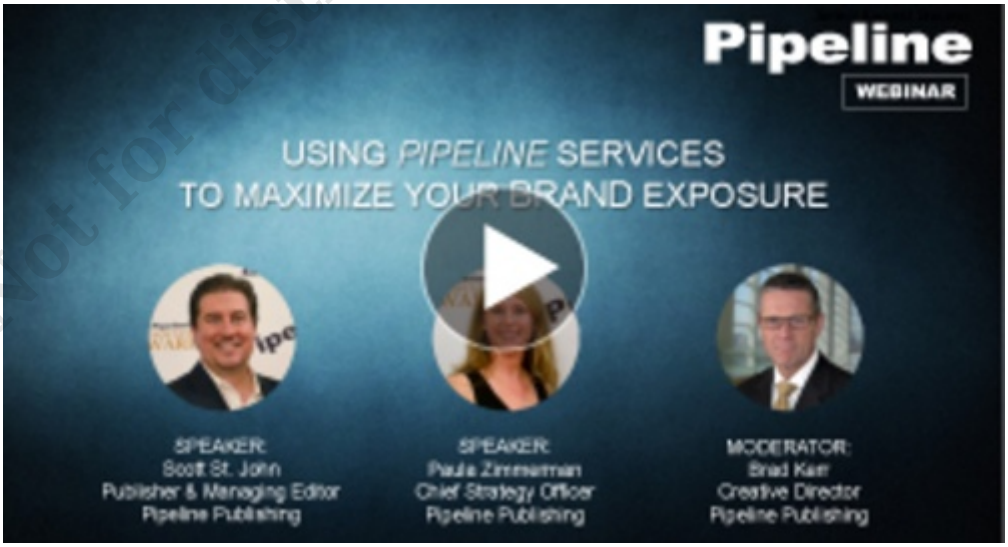

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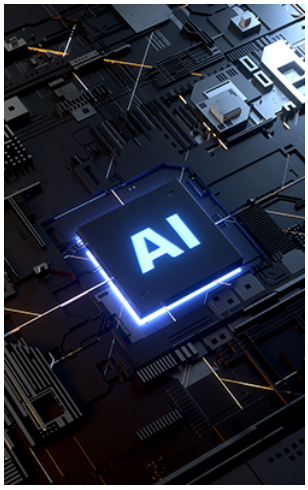

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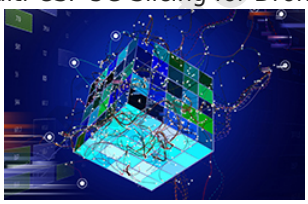

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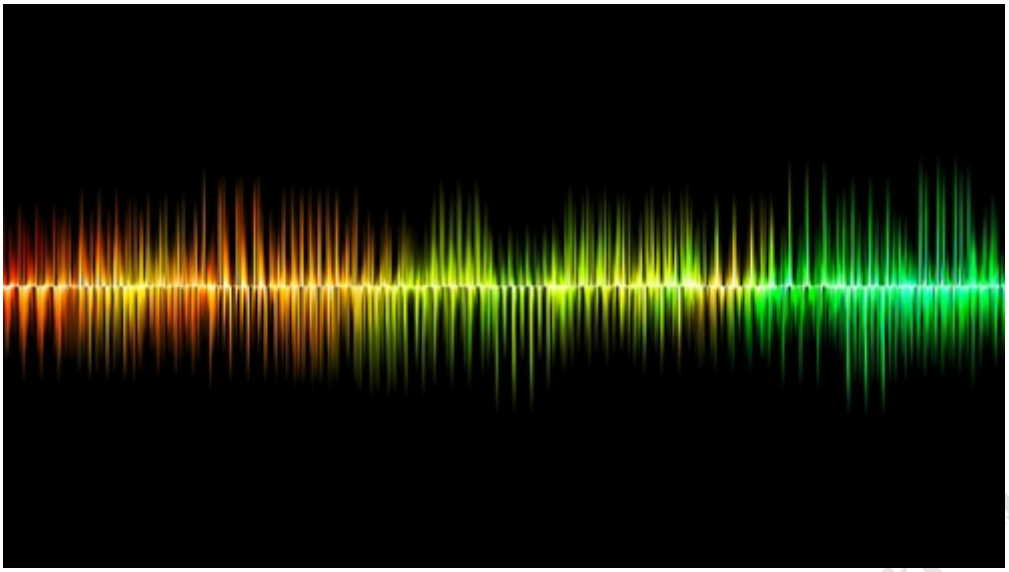

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Info Directions Earns Place on Inc. List as One of America's 5,000 Fastest-Growing Private Companies

5,000 Fast-Growth Companies Report Aggregate Revenue of $214 Billion

VICTOR, August 13, 2009 – Inc. ranked software engineering firm Info Directions, Inc. on its annual ranking of the 5,000 fastest-growing private companies in the country. The list is the most comprehensive look at the most important segment of the economy – America's independent-minded entrepreneurs. Taken as a whole, these companies represent the backbone of the U.S. economy.

"Our third annual Inc. 5000 continues the most ambitious project in business journalism," said Inc. 5000 Project Manager Jim Melloan. "The Inc. 5000 gives an unrivalled portrait of young, underreported companies across all industries doing fascinating things with cutting-edge business models, as well as older companies that are still showing impressive growth."

Established in 1996, Info Directions is an Independent Software Vendor (ISV) that designs, hosts and installs billing, CRM and point of sale solutions for mobile, wireline and IP-based telecommunications service providers. Info Directions' software solutions, including its benchmark CostGuard® and Lexys Point of Sale™ products, help service providers eliminate the complexity of selling, activating, managing, billing and caring for customers. Info Directions also appeared on the Inc. 500 list in 2001.

"It is rewarding to be recognized by Inc. for accomplishing our strategic growth initiatives. We share this Inc. acknowledgement with our clients, who leverage our software solutions to create the new business models and superior customer experiences that drive both their growth and ours," said Don Culeton, president of Info Directions. "Innovation is one of the primary tenets on which Info Directions is built, and appearing on this list reinforces the importance of investing in our position as a leading developer of telecommunications billing, CRM and point of sale applications."

Despite the ongoing recession the aggregate revenue of the 5,000 companies that made the list increased to $214 billion, up $29 billion from last year, with a median three-year growth rate of 126 percent. Most important, the Inc. 5000 companies were engines of job growth, having created more than 1 million jobs since those companies were founded. Complete results of the Inc. 5000, including company profiles and an interactive database that can be sorted by industry, region, and other criteria, can be found on www.inc.com.

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The Cable Customer of the Future: More Autonomous, Mobile & Personalized

3 Key Trends that will Dramatically Change the Cable Industry Over the Next 5 Years

CSG International | May 2012

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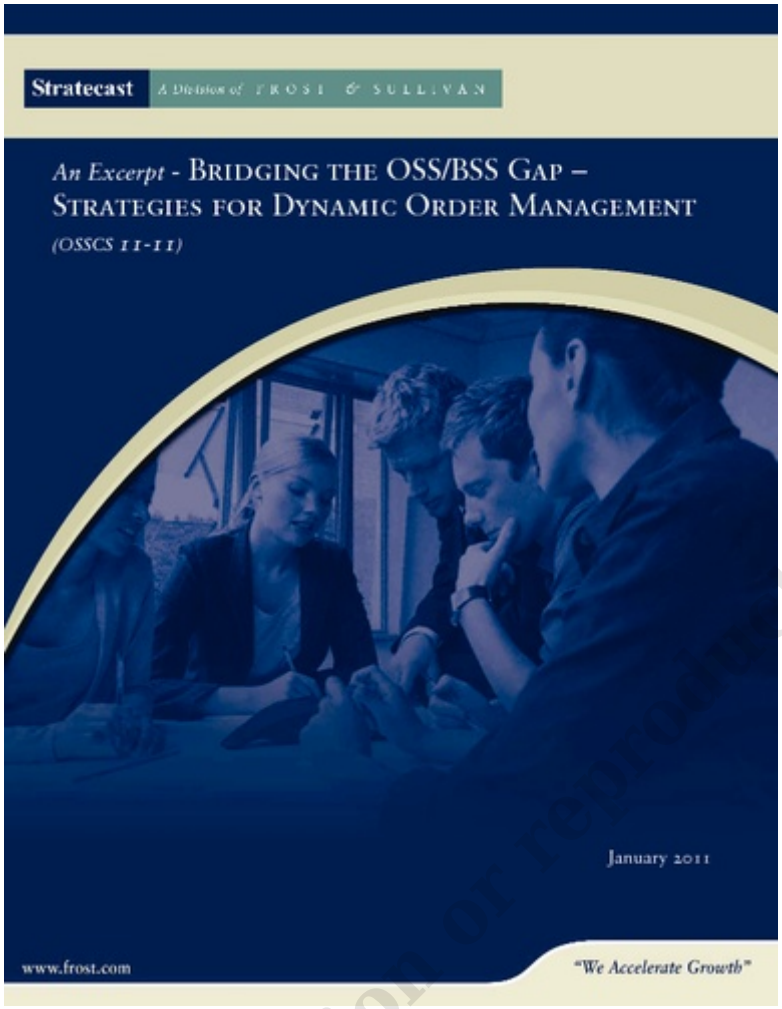

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Cellular One of Northeast Arizona Selects Info Directions' Billing, CRM and Point of Sale Solution

Integrated OSS/BSS/POS solution to help facilities-based wireless provider improve operations and enhance service value throughout its customer support and retail units

LAS VEGAS, CTIA WIRELESS (April 1, 2009) — Info Directions, Inc. (booth #5706), leading developer of net-centric billing, rating, order management, workflow and selling solutions for the telecommunications industry, is pleased to announce that mobile service provider Smith Bagley, Inc., dba Cellular One of Northeast Arizona has selected its CostGuard® OSS/BSS software application and Lexys Point of Sale module. Smith Bagley, Inc. will use the company's line of software solutions in the Info Directions ASP to manage rating, billing, CRM and retail operations for its growing subscriber base.

Smith Bagley, Inc. dba Cellular One of Northeast Arizona is a rural cellular communications company that provides voice and data service over a GSM network in northeast Arizona, southern Utah, and northwest New Mexico. Providing service since 1990, Smith Bagley, Inc. is committed to offering its more than 80,000 subscribers the latest in phones, accessories, content and services for mobile communications.

With the implementation of the CostGuard OSS/BSS and fully integrated Lexys Point of Sale module, Smith Bagley, Inc. will have the ability to secure a single view of customer activities and purchases from both its headquarters location and throughout its network of more than 20 retail locations. The company will leverage the shared CostGuard and Lexys Product Catalog to streamline the launch of new products and services and create upselling and cross-selling opportunities using CostGuard's patent-pending Guided Assignment feature.

"We look forward to using CostGuard to further our mission of providing our customers with cutting edge products and services – from handsets to laptop aircards and everything in between. Having an integrated billing, CRM and point of sale solution gives us the infrastructure needed to improve our operations and respond quickly to the evolving demands of our subscriber base," said Melissa Covington, Director of Technical Operations of Smith Bagley, Inc. "We are pleased to find a partner like Info Directions that is committed to serving the rural wireless market. We anticipate building a long and mutually beneficial partnership with Info Directions."

-more-

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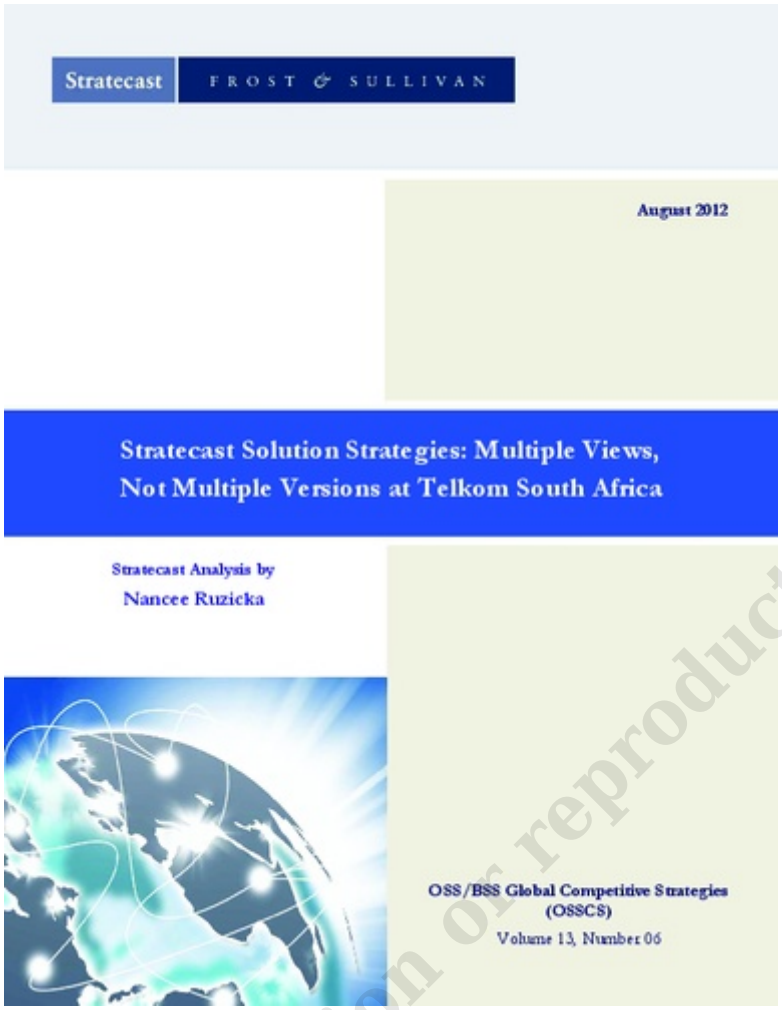

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CONNECTED SERVICES

From wireless to wireline networks, CHR has the insight and expertise that empowers the services connecting customers and communities. We stand ready to partner with you on all your project needs—from concept to construction. Whether you're deploying new networks or launching next-generation services, from funding to field services, CHR is with you every step of the way.

CHR's Connected Services provide the platform for next-gen networks and brings them to life. Our expertise in execution enables IP evolution—guaranteeing improved network reliability and scalability to support the services that maximize ARPU, reduce churn and generate new revenue while achieving regulatory requirements and reducing CAPEX.

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Telia Carrier

IS YOUR GLOBAL WAN DEVOPS FRIENDLY?

SD-WAN: USE CASE

TELIA CARRIER'S SD-WAN SERVICE HELPS DRIVE NETWORK AGILITY AND CONTINUITY TO SUPPORT THE ENTERPRISE ADOPTION OF DEVOPS.

ENTERPRISE DEVOPS

Enterprise DevOps journeys are diverse. Some journeys start due to existential risks, some due to a significant need to cut costs, and others begin with big investments to unlock new business opportunities. Whatever the reason, for large global enterprises, embracing DevOps is a transformative cultural technology journey, focused on agility and continuity of delivery.

SD-WAN: BOOST AGILITY

SD-WAN provides an opportunity for enterprises to build, control, and manage an intelligent overlay network for better integration with cloud and internet environments. Through application awareness, automated policy control, zero-touch provisioning, and other value-added services, enterprises can implement a modular and smart networking architecture to operate faster.

INTERNET: GUARANTEE CONTINUITY

Modern enterprises should build internet-scale operations and manage distributed, globally accessible applications and cloud services that are critical to the DevOps flow and set of practices based on continuous experimentation and feedback loops. Telia Carrier's SD-WAN service will help enterprises avoid persistent Internet underlay problems. We offer a choice of internet access services that provide high-bandwidth, dedicated connections to reach specific sites, applications, and cloud services around the world.

THE OVERLAY AND UNDERLAY: A FUNCTIONAL BOND

A sustainable alignment between the internet underlay and the intelligent SD-WAN overlay will bear the potential to optimize network stability and performance while scaling flexibility for DevOps deployments.

Data generated by DevOps pipelines can traverse our internet backbone network with fewer hops compared to other internet service providers. We directly connect more than 99% of the global internet routing table, making us the world's best-connected internet backbone network.

PARTNERSHIP: CULTURAL FIT

Technology partnerships are critical for building the right DevOps environment. We understand that enterprises expect flexibility, responsiveness, and expertise from us. We ensure customers are always close to the technology of SD-WAN with no unnecessary layering in between.

We help accelerate DevOps journeys with better internet access and a structured tiered on-boarding process to help customers deploy a functioning SD-WAN solution and experience a multitude of benefits.

TOP 3 DEVOPS NEEDS

TEST ENVIRONMENTS

Using zero-touch provisioning DevOps can have a new secure connection for testing environments within minutes.

CI/CD PIPELINE

Deploy applications in minutes, on any platform, with consistent user experience.

AUTOMATION

Automation of manual networking tasks helps DevOps on their own automation journey.

VISIT OUR WEBSITE FOR MORE INFORMATION ON OUR SD-WAN SERVICE

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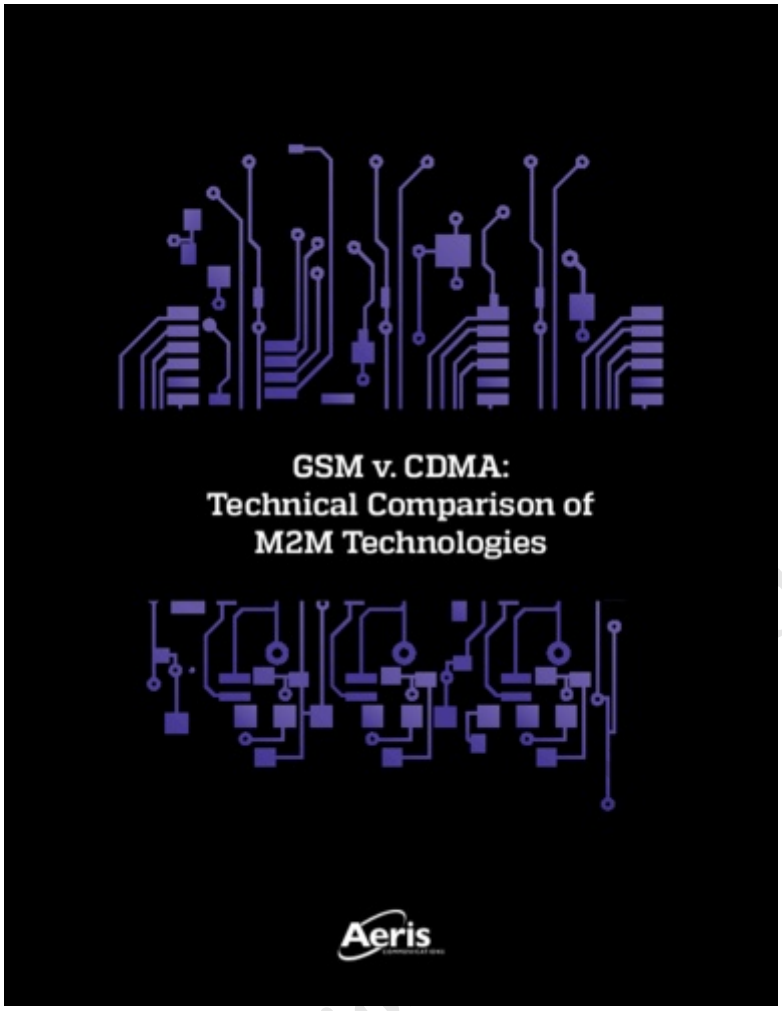

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White Paper 026

W²CM Smart Replay

Nour Sanadi, Product Manager, EXFO

INTRODUCTION

Along with the phenomenal growth in volume of data on the mobile Internet, there has been an increase in the different types of data flowing through wireless networks. In addition to traditional types of data, such as file transfer protocol (FTP), hypertext transfer protocol (HTTP), voice-over-Internet protocol (VoIP), e-mail and video streaming, there has been a constantly increasing list of over-the-top (OTT) smartphone applications generating new types of data, including peer-to-peer (P2P) data from applications such as BitTorrent and Kazaa. In an effort to differentiate themselves, operators have also been offering their subscribers their own unique applications, which in turn contribute to the variety of data on wireless networks.

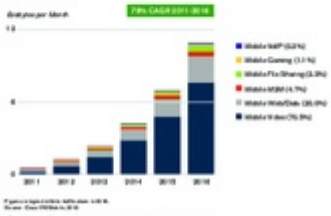

Figure 1. The explosive growth in mobile data.

This vast amount and variety of data has created a need for it to be managed effectively. There are several motivating factors to do so, chief among them being:

- Honoring service-level agreements (SLAs) and delivering committed quality of service (QoS) to customers
- Efficiently managing network resources
- Generating revenue as opposed to being just a "dumb pipe" for data
- Securing the network

Let's look at each one of these aspects in a little more detail.

HONORING SLAS

Operators have SLAs with their customers to guarantee a certain minimum performance from their networks. To be able to meet these commitments, the network elements have to be able to ensure that the required amount of resources is made available when needed. A recent study has shown that 5% of users consume 60% of bandwidth. This type of usage pattern can endanger an operator's ability to meet its SLA commitments to the rest of its subscribers. Operators have a strong incentive to manage the data usage of such heavy data users (e.g., by throttling the throughput rates available to such users).

Figure 2. Mobile network operators (MNOs) need to proactively manage network usage.

Honoring SLAs may also mean being able to identify data associated with key customers and giving it preferential treatment in the network. There are strict guidelines in the LTE specifications about the handling of data with different levels of QoS. Gateways in the network have to correctly implement these techniques to ensure that committed QoS is delivered.

EFFICIENT MANAGEMENT OF NETWORK RESOURCES

Another motivation for operators is to manage their CAPEX. Operators are making huge investments in building out their networks to keep up with the growth in data consumption. Unmanaged data usage coupled with the need to deliver on SLAs would result in operators having to deploy more equipment to handle the load. A better alternative is to manage the data usage. The LTE 3GPP specifications introduced the concept of maximum bit rates (MBR). The idea is to limit the maximum throughput used by a subscriber. This is a very critical technique for operators in order to prevent abuse of network resources by a few "bad" subscribers.

REVENUE GENERATION

With an explosion in over-the-top (OTT) applications on the Internet, operators risk becoming mere "dumb" pipes carrying user data back and forth. This is not an enviable situation for operators, considering the enormous investments in infrastructure required to keep up with growth in data usage. Operators want to find ways to generate revenue from the data flowing through their pipes. They can do this by providing the same services as the OTT players, for instance voice-over LTE (VoLTE), but with significantly better and more predictable quality. Operators may want data associated with their own applications to be given preferential treatment as compared to equivalent OTT applications. Additionally, they can add value to the data already flowing through their network (e.g., by signing revenue-sharing deals with service providers in exchange for prioritizing their data, or through targeted advertising based on the content of user data, similar to what Google does with Gmail).

EXFO

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Datasheet

IP Video Services Accelerator

Sigma Systems' IP Video Services Accelerator is a robust solution enabling cable service providers to extend video service offerings to deliver an enhanced and unified entertainment experience.

Without a doubt, the enhanced entertainment experience over IP video networks is emerging as the "next big thing" for service providers as over-the-top (OTT) content, Internet video and 3rd party applications continue to threaten customer loyalty. Gone are the days of just delivering traditional video offerings as cable service providers begin embracing the opportunity to create new business models and deliver an exciting, personalized multi-screen experience to subscribers. But without the proper supporting service fulfillment foundation, the accurate delivery of this experience is a significant challenge for cable service providers.

Simultaneous Linear & IP Video Provisioning & Support

The IP Video Services Accelerator provides a service fulfillment solution that simultaneously provisions and supports both linear and IP video networks to deliver digital TV, PPV, VOD, DVR/PVR, Internet Video, OTT content, and 3rd party applications. This unique integrated OSS service management solution eliminates operational silos and provides seamless order management, provisioning, and entitlement management across all technologies, services, and systems.

Simplify All-IP Video Migration

By supporting a hybrid linear and IP video network that provisions all video services, the IP Video Services Accelerator gives you the ability to simplify and implement a logical migration strategy from legacy to all-IP video. You can manage this migration at the pace of your business and benefit from the flexibility to migrate in stages by managed service area, network segmentation, and even customer profile. With the IP Video Services Accelerator you can rapidly launch enhanced entertainment services and migrate linear video subscribers to a common OSS back-office solution when your business is ready.

SIGMA SYSTEMS

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WiFi solutions

For more than 75 years, CHR has designed, built, managed and monetized networks that matter– including one of the first five LTE networks in the nation and fully integrated **WiFi** networks for the Department of Defense.

Whether your goal is to implement a **WiFi** network that guarantees outstanding coverage for broadband Internet access or you're seeking new revenue streams by becoming a VoIP or Wireless Internet Service Provider, our experience enables the entire ecosystem.

CHR's **WiFi Solutions** include flexible end-to-end or a-la-carte options that range from concept, to construction, to customer management. Our certified engineers and best-of-breed partners stand ready to aid in every aspect of your WiFi project.

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