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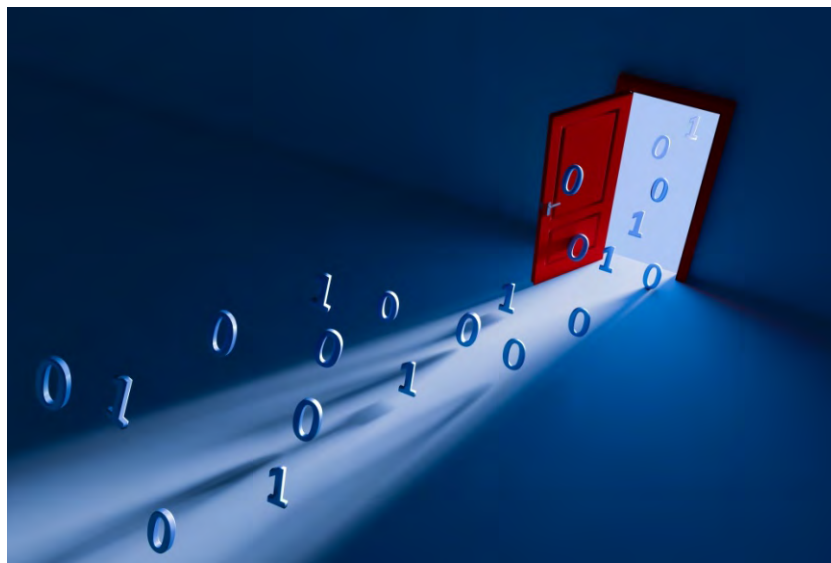
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Open source could rival proprietary telco solutions by 2025

05 JUNE 2020 | ABI Research | Mobile Europe [Source](#)

Open source software is beginning to challenge the dominance of proprietary solutions in telecoms, according to ABI Research.



The analyst firm predicts that adoption of open source software, “will almost certainly be mainstream” among communications service providers (CSPs) by 2025. It has the potential to play a key role in telco cloud deployments, a market that will potentially grow to \$29 billion in five years, the Open Source in the Telecoms Market report says.

A research note said: “[Open source software] and by extension, cloud technologies, promise nimbleness, but whether CSPs can seize the opportunity remains to be seen.”

One issue pinpointed is that telecom standards bodies, which play a fundamental role, can have long cycle times. This could be out of step with open source, which is characterised by an agile, fast-moving approach.

Don Alusha, Senior Analyst at ABI Research, said, “Though CSPs are at different timeslots in their digitalisation journey, they should collectively propel the open source agenda forward. A close collaboration between standards bodies and open source communities is a step in that direction.”

Monetisation

CSPs like Orange and Bell Canada have created internal open source groups in a bid to become more well versed in interacting with community-developed software, the report says, concluding that operators typically no longer have reservations about adopting open source software, but are now considering ways to include it in their network operations and commercial undertakings.

ABI Research finds that the industry at large stands to benefit from open source software innovation with the introduction of IT and cloud solutions, although vendors will need to feel confident about commercialisation models before they give it full support.

Alusha said, “Commercial models notwithstanding, telco vendors like Ericsson, Huawei, Nokia and ZTE can potentially leverage open source software to realise performance and scalability as they transition their products to cloud-native equivalents.

“At present, open source software serves as an enablement technology for these vendors as opposed to building a business out of open source software.

“But eventual diffusion of 5G may well mean that vendors will need to invest significantly in open source projects to develop carrier-grade products and services in the next five years. When that takes place, vendors will need to channel time and investment to establish a presence in open source communities.”

Perfect chance to catch-up

Our roundtable included senior execs from Cisco, Ericsson, Intel, Mavenir, Metaswitch ([since acquired by Microsoft](#)) and Red Hat who explored many of the sticky issues surrounding open source and its role in operators' transition from virtual to cloud-native. It was sponsored by Red Hat.

5G



Microsoft

metaswitch

Microsoft announces definitive agreement to acquire Metaswitch Networks, expanding approach to empower operators and partner with network equipment providers to deliver on promise of 5G

May 14, 2020 | Yousef Khalidi - Corporate Vice President, Azure Networking

Updated May 19, 2020

Today, we are announcing that we have signed a definitive agreement to acquire Metaswitch Networks, a leading provider of virtualized network software and voice, data and communications solutions for operators.

The convergence of cloud and communication networks presents a unique opportunity for Microsoft to serve operators globally via continued investment in Azure, adding additional depth to our hyperscale cloud infrastructure with the specialized software required to run virtualized communication functions, applications and networks.

This announcement builds on our recent acquisition of **Affirmed Networks**, which closed on April 23, 2020.

Metaswitch's complementary portfolio of ultra-high-performance, cloud-native communications software will expand our range of offerings available for the telecommunications industry. Microsoft intends to leverage the talent and technology of these two organizations, extending the Azure platform to both deploy and grow these capabilities at scale in a way that is secure, efficient and creates a sustainable ecosystem.

As the industry moves to 5G, operators will have opportunities to advance the virtualization of their core networks and move forward on a path to an increasingly cloud-native future. Microsoft will continue to meet customers where they are, working together with the industry as operators and network equipment providers evolve their own operations.

We will continue to support on-premises, hybrid and multi-cloud models to create a more diverse telecom ecosystem and spur faster innovation, an expanded set of unique offerings spanning the complete communications core for voice and data, and greater opportunities for differentiation. We will continue to partner with existing suppliers, emerging innovators and network equipment partners to share roadmaps and explore expanded opportunities to work together, including in the areas of radio access networks (RAN), next-generation core, virtualized services, orchestration and operations support system/business support system (OSS/BSS) modernization. A future that is interoperable has never been more important to ensure the success of customers and partners.

By enabling advancements in enhanced mobile broadband, ultra-reliable low latency communications and massive machine-type communication to enable IoT at scale, 5G offers significant potential for enterprises and governments and in turn creates new opportunities for operators. 5G will ultimately give operators a path to accelerate service innovation and deliver new transformative experiences that are faster, more resilient and more secure, spurred on by software advances to drive transformation at scale.

We have a long history of working with operators as they increasingly embrace software-based solutions and continue to support the advancement of cloud-based networking while helping create new partnership opportunities for existing network equipment providers. Our intention over time is to create modern alternatives to network infrastructure, enabling operators to deliver existing and value-added services – with greater cost efficiency and lower capital investment than they've faced in the past.

Global Top 22 - 5G deployment

Switzerland ranked top in Europe

5G

05 JUNE 2020 | Omdia, formerly Ovum | Web [Source](#) Mobile Europe

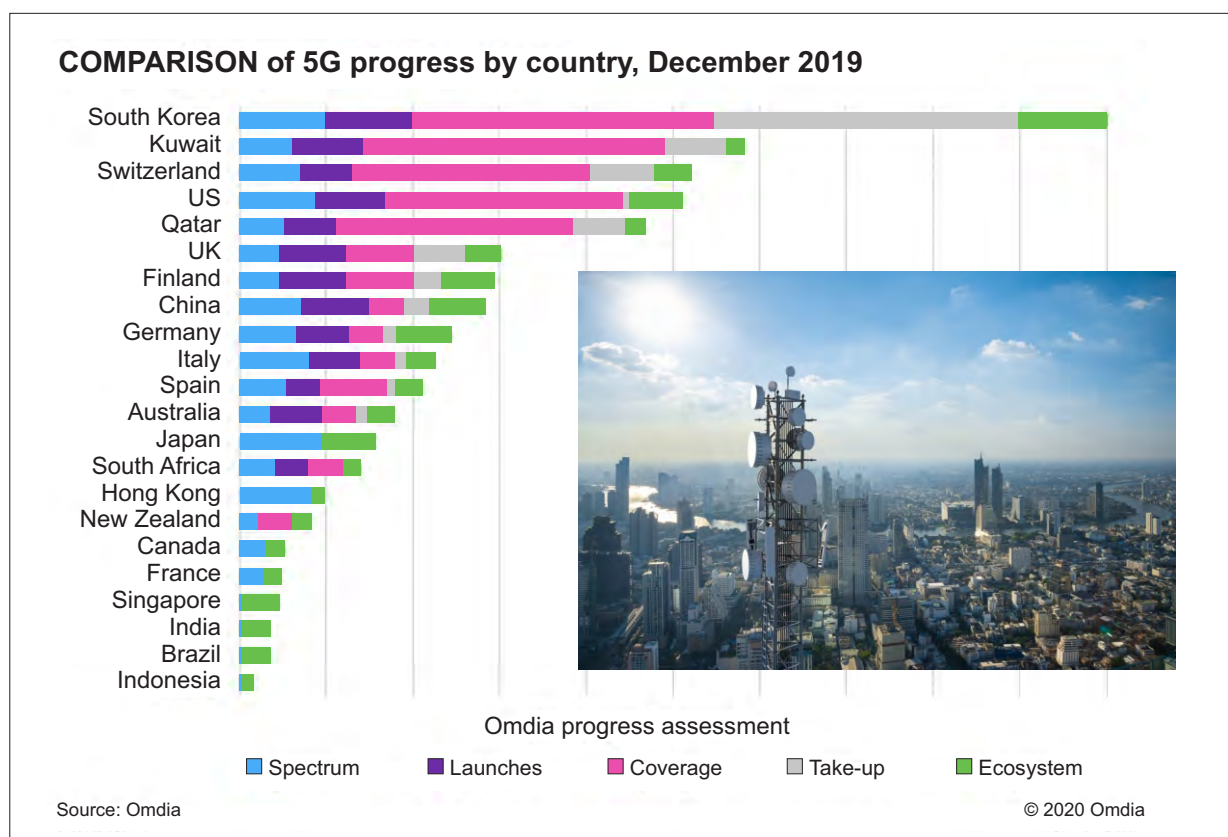
Switzerland is positioned third in Omdia's first 5G Market Progress Assessment report, behind South Korea and Kuwait.

Omdia, formerly Ovum, ranked 22 leading 5G countries based on commercial operator launches, network coverage and subscriber take-up, as well as 5G spectrum availability and regulatory environment.

The research concludes that South Korea has established itself as the early market-leader for 5G technology deployment, with Kuwait and Switzerland a considerable distance behind.

Almost a third – seven out of the top 22 countries ranked – are European, and European nations fill five of the top ten slots.

The report, based on data to the end of 2019, finds that South Korea is leading the way with 5G adoption, reaching 4.67 million subscribers at the end of December, which equates to 7% of wireless services in the market.



Limitations

"Limited coverage, device availability and cautious launches [have] limited take-up in other global markets," said Stephen Myers, Omdia Principal Analyst.

"However, expansive coverage rolled out by Sunrise and Swisscom in Switzerland, Ooredoo and Vodafone in Qatar and Kuwait's three service providers has rivalled Korea for breadth of market coverage."

Elsewhere in Europe, the UK ranks sixth, Finland seventh, Germany ninth and Italy tenth.

"Right now the UK is second only to Switzerland in terms of 5G deployment in the European market and as things stand is well-positioned to lead its continental rivals in the deployment of 5G – giving it a potential advantage in terms of developing next-generation industries," said Myers.

The report was originally due for publication in March but was delayed due to COVID-19.

Digital Twin Consortium

Object Management Group Forms Digital Twin Consortium with Founders Ansys, Dell Technologies, Lendlease, and Microsoft

Users to create standard terminology, reference architectures and share use cases across industries

NEEDHAM, Mass.--([BUSINESS WIRE](#)) 18-May-2020 – Non-profit trade association Object Management Group® (OMG®) with founders Ansys, Dell Technologies, Lendlease and Microsoft, today announced the formation of [Digital Twin Consortium™](#). Digital twin technology enables companies to head off problems before they occur, prevent downtime, improve the customer experience, develop new opportunities, drive innovation and performance and plan for the future using simulations. Members of Digital Twin Consortium will collaborate across multiple industries to learn from each other and develop and apply best practices. This new open membership organization will drive consistency in vocabulary, architecture, security and interoperability to help advance the use of digital twin technology in many industries from aerospace to natural resources.

Object Management Group Forms Digital Twin Consortium with Founders Ansys, Dell, Lendlease, and Microsoft

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Digital twins, virtual models of a process, product or service that allow for data analysis and system monitoring via simulations, can be challenging to implement due to a lack of open-source software, interoperability issues, market confusion and high costs. In order to ensure the success of Digital Twin Consortium, several leading companies involved in digital twin technology have joined the consortium prior to inception. This category of early innovators, called Groundbreakers, includes: Air Force Research Lab (US), Bentley Systems, Executive Development, Gafcon, Geminus.AI, Idun Real Estate Solutions AB, imec, IOTA Foundation, IoTIFY, Luno UAB, New South Wales Government, Ricardo, Willow Technology, and WSC Technology.

[Membership](#) is open to any business, organization or entity with an interest in digital twins.

"Most definitions of digital twin are complicated, but it's not a complicated idea. Digital twins are used for jet engines, a Mars rover, a semiconductor chip, a building and more. What makes a digital twin difficult is a lack of understanding and standardization," said Dr. Richard Soley, Digital Twin Consortium Executive Director. "Similar to what we've done for digital transformation with the Industrial Internet Consortium® and for software quality with the Consortium for Information and Software Quality™, we plan to build an ecosystem of users, drive best practices for digital twin usage and define requirements for new digital twin standards."

Digital Twin Consortium will:

- Accelerate the market for digital twin technology by setting roadmaps and industry guidelines through an ecosystem of digital twin experts.
- Improve interoperability of digital twin technologies by developing best practices for security, privacy and trustworthiness and influencing the requirements for digital twin standards.
- Reduce the risk of capital projects and demonstrate the value of digital twin technologies through peer use cases and the development of open source code.

An ecosystem of companies, including those from the property management, construction, aerospace and defense, manufacturing and natural resources sectors will share lessons learned from their various industries and will work together on solve the challenges inherent in deploying digital twins. As requirements for new standards are defined, Digital Twin Consortium will share those requirements with standards development organizations such as parent company OMG.

Founding members, Ansys, Dell Technologies, Lendlease and Microsoft will each hold permanent seats on an elected Steering Committee, providing the strategic roadmap and creating member working groups.

Sam George, Corporate Vice President, Azure IoT, Microsoft Corp. said, "Microsoft is joining forces with other industry leaders to accelerate the use of digital twins across vertical markets. We are committed to building an open community to promote best practices and interoperability, with a goal to help establish proven, ready-to-use design patterns and standard models for specific businesses and domain-spanning core concepts."

... to next page

Object Management Group Forms Digital Twin Consortium with Founders Ansys, Dell Technologies, Lendlease, and Microsoft ... from previous page

The application of the Digital Twin technology to Lendlease's portfolio of work is well underway and we are already realising the benefits of this innovation to our overall business," said Richard Ferris, CTO, Digital Twin R&D, Lendlease. "The time for disruption is now, and requires the entire ecosystem to collaborate together, move away from the legacy which has hindered innovation from this industry, and embrace Digital twin technology for the future economic and sustainable prosperity of the built world. Digital Twin Consortium is key to the global acceleration of this collaboration and the societal rewards we know to be possible with this technology and approach."

"Dell Technologies is proud to be one of the founding members of Digital Twin Consortium. As the rate of digital transformation continues to accelerate, industry-standard methods for Digital Twins are enabling large scale, highly efficient product development and life cycle management while also unlocking opportunities for new value creation. We are delighted to be part of this initiative as we work together with our industry peers to optimize the technologies that will shape the coming data decade for our customers and the broader ecosystem," said Vish Nandlall, Vice President, Technology Strategy and Ecosystems, Dell Technologies.

"The Consortium is cultivating a highly diverse partner ecosystem to speed implementation of digital twins, which will substantially empower companies to slash expenses, speed product development and generate dynamic new business models," said Prith Banerjee, chief technology officer, Ansys. "Ansys is honored to join the Consortium's esteemed steering committee and looks forward to collaborating closely with fellow members to further the Consortium's success and help define the future of digital twins."

Digital Twin Consortium members are committed to using digital twins throughout their operations and supply chains and capturing best practices and standards requirements for themselves and their clients. [Membership fees](#) are based on annual revenue.

[About Digital Twin Consortium](#)

Digital Twin Consortium is The Authority in Digital Twin. It coalesces industry, government and academia to drive consistency in vocabulary, architecture, security and interoperability of digital twin technology. It advances the use of digital twin technology from aerospace to natural resources. Digital Twin Consortium is a program of Object Management Group.

Arm Intends to Strengthen Focus on Core Semiconductor IP Business Growth



July 07, 2020 03:00 PM Eastern Daylight Time | Source ARM - [Businesswire](#)

CAMBRIDGE, England--(BUSINESS WIRE)--Today, Arm announced proposed strategic organizational changes to strengthen its focus on growth and profitability. The company is proposing to transfer its two IoT Services Group (ISG) businesses, IoT Platform and Treasure Data, to new entities that would be owned and operated by SoftBank Group Corp. and its affiliates. Upon completion of the proposed transfer, Arm will deepen its focus on its core semiconductor IP business and expects to continue collaborating with the new ISG businesses.

"Arm believes there are great opportunities in the symbiotic growth of data and compute"

"Arm believes there are great opportunities in the symbiotic growth of data and compute," said Simon Segars, chief executive officer, Arm. "SoftBank's experience in managing fast-growing, early-stage businesses would enable ISG to maximize its value in capturing the data opportunity. Arm would be in a stronger position to innovate in our core IP roadmap and provide our partners with greater support to capture the expanding opportunities for compute solutions across a range of markets."

Arm continues to be committed to enabling a world of billions of intelligent connected devices wherever computing happens. To-date, **Arm partners have shipped more than 165 billion Arm-based chips**, and an average of more than 22 billion/year over the past 3 years as demand for computing accelerates with the proliferation of IoT, 5G & AI.

The transfer of the ISG businesses is subject to further board review, customary closing conditions, consultation with local staff representatives (where applicable) and, if approved, is expected to be finalized by the end of Sep. 2020.

About Arm

Arm technology is at the heart of a computing and data revolution that is transforming the way people live and businesses operate. Our advanced, energy-efficient processor designs have enabled intelligent computing in more than 165 billion chips and our technologies now securely power products from the sensor to the smartphone and the supercomputer. In combination with our IoT device, connectivity and data management platform, we are also enabling customers with powerful and actionable business insights that are generating new value from their connected devices and data. Together with 1,000+ technology partners we are at the forefront of designing, securing and managing all areas of compute from the chip to the cloud.

MORE: <https://www.arm.com/>

The Shocking Cost of Complexity in HPC Storage

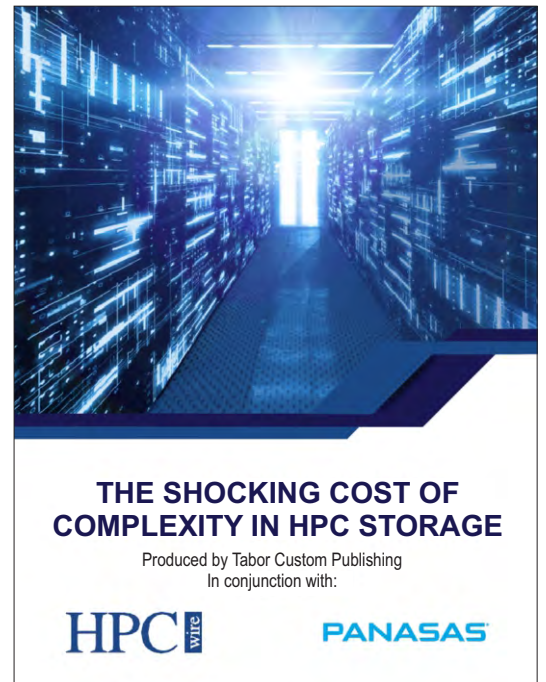
WHITEPAPER from Tabor Communications, Inc. | Panasas

This landmark study from Hyperion Research, conducted on behalf of Panasas, finds that the dynamics driving the HPC storage business are changing. Organizations are rejecting the once-prevalent notion that they must accept downtime as simply another cost of doing business and are coming to recognize the cumulative impact that HPC storage complexity and unreliability is having on their operations. How bad is it?

The new data speaks to a revealing narrative that extends the conversation around HPC storage far beyond initial purchase price and system performance considerations.

Download this whitepaper to learn more about what was discovered.

Download



ABI Predicts Embedded Hardware Security Shipments to Hit 5 Billion by 2024

JUNE 24, 2020 | PERRY COHEN

ABI Research, a global tech market advisory firm, predicted by the year 2024, shipments of secure hardware that serves digital authentication and embedded security will reach 5.3 billion.

“Hardware-based security offers better protection from manipulation and interference than its software-based counterpart because it's more difficult to alter or attack the physical device or data entry points,” explains digital security research director at ABI Research Michela Menting, in a press release. “Yet, less than 10% of IoT devices are currently being protected with hardware security.”

Despite this, hardware security technology has been increasing at rapid rates. The technologies being obtained in the IoT market comes from a range of form factors, some of which are being adapted from existing solutions. These solutions include Trusted Platform Modules (TPMs) and Trusted Execution Environments (TEEs), NFC embedded Secure Elements, and Authentication ICs, among others.

While OEMs will have many options, ABI believes they will most likely incorporate the TPMs or TEEs to manage encryption keys or run secure operating systems.

The report also noted, as these technologies are becoming an increasingly important commodity, vendors are aggressively competing to of development and connectivity services.

Also mentioned in the report, the efforts in R&D in technology advancement for hardware security for the IoT has been driven in large part by companies such as NXP, Infineon, STMicroelectronics, Renesas, Arm, Qualcomm, Samsung, Intel, Microchip, Maxim, Nuvoton, MediaTek, Texas Instruments, Gemalto, G+D, IDEMIA, Rambus, Synopsys, Silex IP, MIPS, Intrinsic ID, and Kudelski IoT Security, among others.

To read the full report, visit https://www.abiresearch.com/market-research/product/1033154-digital-authentication-and-embedded-security/?utm_source=media&utm_medium=email



Edge Computing and Global Mobile Services Infrastructure

Why wait for 5G to mature when you can start now?

Converging mobile strategies

For mobile operators, edge computing, cloud computing and 5G are parallel strategy threads that interrelate. Operators should begin or accelerate edge computing initiatives rather than waiting for 5G to mature. One example is the initial Mobile Edge X deployment on Cisco technology, which powers the Deutsche Telekom (DT) infrastructure in Germany. This initiative demonstrates the practicality of an edge adaptation of 4G in a way that evolves naturally into 5G as that technology matures.

An invigorating pace of innovation

In the last decade, IT has transformed dramatically and radically because of the concurrent introduction and rapid acceptance of smart phones, cloud computing, and 4G/LTE cellular broadband. The introduction of the Apple iPhone offered a mobile computer for personal and business tasks. Amazon Web Services introduced on-demand, pay-for-what-you-use computing services. Global cellular broadband became a possibility with 4G and LTE. Ten years later, many aspects of our lives have been transformed by these independent but highly synergistic innovations.

The pace of innovation has been invigorating, but exhausting. Now that everyone has a better idea how everything fits together and what it can do, shortcomings and limitations have become more obvious. For example, smartphones aren't the ultimate mobile device. Wireless augmented reality, the Internet of Things (IoT), wearable devices, and autonomous systems are coming. As impressive as 4G/LTE is, it needs to be improved to keep up. The cloud can evolve and be improved with a continuing stream of specialized server instances for AI, machine learning, inference, and gaming, for example. Improving the communications links between cloud servers and users or devices is a continuing effort.

The view from the mobile edge

Mapping the cloud and edge discussions for mobile operators requires some translation. The mobile network is different from the Internet both in technical architecture and business model. If you consider the history, the difference isn't surprising. Modern mobile systems are the direct descendants of telephony systems that were critical to national infrastructures. They were carefully designed and built for the long term and optimized for voice telephony. Telephony systems and their use were managed in ways that were consistent with the critical role they played. They are purpose engineered and built optimally for completing telephone calls.

In many ways, the Internet is the opposite: it was designed to be open and easy to attach to and use. It wasn't optimized for any known or anticipated usage. Instead the Internet has adapted to support unimagined uses that far exceeded any initial expectations.

Telephony and Internet technical architectures also are different. The Internet is constructed with autonomous devices such as routers and switches. Once configured and connected, they operate independently. They coordinate by sharing routing messages with neighboring devices without a master controller.

Compared to the Internet, the global mobile infrastructure is highly computerized. It's computerized locally with radio management and business management of the subscriber. Globally, it's computerized to enable the coordination and resource sharing that supports a subscriber's roaming beyond their carrier's network bounds.

The business models are also different. Everyone that uses a cellular provider is a known subscriber. Operators define the services a subscriber can use, and all participating operators get paid for any services used. Cellular access along with access to compute resources at the edge will be a key differentiator for service providers in the future.

The Internet is open, anonymous and "neutral," with no universal way of paying for a premium service, even if you wanted to. Overtime, it converged to a single protocol to improve total cost of ownership (TCO) and access has become more commoditized.

Marrying cellular and the Internet offers challenges and opportunities. Technology paradigms, culture, processes, and business models all must be aligned or the compromises of today won't be able to meet tomorrow's expectations.

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HPE to acquire SD-WAN vendor Silver Peak in \$925m deal

Tom Wright – 13-Jul-2020



Hewlett Packard Enterprise (HPE) is set to buy SD-WAN vendor Silver Peak in a deal valued at \$925m.

HPE CEO Antonio said in a statement that demand for edge computing has rocketed since the coronavirus outbreak.

"HPE was an early mover in identifying the opportunity at the edge and that trend is accelerating in a post-COVID world," he said.

"With this acquisition we are accelerating our edge-to-cloud strategy to provide a true distributed cloud model and cloud experience for all apps and data wherever they live.

"Silver Peak's innovative team and technology bring critical capabilities that will help our customers modernize and transform their networks to securely connect any edge to any cloud."

Silver Peak was founded in 2004 and has raised \$176m to date, according to Crunchbase.

It's most recent round of \$90m came [in 2018](#).

The vendor will be integrated into the Aruba portfolio.

Aruba founder Keerti Melkote, who is still with the business under the HPE umbrella, said: "Today's announcement comes at a unique moment for our customers, who are grappling with business recovery in the wake of the pandemic.

"The need for edge-to-cloud architectures has never been more relevant as enterprises look to extend connectivity to branch locations and enable secure work-from-home experiences.

"Silver Peak's technology transforms legacy WAN architectures to self-driving WANs, which is a perfect fit with Aruba's cloud-native, AI-driven edge services platform."

HPE said that the SD-WAN market is set to grow from \$2.3bn in 2020 to \$4.9bn in 2024, which equates to a CAGR of 20.5 per cent - citing research from 650 Group.

Silver Peak founder and CEO David Hughes said: "Bringing together Silver Peak's advanced SD-WAN solutions with Aruba's industry leading networking portfolio provides an unprecedented opportunity to deliver comprehensive business-driven solutions to our customers.

"The Silver Peak and Aruba teams share a common vision and goal to provide simplicity, scalability, and application-awareness at the edge.

"With Aruba's extensive go-to-market, we will further accelerate our ability to drive faster adoption of these transformational technologies. We are excited for the opportunities we will have as a combined team to accelerate innovation in this fast-growing segment of the networking market."

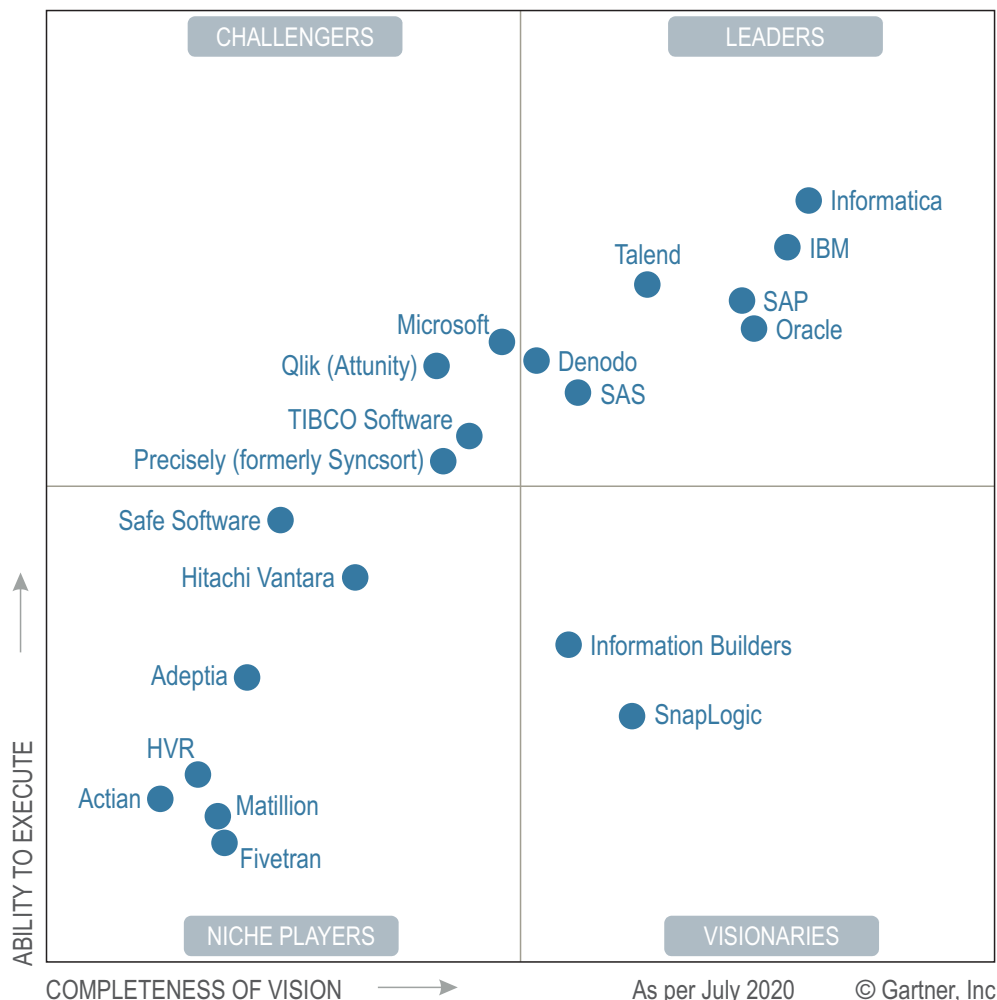
Silver Peak named a leader for WAN Edge Infrastructure in the Gartner Magic Quadrant

See Telecom COTS World - Mar-Apr 2020 - Page 11 [CLICK HERE](#) and select « Archives »

Data Integration Tools - Gartner Magic Quadrant

Published 18 August 2020 - ID G00450251 - 104 min read

The data integration tools market is seeing renewed momentum driven by urgent requirements for hybrid/multicloud data management, augmented data integration and data fabric designs. This assessment of 20 vendors will help data and analytics leaders choose a best fit for their data integration needs.



Strategic Planning Assumptions

Through 2025, over 80% organizations will use more than one cloud service provider (CSP) for their data and analytics use cases, making it critical for them to prioritize an independent and CSP-neutral integration technology to avoid vendor lock-ins.

By 2023, augmented data management will reduce the reliance on IT specialists for repetitive and low-impact data management tasks, thereby freeing up to 20% of their time for collaboration, training and higher-value data management tasks.

By 2023, organizations utilizing data fabrics to dynamically connect, optimize and automate data management processes will reduce time to integrated data delivery by 30%.

Through 2022, the application of graph processing and graph databases will grow at 100% to accelerate data integration and enable more adaptive data science.

Market Definition/Description

Gartner defines data integration as a discipline comprising the practices, architectural techniques and tools that allow organizations to ingest, transform, combine and provision data across the spectrum of data types. This integration takes place in the enterprise and beyond — across partners as well as third-party data sources and use cases — to meet the data consumption requirements of all applications and business processes. This is inclusive of any technology that supports data integration requirements regardless of current market nomenclature (e.g., data ingestion, data transformation, data processing, data pipelining, data replication, data synchronization, data virtualization, stream data integration, data services, data fabrics, data engineering, and many more).

... to next page

Data Integration Tools - Gartner Magic Quadrant ...from previous page

Examples of popular data integration usage scenarios include (but are not limited to):

- Data integration for optimized analytics — Accessing, queueing or extracting data from operational systems, transforming and merging that data either logically or physically, and delivering it through an integrated approach for analytics purposes.
- Support of master data management (MDM) — Enabling the connectivity and integration of data representing critical business entities and domains such as customers, products and employees. Data integration tools can be used to build the data access and synchronization processes to support various MDM tools and initiatives.
- Data consistency between operational applications — Data integration tools provide the ability to ensure database-level consistency across applications, both on an intra- and interenterprise basis, and in a bidirectional or unidirectional manner.
- Interenterprise data sharing — Organizations are increasingly required to provide data to, and receive data from, external trading partners (customers, suppliers, business partners and others). This usage scenario has gained attention during the COVID-19 pandemic as organizations rely on their data integration tools to provision integrated data both internally and externally for business survival.
- Data services orchestration — The ability to deploy all aspects of runtime data integration functionality as data services (for example, deployed functionality can be called via a web services interface or an API, or through microservices).
- Support for data migration and consolidation — Data integration tools increasingly address the data movement and transformation needs of data migration and consolidation, such as the replacement of legacy applications or migration to new computing environments. This use case is gaining traction as organizations scramble to move their data assets to the cloud across multiple CSPs or for hybrid usage scenarios. Data integration tools are required to execute many of the core functions of data integration, which can be applied to any of the above scenarios.

The market for data integration tools consists of vendors that offer software product(s) that enable the construction and implementation of data access and data delivery infrastructure for a variety of integration use-case scenarios. This definition does not include open-source frameworks, general purpose development platforms or programming interfaces. Such data integration frameworks or platforms, which are "general purpose," and those that require heavy customization by developers to engineer them for specific data integration scenarios are excluded from this Magic Quadrant. Vendors evaluated in this Magic Quadrant include at least one commercial off-the-shelf tool that is purpose built for data integration and transformation. **Access the complete report:** [Click Here](#)

Dasan Zhone Solutions, Inc (DZS) names Charlie Vogt CEO



Light Reading 03-Aug-2020 -- Plano, Texas – DASAN Zhone Solutions, Inc. (NSDQ: DZSI or "DZS"), a leading enabler of the emerging hyper-connected, hyper-broadband world, today announced it has appointed Charlie Vogt as president, CEO and director effective August 1. Vogt, a distinguished information technology and communications executive, joins DZS from ATX Networks, where he remains a member of the board. He succeeds Yung Kim, who has retired after a successful 40-year international telecommunications career and nearly four years at the helm of DZS.

A lifelong entrepreneur, Vogt has spent the past two decades leading organizations through high growth and rapid change in challenging and competitive environments. Vogt was most recently president and CEO of ATX Networks, a leader in broadband access and media distribution, where he led the company through extensive transformation and growth.

Prior to ATX, Vogt spent five years as president and CEO of Imagine Communications, where he directed the company through revolutionary change as it evolved its core technology, including large-scale restructuring and rebranding and multiple technology acquisitions as he implemented a disruptive vision and growth strategy. Before joining Imagine Communications, Vogt was president and CEO of GENBAND (today known as Ribbon Communications), where he transformed the company from a startup to the industry's global leader in voice over IP and real-time IP communications solutions. His professional career has also included leadership roles at Taqua (Tekelec), Lucent Technology (Nokia), Ascend Communications (Lucent), ADTRAN, Motorola and IBM.

Vogt will be based in the new DZS headquarters in Plano, Texas.

ATCA: the majority of the companies mentioned above have lots of success stories with ATCA Applications

Over the last 2 years, DZS has shipped more 10gig PON than any other access vendor outside of China. See why innovators choose DZS for next gen fiber <https://dzsi.com/>

The Forrester Wave™

Open, Programmable Switches For A Businesswide SDN, Q3 2020

The 12 Providers That Matter Most And How They Stack Up July 28, 2020

By Andre Kindness with Glenn O'Donnell , Renee Taylor , Diane Lynch

Why Read This Report

In our 32-criterion evaluation of open, programmable switching solutions, we identified the 12 most significant ones — Arista Networks, Cisco IOS-XE, Cisco NX-OS, Dell EMC, Extreme Networks, H3C, Huawei, Juniper Networks, NVIDIA Cumulus, NVIDIA Mellanox, Pica8, and Pluribus Networks — and researched, analyzed, and scored them. This report shows how each solution measures up and helps infrastructure and operations (I&O) professionals select the right one for their needs.



Key Takeaways

Arista Networks, Juniper Networks, Huawei, And NVIDIA Cumulus Lead The Pack

Forrester's research uncovered a market in which Arista Networks, Juniper Networks, Huawei, and NVIDIA Cumulus are Leaders; Pluribus Networks, Cisco IOS-XE, and H3C are Strong Performers; Cisco NX-OS, NVIDIA Mellanox, Dell EMC, and Extreme Networks are Contenders; and Pica8 is a Challenger.

Key Differentiators Include A Single OS And Extensible And Programmable Switching

As command-line interface (CLI) technology becomes outdated and less effective, improved open, automated, and programmable switching will dictate which providers lead the pack. Vendors that can provide switching fabric position themselves to successfully deliver a businesswide, standard, extensible, and programmable switching fabric to their customers.

Source and full report: <https://reprints.forrester.com/#/assets/2/327/RES158976/reports>



EVS COMPLEMENTS ITS LIVE PRODUCTION SOLUTION PORTFOLIO BY ACQUIRING BROADCAST NETWORK INFRASTRUCTURE SPECIALIST AXON

EVS strategically expands its global footprint, enabling customers to benefit from the most comprehensive and integrated range of media infrastructure solutions for live productions

[EVS, Belgium](#), a leading provider of live video technology for broadcast and new media productions, today announces the acquisition of leading broadcast and media network infrastructure specialist Axon.

With development centers in the Netherlands and the UK, and more than 80 team members, Axon has a rich 30-year history of technology innovation. The company has an international presence in the live broadcast infrastructure market, including mobile trucks and data centers, and a product portfolio that complements EVS' existing live production offering.

As an industry leader in live production, EVS offers high-performance solutions that enable the creation of the most compelling live stories delivered by broadcast and media producers around the world.

In early 2020, EVS' leadership team revealed the PLAYForward program, a global company growth strategy that identified the importance of developing a broader offering of modular and flexible IP infrastructure. Integrating Axon's product portfolio will allow EVS to offer customers the most extensive live production infrastructure on the market, enabling optimized resource management, greater scalability and faster deployment across multiple sites for remote live operations.

It will also enable EVS customers to implement turnkey solutions to smoothly migrate their infrastructure towards IP and remote production-based workflows.

This acquisition, the largest in EVS' history, will position EVS as the only technology company able to provide a comprehensive modern media infrastructure solution that includes advanced IP processing, SDI/IP conversion, SDN-based control and monitoring, as well as UHD-4K and IP multiviewer. The unrivalled combination of EVS' Score Master SDN IP orchestrator, with Axon's Cerebrum control and monitoring system, Neuron IP stream processing platform and the extensive Synapse modular infrastructure platform, will provide a scalable and redundant end-to-end solution to empower customers everywhere.

This mutually beneficial deal also allows EVS to further expand its global footprint and leverage its international presence to accelerate the reach of Axon's expertise and technology. Additionally, EVS will benefit from Axon's extensive relationships with channel partners, while also broadening the reach of its industry-leading product portfolio to different distribution channels.

We're extremely excited about the opportunities this acquisition will provide us and our customers over the coming months and years," said EVS CEO Serge Van Herck. "Axon's strong broadcast reputation and expertise, combined with our shared customer service-focused philosophy, make this marriage a perfect fit. It will enable us to deliver the most comprehensive media infrastructure solutions on the market."

Axon CEO Michiel Van Duijvendijk commented: "This deal offers a major growth opportunity for both businesses, bringing together two innovative and proven product portfolios to form a unique end-to-end offering. We're looking forward to joining the EVS team and working together to provide our customers with all the tools they need to power their journey towards IP-based media production."

Benoit Quiryren, EVS' SVP Strategy added: "In Axon, we've found an ideal partner. Its products match our vision of a centralized control model with distributed scalable resources. The company's in-house expertise in FPGA and broadcast infrastructure, as well as other operational models, perfectly complement our research and development processes."

Axon CTO Peter Schut concluded: "Our merger with EVS is a unique combination in the industry. With no overlapping products we will achieve maximum synergies. Our established Synapse modular infrastructure range has a proven track record in the most demanding applications, and the recently introduced Neuron Platform, the world's first true Network Attached Processor designed for real time IP workflows, are perfect additions to EVS' product range. Combined with Cerebrum, our popular, powerful and flexible control system, this adds the overarching control layer over both companies' products. I can see a fantastic shared future for both companies."

The Axon brand will be absorbed into EVS over the coming weeks and its product portfolio will be integrated into EVS' global solution offering.



RAN - Verizon Boots Nokia, Samsung Gets the Spoils

[Matt Kapko](#) | Editor | July 8, 2020

Verizon is preparing to kick Nokia to the curb and give Samsung roughly half of its [radio access network \(RAN\)](#) contract, Ryan Koontz, senior research analyst at Rosenblatt Securities, told [SDxCentral](#).

The deal will see Verizon go from three RAN vendors to two, including a shocking decision by Verizon to completely rip out and replace all of Nokia's equipment and services dating back to its 4G LTE network footprint. Ericsson and Samsung will effectively split Verizon's RAN contract going forward, according to Koontz.

"They're going to cut bait completely on Nokia — take them to zero," Koontz said, adding that multiple, high-level sources have confirmed the framework of the deal. He declined to name those sources. "It's a big deal. This is probably the biggest change in a telecom vendor in a decade."

Verizon and Samsung declined to comment on Koontz' prediction. "We are accelerating our 5G deployment and work with a diverse set of partners" and "we work closely with all vendors in our ecosystem on future plans," a Verizon spokesperson added. A Nokia spokesperson declined to comment on Verizon's vendor strategy, but highlighted its longstanding relationship and said it remains committed to serving the operator.

"They're going to rip out all of the existing Nokia [equipment], even on 4G, because if you're doing dynamic spectrum sharing (DSS) you can't have different vendors with different radios, you'd have to move them to different regions. You'd have to consolidate Nokia regions and build out a new Samsung region," Koontz added.

Verizon's market position on [5G](#) is heavily dependent on its ability to use DSS, software that allows operators to use the same spectrum for 4G LTE and 5G on a demand-generated and automated basis. Heidi Hemmer, VP of technology at Verizon, last month told SDxCentral that [DSS testing was underway](#) with Ericsson, Nokia, and Samsung and that it was still on track to reach nationwide 5G coverage by the end of this year.

Verizon's Nationwide 5G Footprint Likely Delayed

This major change in vendors midstream will likely push Verizon's 5G timeline back. "Ericsson's probably good to go, but the change has got to hurt [Verizon's 5G] rollout plan," Koontz said.

"Maybe they've just got to rip the Band-Aid off and figure, 'hey, if the other [U.S. operators] are willing to bet on Nokia, we know we're going to beat you in the long run.' It's a long game. It's not just who gets the service turned up first but who gets the best product and mobile service out there," he said.

Nokia is a 5G RAN equipment supplier for AT&T and T-Mobile US, but this shakeup will mark the end of Nokia's business with Verizon.

Samsung, which had about 5% of Verizon's 4G LTE RAN contract, is slated to earn roughly \$1.5 billion in revenue for the next five to seven years from its new deal with Verizon, according to Koontz. "I think built in there is probably some of the cost of replacing the 4G at an incredible discount. It's a major change and shocking for the industry, and Nokia's not in any kind of financial shape to handle a big loss like this," Koontz said.

Verizon Makes Extreme Midstream Change

Koontz is particularly struck by Verizon's apparent decision to completely rip out and replace all of Nokia's existing equipment in its network, especially during a major network transformation cycle. "I've seen deals ripped out where it's pushing on nine figures, tens of millions of dollars, but I've never seen billions."

These are decade-long decisions, he added. "You have to live with this vendor for 10 years. And so if you're Verizon, and you really have questions about Nokia and you're maybe not happy with the roadmap and the relationship, maybe you just have to pull the Band-Aid off."

Samsung is big, viable, and deep pocketed, and it's "been pretty committed to this business in the U.S. even without getting a lot of volume over the last couple years," Koontz said. The South Korean based vendor also has the services capability to step up and deploy thousands of people in the field to accomplish the monumental task ahead, he added.

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RAN - Verizon Boots Nokia, Samsung Gets the Spoils

... from previous page

"This will be like a crown jewel. I mean, down the road, look out. ... If they win this Verizon business, they could get a halo effect," he said.

While multiple factors certainly weighed on this decision, Nokia's challenges of late were likely part of that equation. The Finnish vendor's initial 5G equipment carried high costs that have impacted its profit margin and new hardware running on a new system-on-a-chip (SoC) [won't reach the entirety of its portfolio until the end of 2022](#).

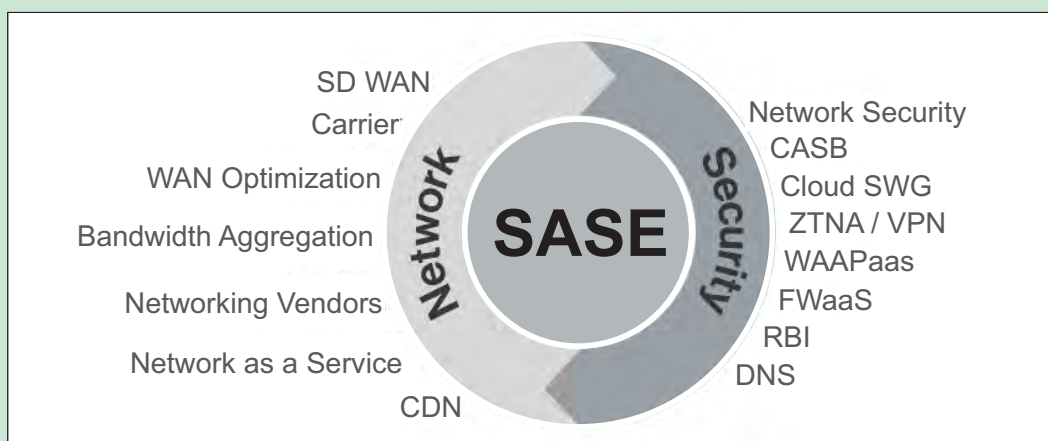
Conversely, all of Samsung's base stations are already running on its modem SoC, Alok Shah, VP of networks strategy at Samsung's U.S.-based division, told SDxCentral earlier this week. He called it a "critical element" of Samsung's [5G product suite](#).

"I'm not aware of what the final straw was that broke the back here," Koontz said. However, he added this will mark the end of the last American RAN vendor in Verizon, dating back to Lucent, which merged with Alcatel in 2006 and was later acquired by Nokia Siemens Networks in 2016.

"Samsung has really had an eye on this business for years and I don't think anybody really believed that they could pull it off," Koontz said. "I'm not convinced they have it 100% nailed down, but it sure sounds like they're going to win."

SASE - Secure Access Service Edge for Dummies

What is SASE? Secure Access Service Edge (SASE) is a new enterprise networking technology category introduced by Gartner in 2019. SASE converges the functions of network and security point solutions into a unified, global cloud-native service. It is an architectural transformation of enterprise networking and security that enables IT to provide a holistic, agile and adaptable service to the digital business. What makes SASE unique is its transformational impact across multiple IT domains.

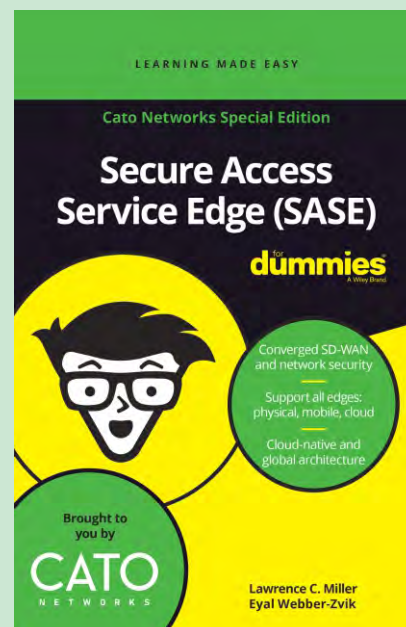


Solving emerging business challenges with point solutions leads to technical silos that are complex and costly to own and manage. Complexity slows down IT and its response to these business needs. SASE changes this paradigm through a new networking and security platform that is identity-driven, cloud-native, globally distributed, and securely connects all edges (WAN, cloud, mobile, and IoT).

SASE is the convergence of networking and security that optimizes access performance, reduces operational complexity, and enhances security posture on a global scale. To meet these criteria, a true SASE solution must be built on a cloud-native and cloud-based architecture; distributed globally across many Points of Presence (PoPs); and support all edges (locations, users, clouds, and applications).

With SASE, enterprises can reduce the time to develop new products, deliver them to the market, and respond to changes in business conditions or the competitive landscape.

[Get the e-book](#)



Practical Steps to Migrate TV Broadcast to Modern Streaming

WHITE PAPER: M-ABR Migration from Broadpeak and Verimatrix

COMPETITIVE PRESSURES ARE INTENSIFYING FOR PAY TV

In response to competitive pressures from established pay-TV operators and aggressive over-the-top (OTT) entrants, service providers with a managed network have had to evolve from yesterday's "appointment TV" to a "TV everywhere" (TVE) experience that is increasingly becoming the norm. Not only millennials, but all subscribers want to get the maximum enjoyment out of a pay-TV subscription, which means being able to watch their favorite programming at any time, any place and on any device.

As a result of the intensifying competition, pay-TV subscriber numbers are declining in many parts of the world. In the United States, the fourth quarter of 2018 was the worst ever for traditional pay-TV operators (known as multichannel video programming distributors, MVPD), as nearly 1.1 million homes cut the cord, which pushed the full-year decline to 4 million, according to research firm SNL Kagan's Q1 2019 analysis, covering the cable, direct broadcast satellite (DBS) and telco multichannel sectors.

The negative trend is expected to continue unless MVPDs take drastic action. This is an increasingly serious challenge since many cord cutters and potential new subscribers are choosing lower-cost services from virtual MVPDs. According to SNL Kagan, virtual multichannel subscriptions from services such as Sling TV, DirecTV Now, Hulu with Live TV, YouTube TV and PlayStation Vue together gained an estimated 2.1 million subs in the first 9 months of 2018, compared to a decline of 2.8 million in the traditional MVPD segment.

Some traditional MVPDs are now also acting as vMVPDs, and content providers such as Disney are jumping onto the direct-to-consumer (DTC) bandwagon. This of course allows them to own the relationship directly with the consumer and gain access to cloud-based video analytics data. With delivery and subscriber behavior insights, they can shorten the feedback loop not only on quality of service (QoS), but also on where to focus content creation to best align with subscriber consumption.

Progressive operators also understand that subscribers will find the content they want in any way possible. Hence operators are increasingly embracing subscription VOD (SVOD) services, such as Netflix, which otherwise would be competitors, and incorporating them as part of the overall operator-branded service and experience. These services are even integrated into the set-top remote control and operator-branded program guide.

Nevertheless, operators still control linear channels, along with TVE features such as pause, trick play start over and catchup. Linear TV comes with very high expectations on quality of experience (QoE), inherited from broadcast standards, and typically relies on dedicated video infrastructure. Since this infrastructure belongs to the operators, it is much easier for them to secure this level of QoE than for pure OTT players that can only rely on the best-effort scheme of the public internet. Linear – and live – content remains very interesting as it is by far the largest revenue generator and for operators, and poses a great opportunity to differentiate.

The core of MVPD competitiveness is a combination of offering the right content at the right place and time, while maintaining a perfect distribution of traditional linear channels and with the highest service reliability across all screens. Optimizing network delivery is becoming increasingly important to provide the highest QoE everywhere.

Download the 14 Pages White Paper and learn about:

- LIMITATIONS OF HYBRID NETWORK CONTENT DELIVERY
- OTT BUSINESS MODEL VS. ABR TECHNOLOGY
- LINEAR/LIVE CONTENT TO SECONDARY SCREENS
- VIDEO HEAD-END AND CONTENT SECURITY DUPLICATIONS
- TWO NETWORKS – ONE TRANSPORT PROTOCOL = M-ABR
- HOW M-ABR WORKS
- PRACTICAL MIGRATION STRATEGIES TO M-ABR
- BENEFITS OF MIGRATION TO M-ABR
- ON-PREM OR CLOUD-BASED VIDEO HEAD-END?
- ADVANTAGES OF CLOUD-BASED SAAS SOLUTIONS
- CONCLUSION
- VERIMATRIX CLOUD-BASED MULTI-DRM AND ANALYTICS SOLUTIONS
- BROADPEAK MULTICAST ABR

Verimatrix (Euronext Paris: VMX) is a global provider of security and business intelligence solutions that protect content, devices, applications and communications across multiple markets. Many of the world's largest service providers and leading innovators trust Verimatrix to protect systems that people depend on every day for mobile apps, entertainment, banking, healthcare, communications and transportation. Verimatrix offers easy-to-use software solutions, cloud services and silicon IP that provide unparalleled security and business intelligence. Verimatrix serves IoT software developers, device makers, semiconductor manufacturers, service providers and content distributors.

Broadpeak® designs and manufactures video delivery components for content providers and network service providers deploying IPTV, cable, OTT, and mobile services. Its portfolio of solutions and technologies powers the delivery of movies, television programming, and other video content over managed networks and the Internet for viewing on any type of device. The company's systems and services help operators increase market share and improve subscriber loyalty with superior quality of experience.

Data Center Backup and Recovery Solutions Gartner Magic Quadrant

Published by Gartner 20 July 2020 - ID G00464149 - 45 min read

The move toward public cloud, heightened concerns over ransomware, and complexities associated with backup and data management are forcing I&O leaders to rearchitect their backup infrastructure and explore alternative solutions. This research provides analyses of backup and recovery vendors.

Market Definition/Description

Data center backup and recovery solutions are designed to capture a point-in-time copy (backup) of an enterprise workload and write the data out to a secondary storage device for the purpose of recovering this data in the future.

The core functionalities of a backup and recovery solution are to:

- Back up and recover operating systems, files, databases, and applications in both physical and virtual environments in the data center.
- Assign backup and retention policies that align with the organization's recovery objectives.
- Report success and failure of backup/recovery tasks.

Additional capabilities that can be provided by the solution are to:

- Create a second backup copy of on-premises backup data in the public cloud, and tier backup data to public cloud.
- Protect public cloud IaaS, PaaS and SaaS workloads.
- Protect remote sites.

Magic Quadrant

Figure 1. Magic Quadrant for Data Center Backup and Recovery Solutions



[Access the Gartner Report](#)

5G pioneer Telekom Slovenije first to begin network roll out

23-July-2020 | Mobile Europe

The operator is the first in the country to deploy 5G nationally using existing base stations and the 4G 2600MHz frequency.

Telekom Slovenije said it has the advantage of being the only Slovenian operator involved in European and Slovenian 5G development projects.

So far the operator has upgraded 150 base stations, providing about 25% coverage with the 4G/5G network. By the end of the year, the company expects to surpass 33%.

Telekom Slovenije is yet to offer 5G phones and announce its packages.

On campus

Telekom Slovenije plans to launch its 5G "campus" networks, where a single physical infrastructure can host several virtual dedicated networks for various business verticals, such as energy supply, transportation, logistics, manufacturing, smart cities, healthcare, protection, public safety and rescue services, and more.

Matjaž Beričič (pictured), Management Board member and CTO of Telekom Slovenije, noted, "5G is not the destination, it is the road... Mobile data traffic has been growing exponentially, with data transfer in our mobile network increasing more than 25-fold compared to 2013, when we launched the fourth generation of mobile networks.



He continued, "Even though the bandwidth is too limited for full-fledged 5G deployment... this new generation of technology is much more spectrally efficient, and can transfer more bits per second per Herz of bandwidth. This puts Slovenia on the map of advanced countries with 5G."

Active in development

Telekom Slovenije is collaborating on the 5G Safety project together with Port of Koper and Internet Institute, and in the European development project 5G-LOGINNOV, which brings together 15 partners from several European countries, and will launch in September.

The 5G-LOGINNOV focuses on 5G for logistics as part of Industry 4.0.

Previously it took part in the European Union's Horizon 2020 research and innovation programme.

As a partner in the iCirrus project, it helped researched the effects of the cloud radio access network architecture (C-RAN) on the capacities of the 5G mobile network, such as device-to-device communications (D2D) and the introduction of virtual mobile services in the cloud.

The Charisma project in which it participated focused on developing mechanisms for offloading the network in order to ensure data flow to the end user over the shortest possible path, and the development of end-to-end security mechanisms in a convergent virtualised open access network.

More about Telekom Slovenije

- Telekom Slovenije and Iskratel to jointly develop 4G-5G hybrid public-private networks (14 February 2020) [VIEW](#)
- DT's IoT digital twin tool gains operator partners, expands to new countries (21 February 2020) [VIEW](#)
- Telekom Slovenije and Iskratel test smart factory campus network (19 May 2020) [VIEW](#)
- 5G pioneer Telekom Slovenije first to begin network roll-out (23 July 2020) [VIEW](#)
- Ericsson celebrates 100 commercial 5G deals with unique operators (12 August 2020) [VIEW](#)

Software is eating Telecom: How virtualisation and open source are upending the entire industry

23 June, 2020 at 2:36 PM -- Posted by: Anasia D'mello

Report by Liliane Offredo-Zreik and Dr. Mark H Mortensen of **ACG Research** (see at the end of article)

Until recently, network technology vendors to communication service providers (CSPs) had a well-established competitive market position with brand loyalty, long-standing customer relationships, and well entrenched proprietary solutions. However, an inexorable move to software-based (virtualised) solutions, combined with the increasing prevalence of open-source resources, is disrupting the market dynamics and will have profound implications for the industry structure. Report by Liliane Offredo-Zreik and Dr. Mark H Mortensen of ACG Research.

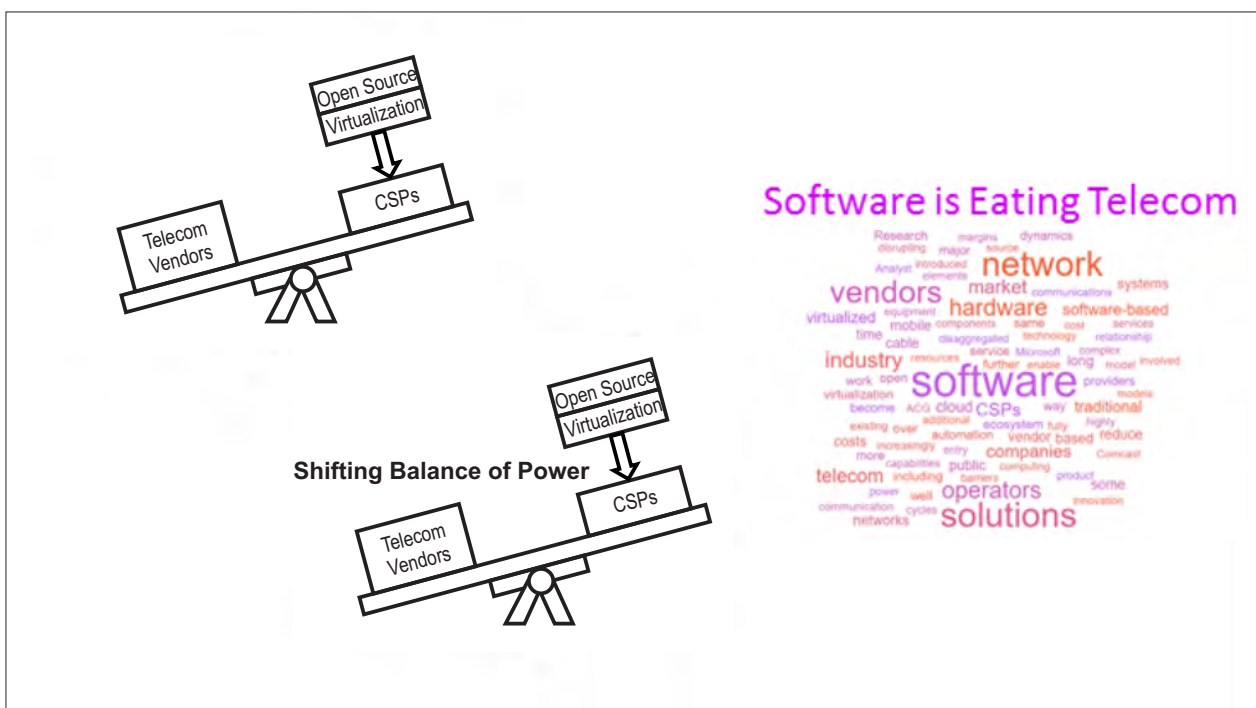
Traditionally, telecom network technology vendors supplied bespoke solutions, typically consisting of hardware racks populated with purpose-built circuit boards that performed highly specialised tasks, complemented by highly customised software, with complex back office systems to manage these systems and the applications that run on them. These solutions were supplemented by extensive professional services resources, and typically involved regular software upgrades, and, less frequently hardware ones.

This, combined with the long cycles involved in introducing new solutions, or in upgrading existing ones due to long testing cycles, created a relatively closed ecosystem with high barriers to entry and high switching costs. It also drove costs up, as it increased the bargaining power of suppliers; it limited the number of competitors and stifled innovation because younger companies with fewer resources found it difficult to penetrate the ecosystem.

The disruptive nature of virtualisation

The inexorable migration to software-based, virtualised solutions is disrupting this ecosystem, with profound long-term consequences. Increasingly, telecom operators are introducing virtualised software solutions in their operating environments. Their long-term goal is of a fully software-driven ecosystem with software-only network elements running on commodity off-the-shelf servers (COTS) or open source hardware, hosted in local offices, in distributed data centres or in a cloud-compute environment.

The software-based systems are not less complex, and the incumbent vendors are rushing to either port their existing solutions on COTS or redeveloping parts of those systems to become software based. It also allows new software vendors to enter the market without the long design, manufacturing, and logistics supply chains of traditional hardware.



At the same time, the CSP traditional development/deployment paradigm, which was largely based on the waterfall model and involved protracted cycles, is slowly making way to an agile framework, based on the Continuous Integration/Continuous Deployment model where incremental changes are introduced on an on-going basis, enabled by a microservices-based, modularised architecture.

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This paradigm allows minimally viable products to be introduced and then rapidly enhanced, reducing the entrenched foothold of existing suppliers and opening the way for new entrants, further transforming the market dynamics.

By reducing the barriers to entry, virtualisation is adding new vendors and new delivery mechanisms that bypass the traditional supply chains: New virtual network software companies, public cloud companies, and the network operators themselves.

New virtual network software companies: New software-centric companies have entered the market over the last several years. Examples include Affirmed Networks, Altiostar and Parallel Wireless that offer a software-based mobile core solution, Etiya that provides a nearly fully virtualised mobile solution (running on an AWS public cloud infrastructure), and Metaswitch that offers a wide range of mobile and fixed network software-based network technologies. Other traditional software vendors to operators, such as HPE, are also entering the virtualised network equipment market.

Public cloud companies: Cloud providers are increasingly tapping into the convergence of cloud and communication networks. Recently, Microsoft bought Affirmed Networks, which offers fully virtualised, cloud-native mobile network solutions for telecom operators. This acquisition will enable Microsoft to become a major telecom vendor in the mobile and nascent private 5G markets. In days past, communication service providers (CSP) used to build their own data centres, but virtualisation technologies enable cloud providers, such as Microsoft, to offer the same capabilities, mostly as services, on their public computing and storage infrastructure at much lower initial cost and with more flexibility.

DIY: Some CSPs are hiring software developers in droves and are beginning to develop their own solutions. Not only that, but some operators are also transforming themselves into vendors, offering their solutions to their peer operators. A case in point is Comcast Corp. The company's mantra has become "software eats the world." Its newly opened **Comcast Technology Center** serves as "the dedicated home for our company's growing workforce of more than 4,000 technologists, engineers and software architects." Comcast has developed its Xfinity X1 entertainment service in-house; it is also syndicating it to cable operators, including Cox and Shaw and Rogers of Canada. At the same time, the company has developed a software-defined platform (ActiveCore) to power its business services, and it is not unfathomable that it would look to syndicate it at some point in the future.

Others CSPs are expanding their software capabilities for internal, and external, use. Reliance Jio's parent company, Reliance Industries, bought Radisys, a US-based provider of open telecom solutions, while AT&T's expansion of its software capabilities is well-known in the industry.

The role of open-source collaboration

Most operators do not have the capacity nor the ability to undertake massive development efforts, particularly because some of the solutions they need are highly complex. However, open-source hardware and software and disaggregated network elements go a long way to alleviate the need to undertake end to end developments.

Recent disaggregated network element (DNE) projects, some including open-source hardware and software, have been created by CSPs throughout the various telecom equipment domains, from radio backhaul to the core networks, optical access and transport equipment, and edge computing environments, among many others. DNEs are essentially public open source Lego-like building blocks that run on standard computing and storage hardware or programmable ASICs that standardise designs and that can be used to create solutions. They enable CSPs to select the best combination of commoditised hardware and specialised software components. DNEs are designed to reduce vendor lock-ins and further lower the barriers to entry for new vendors, increasing competition in sales and support.

The operator-vendor new relationship framework

New engagement models are emerging. The traditional supplier/customer relationship is making way to a cooperative engagement model, where the operator and the vendor work hand in hand on developing solutions. Furthermore, unlike traditional models where the vendor is paid upfront and is further compensated for on-going support, new frameworks are emerging where the vendor is compensated based on the success of the operator. One such arrangement was the Infinite Broadband Unlocked that Cisco introduced in 2018 where it charged cable operators based on broadband consumption over their networks, rather than upfront licenses. Such arrangements are facilitated by software-based solutions and are likely to become more prevalent over time, further disrupting market dynamics.

Toward the future

The commoditisation of the hardware components of the network will reduce the vendors' margins and potentially reduce overall CSPs' costs. However, the CSPs will have to bear the additional costs of testing multivendor arrangements, configuring, and managing the larger number of network components, as well as securing the entire network.

These additional costs will eat into the potential savings and are expected to require a hefty dose of automation. Such automation will come from vendors, systems integrators, as well as from additional open-source initiatives such as the ONAP program, the open-source version of the AT&T ECOMP home-grown system that seeks to provide real-time, policy-driven software automation of AT&T's network management functions.

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It is too early in the game to scope the full impact of this unfolding transformation. It is likely that it will increase the speed of innovation and improve the cost structure for operators. At the same time, intense competition may reduce vendors' margins, decreasing their ability to invest in R&D. However, an increasingly symbiotic relationship between operators and vendors will improve industry dynamics, overall, as it will lead to better targeted solutions, more cost efficiency and improved customer experience.

Conclusion

Technological changes and industry realignment are enabling CSPs to gain greater market control and to reap larger efficiencies by replacing monolithic hardware and software solutions from major vendors with disaggregated networking elements with open-source software on commoditised, standardised hardware, and by adopting co-development models. This will reduce the pricing power of major vendors and compress their margins but may lead to greater innovation in the industry.

About the authors

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Huawei Executive Director of the Board David Wang: Moving Towards the F5G Era Together

[Shenzhen, China, May 19, 2020] At the 17th Huawei Global Analyst Summit (HAS), Huawei Executive Director of the Board David Wang launched the Fifth Generation Fixed Network (F5G) industry initiative. Through this initiative, Huawei is inviting global fixed network industry players, including both upstream and downstream companies, to join the F5G industry organization. This initiative aims to drive a thriving fixed network industry, and move humanity towards the F5G era. Joining Wang at the launch were Wei Leping, Director of China Telecom's Technology Commission; ETSI ISG F5G Chairman Luca Pesando; Ao Li, Deputy Secretary General of the China Broadband Development Alliance; and Altice Portugal CTO Luis Alveirinho. Wang also delivered a keynote speech titled Moving Towards the F5G Era Together.

Fixed networks are the foundation of the digital world, and make a real difference to people's work & life

Over the past few months, in China alone, nearly 18 million employees worked remotely from their homes. 230 million students studied at home, and 12 million people a day saw a doctor online. Apart from a place for living, the home has now become a productivity center that offers the same functions as schools, hospitals, offices, and theatres. Home broadband has been key to enabling homes to serve these functions.

Broadband networks are playing an increasingly important role in advancing society and the economy. The World Bank's study found that a 10% increase in broadband penetration would increase GDP growth by 1.38% on average. According to the White Paper on Development and Employment in China's Digital Economy (2019), China's 180 million kilometers of optical fiber supports a digital economy worth 31.3 trillion yuan. Other countries like the UK, Portugal, Spain, and France are actively rolling out their all-optical network strategy to boost high-quality economic development.

As an operator of broadband networks, major global telecom carriers are actively deploying gigabit broadband and 5G networks, and extending broadband networks from homes to enterprises. Leading carriers in China, Europe, and Asia Pacific have launched high-quality private line services over all-optical networks. This has accelerated the digital transformation of government, finance, healthcare, and other sectors. The social and economic value of broadband and private lines is being pushed even further.

A healthier ecosystem is required to address the fragmentation of the fixed network industry

Like the wireless network industry, the fixed network industry started evolving from the analog age back in 1980, and has continued to evolve for the last 40 years.

Five generations of evolution have seen wireless networks move from fragmentation to inclusion. In the analog age, there were eight incompatible technology standards for wireless. With 5G, wireless has now converged on one unified standard. Countries around the world are exploring 5G 2B use cases, and over 300 such projects have been launched. So far, the global wireless network industry has fostered a diverse ecosystem.



However, today in the fixed network industry, many standards organizations exist, such as the International Telecommunication Union (ITU), Institute of Electrical and Electronics Engineers (IEEE), Broadband Forum (BBF), and Optical Internetworking Forum (OIF). These organizations lack coordination, and various types of transmission media exist at the same time. The evolution from one generation to the next is not clear cut, and scattered investment has made it difficult to achieve an economy of scale. All of these have led to a huge gap between fixed and wireless networks in terms of the maturity of applications and ecosystem.

There is no denying that the fixed network industry has achieved excellent results over four decades of development. However, if fixed network standards and ecosystem can be as unified and prosperous as wireless networks, then the scale of the industry and its role in the global economy will grow several fold.

The ETSI launched the Industry Specification Group (ISG) F5G this February. Huawei believes that this will be a key milestone on the road towards a thriving fixed network industry, and usher in a brand-new era.

Huawei's Intelligent OptiX Network strategy enables a thriving industry

The ETSI has turned the paradigm of Fiber to the Home paradigm into Fiber to Everything Everywhere, and has defined three major F5G use cases: full-fiber connection (FFC), enhanced fixed broadband (eFBB), and guaranteed reliable experience (GRE). This new vision indicates the direction the fixed network industry is taking.

As a key player in the global fixed network industry, Huawei will embrace the F5G era and become an explorer and industry enabler. Specifically, Huawei will contribute to ETSI's standards development for fixed networks, and promote the commercial use of F5G innovations in the optical transport and optical access domains.

Huawei believes F5G use cases should be implemented from three dimensions: high bandwidth, inspired experiences, and all-optical connectivity. In terms of high bandwidth, the aim is to connect households to gigabit networks, buildings to 10 gigabit networks, and campuses to terabit networks. Inspired experiences include millisecond-level latency, 0 packet loss, and five nines availability. All-optical connectivity means extending fiber to every room, desk, and machine to connect hundreds of thousands of objects every square kilometer. ... to next page

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Huawei has proposed the Intelligent OptiX Network strategy, which is specifically oriented towards the F5G era, and has launched innovative technologies and products, such as 10G PON, Wi-Fi 6, eAI ONT, 200G and 400G, and Liquid OTN. The company has been committed to innovating in optical transport, access, data center, and campus domains.

Huawei invites industry players to embrace F5G and open a new chapter in the history of fixed networks

Moving forward, 5G and F5G will complement each other and create synergy to become the foundation for a fully connected, intelligent world. Huawei will maintain its strategic investments in both fixed and wireless networks, and help carrier and enterprise customers build ubiquitous connectivity through innovative solutions. We will continue to explore new use cases to drive a thriving fixed network industry, and make greater contributions to the industry.

We invite all global players across the fixed network industry to embrace the F5G era. Together, we will open a new chapter in the history of fixed networks, and realize our shared vision of fiber to everything everywhere. - END -

Analytics and Business Intelligence Platforms « Magic Quadrant »

Published 11 February 2020 - ID G00386610 - 69 min read - SOURCE: [Gartner Report](#)

By Analysts James Richardson, Rita Sallam, Kurt Schlegel, Austin Kronz, Julian Sun

Explore the Interactive Version

Augmented capabilities are becoming key differentiators for analytics and BI platforms, at a time when cloud ecosystems are also influencing selection decisions. This Magic Quadrant will help data and analytics leaders evolve their analytics and BI technology portfolios in light of these changes. [View All Magic Quadrants and Critical Capabilities](#)

Strategic Planning Assumptions

By 2022, augmented analytics technology will be ubiquitous, but only 10% of analysts will use its full potential.

By 2022, 40% of machine learning model development and scoring will be done in products that do not have machine learning as their primary goal.

By 2023, 90% the world's top 500 companies will have converged analytics governance into broader data and analytics governance initiatives.

By 2025, 80% of consumer or industrial products containing electronics will incorporate on-device analytics.

By 2025, data stories will be the most widespread way of consuming analytics, and 75% of stories will be automatically generated using augmented analytics techniques.

Market Definition/Description

Modern analytics and business intelligence (ABI) platforms are characterized by easy-to-use functionality that supports a full analytic workflow — from data preparation to visual exploration and insight generation — with an emphasis on self-service and augmentation. For a full definition of what these platforms comprise and how they differ from older BI technologies, see "Technology Insight for Ongoing Modernization of Analytics and Business Intelligence Platforms."

Vendors in the ABI market range from long-standing large technology firms to startups backed by venture capital funds. The larger vendors are associated with wider offerings that includes data management features. Most new spending in this market is on cloud deployments.

ABI platforms are no longer differentiated by their data visualization capabilities, which are becoming commodities.

Instead, differentiation is shifting to:

- Integrated support for enterprise reporting capabilities
- Augmented analytics
- Security
- Manageability
- Cloud
- Data source connectivity
- Data preparation
- Model complexity
- Catalog
- Automated insights
- Advanced analytics
- Data visualization
- Natural language query
- Data storytelling
- Embedded analytics
- Natural language generation (NLG)
- Reporting

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