

White Paper

Improving Opex and Capex Effectiveness Through Fixed Asset Management in Telecom Operators

Sponsored by: iconectiv

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IDC OPINION

Telecom operators are under significant pressure to sustain revenue growth and profitability while delivering new digital services. Regulations, technology disruptions, intensifying competition, and changing customer demands are also placing telecom operators at a crossroads.

The telecommunications industry is highly capital-intensive. Most capex for communications service providers is on telecom equipment. A significant percentage of capex is wasted annually due to inefficient utilization linked to poor planning. This makes fixed asset management (FAM) a critical financial issue. The Internet of Things (IoT) and the emergence of technologies such as cloud and 5G have increased the capabilities and potential of FAM significantly.

Operators should incorporate FAM as an enabler of digital transformation (DX) initiatives. FAM applications allow operators to describe their assets in an effective way, and to share that view across systems and organizations. This is key to driving operational efficiency gains and maximizing the value of technology systems and services investments.

By implementing a top-quality asset management solution, operators can facilitate short-term, tactical, and strategic decision-making processes. FAM applications can interact with all enterprise functions. A well-designed FAM implementation also makes financial accounting and operations more accurate and quantifiable. This improves the quality of interactions with contractors and partners, and can reduce instances of fraud and inventory loss.

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IN THIS WHITE PAPER

This IDC White Paper, sponsored by iconectiv, explores the changing landscape of the telecommunications industry, the challenges faced by operators, and the need to invest in improvements to FAM. It describes key features and benefits of FAM, discusses the role FAM can play in DX, and offers practical guidance to operators aiming for successful implementation of a FAM solution. The study describes iconectiv's solution for the FAM needs of telecom operators.

METHODOLOGY

This study relies on information gathered as part of IDC's continuous research on global markets and telecommunication services and enterprise asset management in the Middle East and Africa (MEA). IDC's research includes in-depth interviews with MEA telecom operators and an extensive review of secondary materials. We have also leveraged the results of our 2017 MEA CIO Summit surveys. The objective of this research is to understand the trends, drivers, inhibitors, technologies, and customer challenges of FAM. While the bulk of the research was conducted in the MEA region, the results are generally applicable for communications services providers globally.

SITUATION OVERVIEW

The Age of DX

The global telecommunications industry continues to rapidly transform. Many operators have launched DX journeys as they endeavor to become digital service providers. They are seeking to overcome key challenges including:

FIGURE 1

Telecom Operators: At a Crossroads

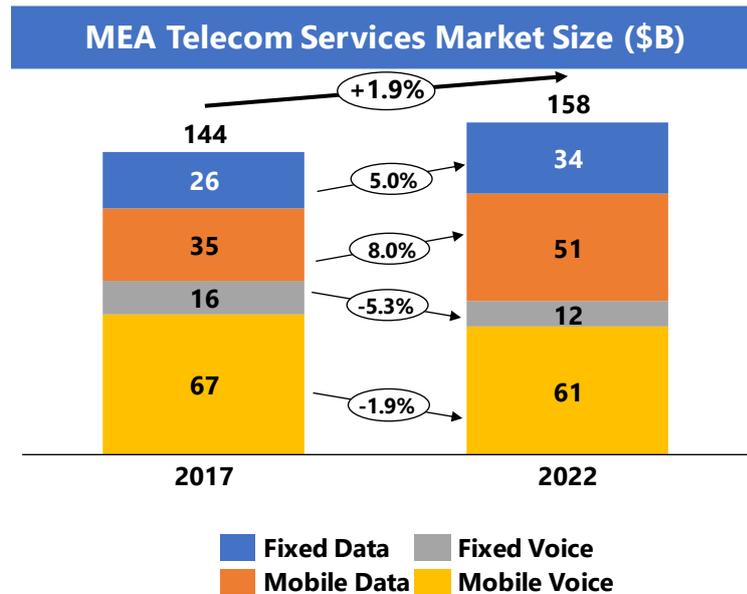


Source: IDC, 2018

Slow Growth: The worldwide telecommunications services market has faced a growth slowdown. According to IDC, the market will continue to record low growth rates over the next five years. IDC expects telecom services spending (fixed data, fixed voice, mobile data, and mobile voice) in MEA to have a compound annual growth rate (CAGR) of 1.9% over the 2017-2022 period, and to total some \$158 billion by the end of 2022. These projected rates make it clear that legacy revenue streams alone will not be enough to meet revenue and profitability expectations.

FIGURE 2

A Slowdown in Traditional Service Revenues



Source: IDC, Worldwide Telecom Services Database, 2H 2017

Efficiency Shortfalls: Most telecom operators are struggling to monetize investments in their networks and generate new revenue streams. They are becoming more cautious in their capex investment strategies as they seek ways to address efficiency shortfalls.

Regulations/Compliance: The telecommunications industry faces stricter operating and financial regulations than many other industries – and the list of regulations is constantly expanding. The webs of regulation are making it increasingly difficult for operators to innovate and launch new services. Global compliance with International Financial Reporting Standards is reducing the space for differentiation. In this environment, FAM is critical to safeguard assets and strengthen control over their use and movement.

Technology Evolution: Adoption of services such as 4K video and the huge growth of mobile data has led to significant traffic growth in core networks. Demand for 5G and voice over Long Term Evolution (VoLTE) is driving operators to ensure operational performance and deliver high-quality customer experience. New technologies are also triggering analyses of future network investments.

Technological innovation is also shifting market boundaries and paving the way for companies with new business models to enter the market and launch new services. Network virtualization, cloud, IoT, artificial intelligence, Big Data analytics, and 5G are expected to have an unprecedented impact on the telecommunications industry. Operators will need effective FAM capabilities to

handle the huge future investments that will be needed to implement these technologies and be more capital efficient.

Competition/Technology Disruption: Telecom operators are experiencing intensifying competition from traditional companies like cable providers and mobile virtual network operators. They also face challenges from over-the-top entrants such as WhatsApp and Skype, which lure away traffic.

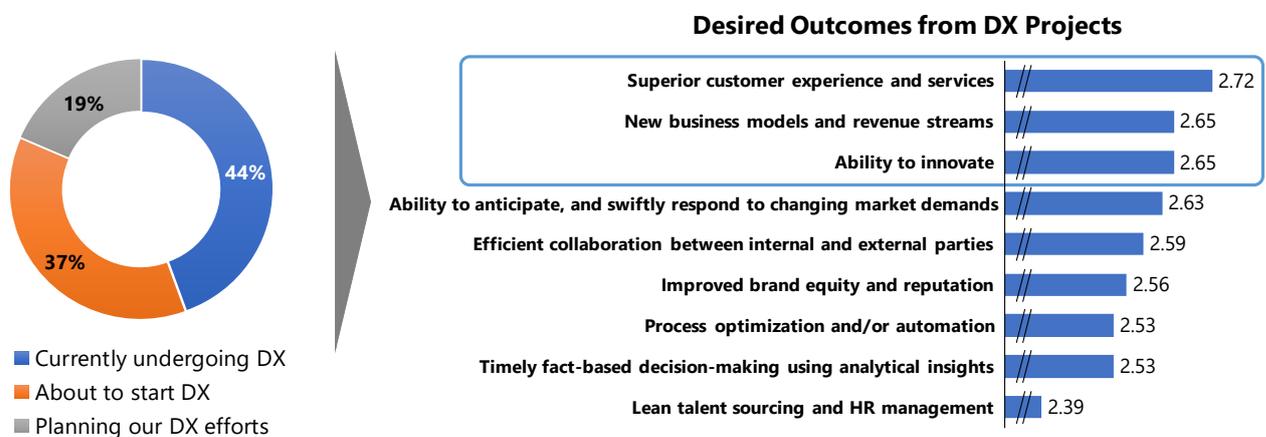
Evolving Customer Demands: Customers are demanding a seamless, omni-channel experience, as well as a new "best experience." They are also finding value in multi-service packages from the telecommunications industry. Enterprises are looking to deploy more advanced services, driving demand for VPN, Ethernet, IP, and managed services capabilities. Operators must not only focus on providing network-adjacent services, but also on protecting legacy service revenues and compete with emerging digital service providers. A well-designed FAM solution enables a more detailed view of these developments and the financial implications of operations.

Traditionally, the telecommunications industry has paved the way for the digitalization of other industries. But now, operators that lag in digitalizing their operations and services face the threat of having to compete merely on price. To overcome the challenges and move up the value chain, operators must accelerate their own DX, and adopt a long-term strategy for sustainable growth.

According to IDC's MEA CIO Summit 2017 survey, telecom and IT companies in the Middle East and Africa are accelerating DX efforts. Just 19% of the surveyed organizations said they have not initiated a DX plan. Organizations expect their DX projects to result in enhanced services and customer experience.

FIGURE 3

The Current State of Transformation: MEA Telecom and IT Companies



Note: N = 27

Source: IDC MEA CIO Summit Surveys, 2017

The Importance and Benefits of Fixed Asset Management

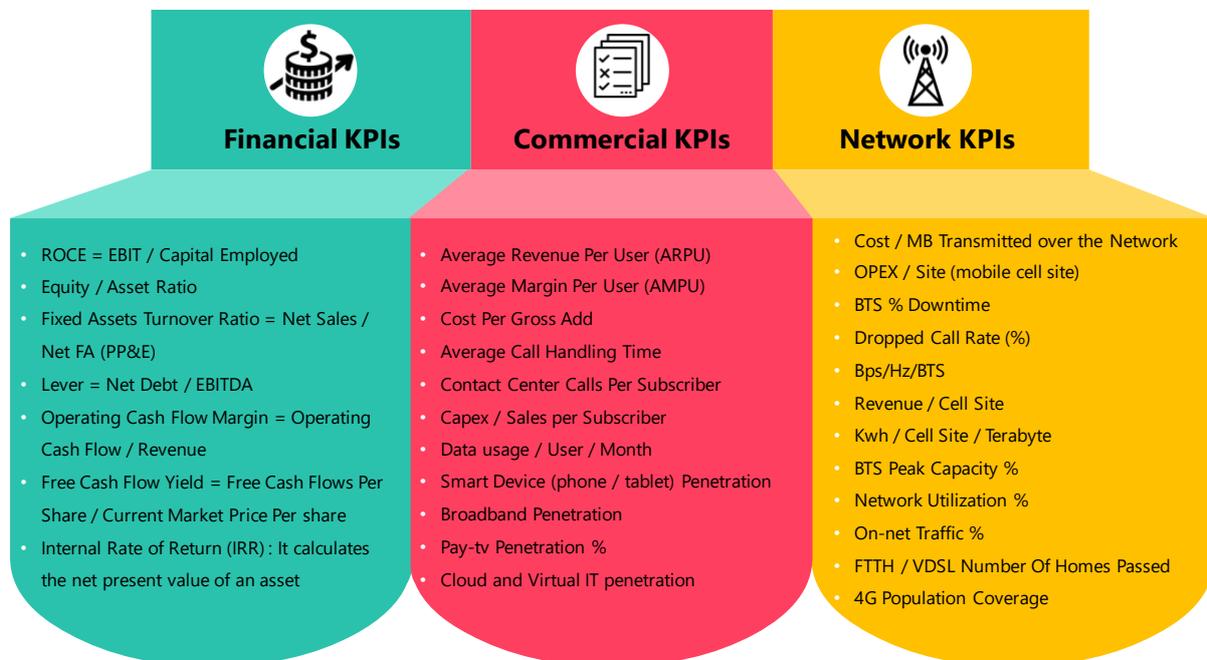
FAM has emerged, alongside DX, as an essential component of effective coordination across an enterprise's functions (e.g., network and operations, supply chain, and finance). FAM involves strengthening oversight of the tangible and intangible assets of an enterprise (e.g., buildings, fleet, infrastructure, and licenses) for the purposes of capital and operational performance assessment, financial accounting, preventive maintenance, theft deterrence, and regulatory compliance. Digital

subscriber line multiplexers, line cards, routers, E-UTRAN Node Bs, and antennae are just some of the fixed assets that must be managed. Virtual assets, such as software licenses, are an additional aspect of asset tracking. Accurately documenting fixed assets has long been a key objective of operators: Fixed assets are usually numerous, and utilized across a broad area of coverage. A well-designed FAM solution should address these challenges, and enable precise inventory identification.

The increasing complexity of operations is making a deep understanding of FAM critical for operators. FAM's role is not limited to balance sheet objectives – it can also include measurement of key performance indicators (KPIs). Figure 4 shows that FAM plays an instrumental role in evaluating financial, commercial, and network KPIs. From a network perspective, FAM is the foundation of predictive asset management. From a financial perspective, FAM can help reduce or recover capex waste. The precise information provided by a FAM application can play a crucial role in investment activities.

FIGURE 4

KPIs Associated with Fixed Asset Management



Source: IDC, 2018

FAM enables telecom operators to:

- Clearly define and identify all the fixed assets and components of a telecommunications infrastructure using the appropriate industry nomenclature
- Identify and reduce or eliminate unwanted or duplicate assets
- Realign purchasing, procurement, inventory, and operational management
- Optimize the use of available inventory and the spare installed base
- Maintain an accurate view of the condition of fixed assets
- Use detailed and up-to-date asset records for capacity planning
- Comply with regulatory, reporting, accounting, and auditing requirements

- Combat fraud and theft by monitoring the actual locations of assets
- Ascertain the value of assets at different stages of their life cycles
- Eliminate unnecessary maintenance costs via accurate warranty tracking
- Provide field technicians and network engineers with visibility of network operational data, replacements, and upgrades
- Provide data for inputs of service cost calculations
- Accurately account for assets during the valuation process of mergers and acquisitions

Significance of Fixed Asset Management in MEA

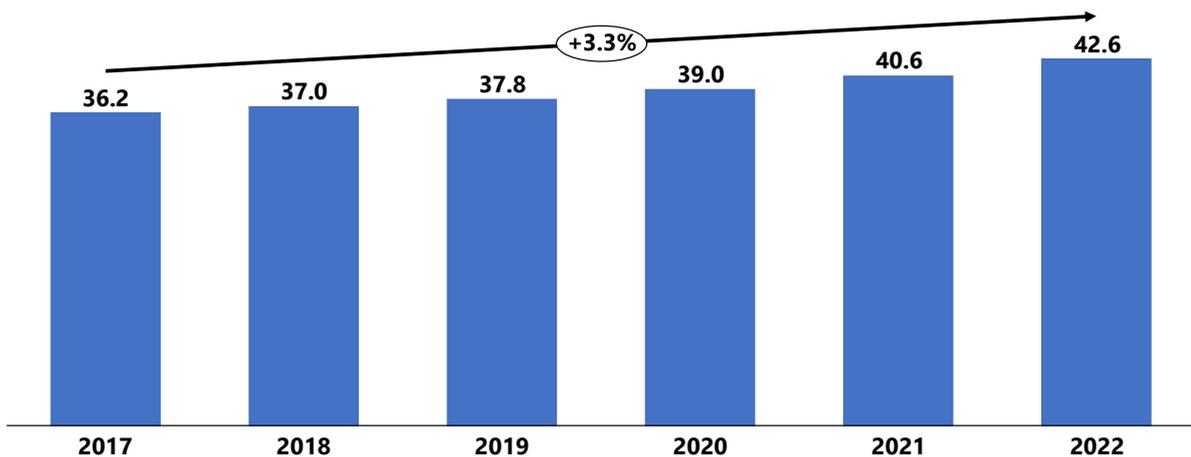
Telecom operators in MEA, especially the Gulf region, are determined to position themselves as early adopters of 5G technology. They hope to keep pace with progressive mobile operators in the United States, China, Japan, South Korea, and Scandinavia. MEA operators have already soft-launched 5G services. Commercial launches are expected in the latter half of 2019, when 5G handsets are expected to be available. Commercial launches of 5G are driven by competitive pressures and DX initiatives that are at least partly aimed at halting the erosion of revenues and margins from traditional telecom services.

The emergence of 5G is inflating network costs. Increasing demand for data is forcing telecommunication operators to invest heavily in next-generation networks. The fall in oil prices has negatively impacted oil-dependent economies, and caused operators in these countries to be more prudent with investments. MEA operators are currently focused on reducing costs without damaging service quality. Rationalizing asset portfolios has become a key cost optimization strategy – and this process can best be fulfilled with the help of a comprehensive FAM solution.

IDC projects the enterprise asset management application market in MEA to grow 2.3% year on year in 2018. We expect it to expand at a CAGR of 3.3% to total \$42.6 million by the end of 2022.

FIGURE 5

Enterprise Asset Management Application Market in MEA (\$M)



Source: IDC Semiannual Software Tracker 2017 H2

FUTURE OUTLOOK

Future of Fixed Asset Management

Business advancement using emerging technologies is occurring across industries worldwide. FAM applications may deploy technologies including:

- **IoT:** IoT networks connect physical assets to enterprise systems, allowing managers unprecedented monitoring opportunities.
- **Machine Learning:** Organizations are increasingly turning to machine learning to help manage the huge volumes of data they are collecting. Machine learning uses continuously evolving algorithms to identify patterns in large, constantly changing data sets. Identifying these patterns can enable managers to improve predictive and automated functions.
- **Cloud Computing:** Lower total cost of ownership (TCO) and remote access to computing resources are some of the benefits offered by the cloud model. Cloud enables workers in the field to tap quickly into asset records, including parts usage, maintenance schedules, and repair and overhaul information.
- **Advanced Analytics:** Managers often have trouble finding usable insights in the flood of data generated by IoT and machine-to-machine connectivity. Advanced analytics gives managers powerful tools to handle asset-related challenges and accurately calculate key metrics (e.g., mean time to repair).
- **Mobility:** Mobility applications enable field workers to connect to central FAM systems from any location. This is essential when servicing or maintaining assets in distant or hard-to-reach locations. Mobility can provide the opportunity for greater field-worker and operational efficiency.
- **Robotics:** Drone technology and remote-controlled vehicles are rapidly becoming essential tools for asset management. These technologies can relay images of physical assets in difficult-to-access areas, providing managers with new views and information.
- **Augmented Reality/Virtual Reality (AR/VR):** The potential uses of AR/VR go beyond procedures and safety training. AR/VR may be used in tandem with wearables technology to overlay critical maintenance information onto a field worker's eyewear.
- **Network Function Virtualization (NFV):** Ongoing efforts to deploy and scale NFV are fundamentally changing the way networks are built and operated. NFV is critical if communication service providers want to accelerate their evolution into digital service providers. In such cases, NFV, financial considerations, and the what/how/where of assets will all need to be part of the FAM process.

Importance of Fixed Asset Management for Telecom Operators

To make a successful transition from communication services provider to digital services provider, telecom operators should offer a broad range of services including, but not limited to, cloud and IoT. Demand for digital services is being driven by NFV and the broader transition from tangible to intangible assets in the telecommunications area.

Operators are facing the challenge of lower margins and disruptive competitors. These pressures are having a negative impact on profits and return on invested capital (ROIC). Profitability is also being squeezed by regulatory price controls and the need for capital investments to address increasing demand for mobile data.

After years in business, operators usually end up with a stockpile of equipment that includes thousands of items from a diverse set of vendors. As 5G and IoT develop, this trend is expected to continue. These inventories, however, are usually not tracked in a centralized and systematic way.

This can result in the underutilization of solutions and the wasteful use of equipment on inactive services.

The pressure on C-levels to support innovation, create business value, and boost profits is driving the establishment of end-to-end visibility of fixed assets. Operators are seeking to maximize the value of current assets and gather data for better decision-making processes. Tracking telecom-related assets manually, via spreadsheets, is not sustainable and effective in the modern era. Implementing a top-quality asset management solution and integrating it with applications such as enterprise resource planning (ERP) and supply chain management will be a key step in telecom operators' DX journeys.

ESSENTIAL GUIDANCE FOR TELECOM OPERATORS

IDC believes FAM will play an essential role as enterprises implement DX to overcome their challenges and remain competitive. To get the best results from FAM projects, IDC offers the following guidance:

Being Clear About the Company's Offer – and Ensuring Internal Processes Support Goals

In today's business environment, telecom operators must transform themselves to meet the changing needs of customers, and stay competitive. Frequently, however, transformation initiatives are carried out in response to immediate challenges or pressures, without clear end goals or specific objectives. Capex budgets are often made based on legacy investments, with ROIC and customer value creation having secondary importance. Unsurprisingly, the results of these initiatives are often far removed from the intended business outcomes. Harmonizing the objectives of customer experience, digital business models, and agility and efficiency gains is critical if operators hope to unlock the full potential of DX. From an asset management perspective, the goal should be the creation of a centralized asset database that enables the integration of disparate systems and facilitates the collaboration of different groups.

Defining, Listing, and Communicating KPIs

Defining KPIs is critical to acquire a comprehensive understanding of asset usage patterns, inventory disparity, and downtime expenses. KPIs can pinpoint each asset's impact on the cost of doing business. It is crucial to communicate KPIs so that each stakeholder knows what is important, what role each stakeholder plays within the ecosystem, and what remedial actions are critical to the seamless operation of the enterprise.

Integrating Asset Management Solutions with Other Enterprise Applications

FAM applications cannot be implemented in isolation. To achieve the desired results, an asset management solution should be integrated in the wider enterprise. This can be especially useful when asset managers are making repair/replace decisions for key assets. Information transparency around assets enables each business group, including finance, supply chain, and even human resources, to make better decisions.

Prioritizing Both Asset Management and People Management

Many asset managers may think only about the assets they are charged with monitoring, maintaining, and managing. However, good asset management begins with good people management. Investments in procedures and training, communication protocols, and building a culture of empowerment are essential to any successful asset management solution.

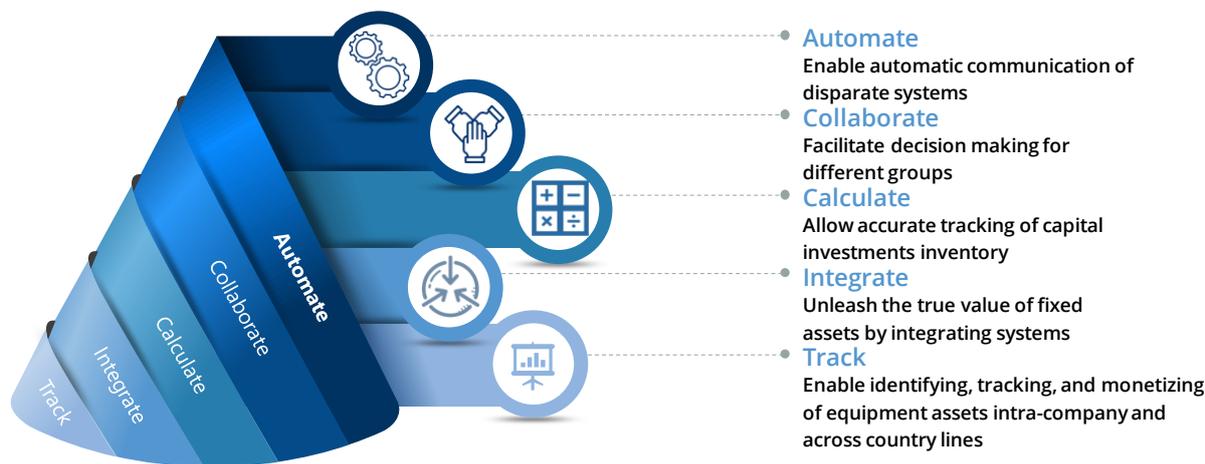
iconectiv's Fixed Asset Management Offering

iconectiv is an established partner of the global communications industry, and one of the leading companies providing network and operations management solutions. The company's TruOps Common Language solution helps operators avoid the pitfalls that can arise due to inaccurate or incomplete information.

A lack of appropriate identification and management of assets and facilities can lead to operational and capital efficiency shortfalls. Compliance mandates, including regulator, auditor, and shareholder requirements, and the increasing need for informed decision making, are also challenges. iconectiv's solution addresses these challenges by providing a shared view of assets among different business units, including but not limited to finance, operations, and procurement. The solution enables flawless asset management by identifying, tracking, and monetizing equipment assets intra-company and across country lines. It also provides process automation by ensuring that the right network service relates to the right device via the right third party. The solution keeps large organizations with lots of moving parts working together seamlessly.

FIGURE 6

Key Value Propositions of iconectiv's Fixed Asset Management Solution



Source: IDC, iconectiv; 2018

iconectiv's solution includes TruOps Common Language, a data information solution that enables communication service providers and manufacturers to overcome complex network management, asset management, and service activation challenges, and simplifies FAM and network planning. The solution covers:

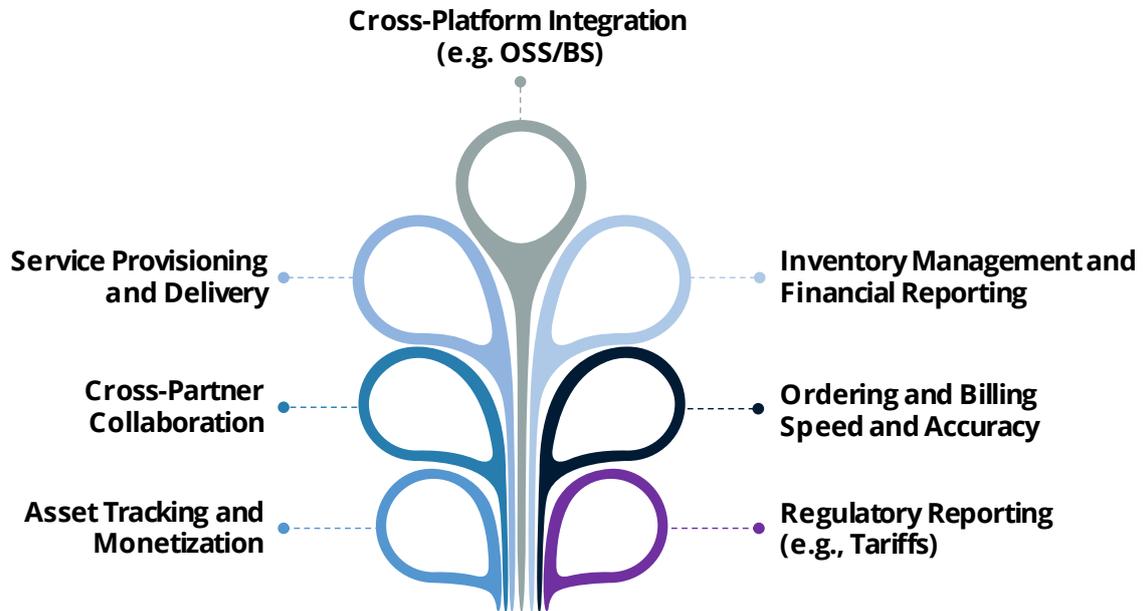
- Over 450,000 network equipment items across 1,000 vendor brands
- Over 11 million global location codes across more than 60 service providers
- Over 4.5 million possible orderable connection configurations

iconectiv's solution also supports the management of virtual assets such as software licenses.

iconectiv's solution rectifies past mistakes and prevents future errors by restructuring the fixed asset register, defining common information infrastructure, establishing cross-organizational processes, and coupling network inventory and ERP views. As a result, operators can achieve direct bottom line impacts (see Figure 7).

FIGURE 7

Bottom Line Impact



Source: IDC, iconectiv; 2018

Common Language makes it easier for service providers and their training partners to:

- Simplify asset and inventory management for more accurate and timely financial reporting
- Improve network utilization and create seamless interconnections
- Deliver better services using a shared and consolidated view of network locations
- Enable rapid and accurate inter-carrier ordering using consistent identification of interconnection point characteristics

Common Language is used by more than 100 communications service providers, and is the Alliance for Telecommunications Industry Solutions' approved standard for U.S. telecommunications interoperability.

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