# Explosive growth of network data:
# Are operators ready to control their network CAPEX?

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The paradigm shift from collecting to connecting data brings a deluge of traffic volumes and prompts ever-greater investment in infrastructure. Smart spending is the need of the hour, when a new wave of technology comes before reaping the benefits from the previous one. Network Assets may get stranded, under-utilized or ignored while budgets are spent on (perhaps) ineffective additional equipment. An appropriate asset assurance management system will enable operators to optimize redeployment or disposal of retired assets, thus saving CAPEX and OPEX, and to forecast when new investment should be made, thus optimize spending.

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Production of data is expanding at a feverish pace. Experts believe that there would be a substantial increase in the annual data generation by 2020. This would mainly be due to rapid increase in data generation by individuals and corporations across the globe, starting from healthcare to gaming industry. As the paradigm shift happens from collecting to connecting data, businesses are searching for relationships between these data sets and reveal valuable new insights.

Dramatic growth rate in data volumes has compelled industries across the world to start re-defining their business strategies to deal with the huge data flow. Telecom industry is no exceptional in this matter. Traffic volumes are being driven by the ever-growing number of connected people and connectable devices.

The trend toward multiple device ownership, an abundance of highly diversified and mostly free online content, and increasingly widespread consumer access to fixed and mobile broadband networks capable of supporting high-bandwidth services like streaming video, music and gaming all contribute to the surge of data volumes. The total number of people connected to the Internet is expected to surpass 2.7 billion in 2013, while the total number of applications downloaded over all types of devices will exceed 50 billion.

A recent ITU report states network data continues to generate 90% of all consumer traffic, with the largest volumes coming from mobile file sharing, video streaming, video calls and online gaming. New smartphones and mobile devices providing a higher quality user experience are driving faster uptake of gaming and video calling, both of which are expected to go over 40% year-on-year growth between 2010-2015. Multiple players are now operating in the same markets, but under different regimes – for example, traditional voice providers in competition not just with players in adjacent markets, such as ISPs and cable operators, but also with content and application providers, such as OTTs, opening up multiple channels for network data and information to enter into the systems.

These multiple data sources from new services and devices are creating new usage patterns and revenue models which in turn forcing telecom operators to spend huge sums of their budgets on installing newer

technology network elements and the latest infrastructure. Today operators are investing heavily in new network infrastructure for advanced telecom services like LTE/4G, IPX, etc. without adequate visibility on revenue growth.

Much of the Telecom industry's recent focus has been placed on CEM (*Customer Experience Management*) and related analytics that are derived from the network data. Certainly, customer acquisition and retention programs are critical to driving revenue. Network augments and migrations to new technologies are an unavoidable "price to pay" and the lion's share of management's attention is placed on squeezing as much revenue traffic onto pipes and spectrum as possible. Continually shrinking margin along with the fact that telecom generates only 6% profit on investment that costs 9% of the budget, put great strain on the capital available for spending. Given the rate at which technology is changing, with the transition towards advanced services like 4G LTE and IPX, operators today don't have enough time to reap the rewards of their investments before the next technology arrives. However, data quality within technical OSS's is notoriously poor. As a result, network assets can become stranded, under-utilized and/or lost. Smart spending therefore is the need of the hour.

One of the main objectives of big data is developing the best insights from the source data available. Unfortunately, poor data quality in sources, particularly in the telecom industry, is an unavoidable fact of life. Operators typically struggle with poor data integrity in BSS and OSS applications. It is widely understood that data integrity issues dramatically increase OPEX and CAPEX. Hence, it is necessary to take proactive approaches to manage data integrity with the goals of improving data quality both for the purposes of analytics and for enhancing operational efficiency.

It is essential to fully understand the network data sources, both structurally and semantically. When drawing analytical conclusions based on alignment and comparison of large data sets, a very common misstep is drawing the wrong conclusions due to "false positives". The higher the number of false positives, the less trust there is in your conclusions and the more cost is entailed in separating the "wheat from the chaff".

A recent survey points out that 20% of the assets fail to return cost of capital and 5-15%

of these network assets are "stranded". At the crux of the problem is the unfortunate reality that operators don't have an accurate picture of what assets and inventory they already own, let alone how these assets are being used. Effective capital expenditure and network asset lifecycle management are hence rapidly becoming a big boardroom issue for telecoms operators.

The ability to understand what capital is stranded in the network is based on visibility. ERP (*Enterprise Resource Planning*) systems consistently lack views into deployed assets. Similarly, inventory platforms have a good (yet almost always incomplete) view into what is deployed. What isn't known are factors around capacity and utilization rates, lost or vacant assets, or status of all 'tagged' assets. This, coupled with a clearly orchestrated and managed retirement and resale process, positions the operator to not only "connect" data from ERP and Network sources, but to also act on that data in a way that is poised to save the average operator tens of millions of dollars in capital expense and increase free cash.

Due to the increasing growth of data volumes coming from advanced systems and services, there is a growing recognition that network costs must be better managed, but there is also a frustration that lack of visibility and insights undermine the ability to do so. Hence a solution that provides intelligence throughout the asset lifecycle to both finance and operations managers, with the analytics they need to promote more efficient use of network capital expenditure is a "must have".

In most operators today, attempts are being made to manage these challenges. For instance, Network Planning typically has significant traffic data and statistics which are used for planning and budgeting. Similarly, Supply Chain commonly has systems that manage ordering, receiving, stocking, and overall management of assets prior to deployment. What the operators lack, however, are monitoring and controls to help optimize the complete end-end asset lifecycle.

Network analytics applied at each stage of the asset lifecycle can result in significant annual capital savings for the operator. The CAPEX problem requires complete, holistic views into current assets as well as the consumption and placement of those assets. This problem also requires comprehensive analytics that are not only descriptive (show current states, trending etc.), but also predictive, to accurately forecast

asset exhaustion, procurement triggering, necessary asset warehouse levels, impacts of failure and growth rates on sparing levels, and retirement strategies.

Asset Assurance is a discipline which is gathering significant interest as operators turn their attention to managing and reducing CAPEX. Asset Assurance solutions are designed to fully manage and provide detailed visibility into network data obtained from multiple sources, which in turn facilitates asset optimization and supporting capital spending practices, complete with workflow, dashboards and embedded analytics. With Asset Assurance, the operator will have complete end-to-end asset lifecycle visibility, and control over asset disposition. Proactive asset management services affect workflow and analytics elements, e.g. by initiating workflow to ensure that all the applicable network data and assets are procured and deployed when needed.

Asset Assurance provides various stakeholders with a holistic, enterprise wide view of network assets, clearly brining out stranded and underutilized assets. It helps to reconcile and make assets current, record and track them in various financial and network operational systems. It also provides an up-to-date tracing of capital spend versus budget, realized "avoidance", and establishment of predicted capital needs based on network analytics, enabling operators to track, manage and understand time-to-value i.e. when assets will produce revenue. Basically, it enables operators to optimize redeployment or disposal of retired assets. Asset Assurance will benefit operators in:

- significant CAPEX optimization
- enhanced network resource utilization
- improved network planning & operations
- accurate financial reporting
- optimal capital expenditures
- The right capital investments for maximum return.

In summary, an effective asset assurance program will provide operators complete confidence that their network will grow to meet market demands while also guaranteeing optimal value for every dollar of capital budget spent. Asset Assurance has the potential to help operators to translate insights that are derived from various network data sources into actionable intelligence, and make better business decisions. ●