

ROC Capacity Management - Success Story at a Tier 1 European Operator



Operator Profile

The operator, a Tier-I Mobile Communications Service Provider (CSP) based out of Europe, currently has annual revenues greater than \$70 billion and approximately 30 million customers. Their products focus is mobile 3G and 4G (LTE) voice and data services, and their market spans one of the more dynamic regions of Europe, where they are experiencing significant fluctuations in capacity demands based on seasonal changes.

This operator has made strategic choices involving LTE services, and is facing a common challenge of building out reliable 4G network infrastructure while also maintaining solid service levels in existing 3G infrastructures.

Operator's Situation - Problems

With growth still occurring in 3G and even more rapid growth observed in 4G, the demand for data and services by customers has become significantly difficult to predict based on the available traffic data. Problems experienced by the operator:

- Need to manage network capacity across a heterogeneous network for both 3G/4G technologies, as customers continue to migrate from one technology to the other (shifting capacity as a result).
- Added challenge of blending the existing capacity prediction across a common network core
- Increased consumption of data by the 4G devices, as a result the operator found themselves running out of capacity at times that traffic analysis was unable to predict, and well ahead (in some cases) of when network upgrades were scheduled to arrive for a particular section of the network.

Additionally, the operator was also faced with several limitations:

- Unable to determine device resource impacts based on service consumption
- No network-tuned Analytics capability to perform forecasting and "what if" analysis,
- No interactive tools to visualize and act on the data being presented.

As a result, the operator was forced to forecast capacity factors based on performance management traffic data, which led to repeated incorrect forecast conclusions. Even more importantly, the operator was unable to immediately identify and manage imminent capacity and congestion issues, which ultimately led to a degradation of service availability.

Subex's Offering – The Solution

The key to solving the problems indicated above was to get inside the network at the element level, using a unique, specialized capacity analytics technology, to analyze data in near-real-time, ultimately giving the operator a view into the network device and service capacity levels. This extracted data was then normalized, to be presented in a meaningful format across the targeted 4G devices that were easily analyzed by the operator to properly assess the current capacity consumption, while also predicting how long the current capacity would last based on current consumption metrics.

The Subex ROC Capacity Management solution was perfect to solve the issues indicated above. This solution is specifically designed for this new, highly accurate method for detecting and modeling current capacity, while also predicting future capacity needs and points of risk across the network. It provided capabilities which helped the operator extract the data and model it so that they could see threshold violations on key resources, regardless of manufacturer or type. Overall, ROC Capacity Management provides the operator the luxury of looking at data collected from various data points across the networks, rather than getting data in various silos, which previously led the operator to then guess how the values correlated together end-to-end.

Proof of Success - Benefits to the operator

Following the deployment of Subex ROC Capacity Management, the operator was able to capitalize on multiple streams of network intelligence they previously did not have access to, or otherwise realize, where:

- Device processing load entered into "red" statuses (where services were at risk or failing) up to 5 times more often than were previously forecast and measured by performance management metrics.
- Capacity risks and failures were not occurring in the parts of the network, on the expected elements, or even during the right times of day as had been previously predicted. In fact, a new range of unexpected capacity risk and failure points were identified and immediately validated.
- Numbers of attached users that were driving down service reliability factors were far greater than previously predicted through traffic management.

Through these findings, the operator was able to quickly alter network planning activities to meet the actual networks needs that were now visible on a daily basis. This resulted in significant network capex savings, and improved network reliability, especially in 4G services, where the highest growth is now being recorded. As the operator migrates away from their 3G network, the opportunity to bring pinpoint accuracy to 4G network capacity needs has helped fuel the CapEx savings.

Additionally, having this level of capacity intelligence has also facilitated a faster 3G/4G migration, which is now providing subsequent OpEx savings as well. These improving factors have ultimately had a positive impact on overall customer experience for this operator, which is a key factor in their highly competitive market.

The following capabilities of ROC Capacity Management helped the operator resolve their capacity issues:

- **Data Normalization** – ROC Capacity Management has the ability to collect, compare and effectively report on capacity across an ever growing number of network devices, technologies and platforms in a heterogeneous network. Through this feature, the operator is able to collect data from the various different sources and normalize the information to a standard format for easy analysis by specialists, in order to make informed capacity allocation change decisions.
- **Data Projection based on consumer trends** – ROC Capacity Management provides the operator with the ability to determine in real-time the trend of capacity consumption based on subscriber usage of data and services. This helps the operator quickly realize that the historical views don't really count as they just talk about what happened and not what is happening in the future. With ROC Capacity Management they are able to get future projected views which significantly helped them in resource allocation.
- **Predict Time to Capacity Exhaustion** – ROC Capacity Management has the ability to accurately predict time to exhaustion based on aforementioned data projections. The operator was facing major problems as they would regularly run out of capacity before completing their network upgrades due to changes in consumption patterns that were not caught/known during planning phases. With ROC Capacity Management, the operator is able to accurately predict time to exhaustion thereby avoiding capacity issues impacting business critical processes. This in turn led to better customer experience and reduced churn rate.
- **Predictive Analytics** – ROC Capacity Management gives the operator the ability to get an accurate view of potential hotspots based on scenarios of additional resource allocation, subscriber consumption or new product introduction. The scenarios are modeled as per the requirements of the operator and potential future hotspots can be identified. This will help any operator justify new CapEx spending based on additional revenue/consumption. It also helps them properly plan their CapEx spend and redistribute existing resources which are not fully utilized by the network.



Why Subex?

Based on our deep domain expertise in the telecom domain, Subex's capacity management solution is trusted by service providers the world over. The solution enables CSPs to prevent an availability or performance impact on business critical applications due to capacity issues. It provides a holistic view of capacity through which it helps CSPs see threshold violations on key links and resolve capacity issues based on near real-time data.