The enterprise market – a gold rush for mobile operators

“Rather than chasing new subscribers, operators are now more focused on delivering improved service levels and offering new services to existing users.” (Source: E&Y – Metrics Transformation in Telecommunications – 2014)

Indeed, as markets trend towards saturation (see graph), mobile operators need to focus more on customer retention strategies. To protect their market share and bottom line, mobile operators need to act as though every single subscriber now counts. This is not entirely surprising. After all, enterprise accounts – with hundreds or even thousands of voice- and data-hungry post-paid subscribers – are profitable and reliable sources of revenue. However, why does this segment lead by such a large margin?

Enterprise is the prize

A more careful look exposes some hidden gems! The enterprise segment is also a priority because it actually presents an upward growth trend amidst a sea of stagnation.

First, enterprise mobility services (EMS) are becoming more widely adopted in mid-tier enterprises (100 to 4999 employees), increasing their demand for mobile devices and services. Second, the demographic itself is also growing. Today, only 50% of employees use mobile devices directly supported by the enterprise, whereas by 2020, estimates show this number will be closer to 80%.

Evidently, mobile operators recognize this and are eager to tap the full potential of the enterprise segment, to counterbalance the negative impact of market saturation and the consequent decrease in ARPU. As such, they are looking for ways to better target this market and keep the current customer base loyal, but more importantly, to take an early lead in digging for gold and increasing market share where subscribers are most profitable.
Employees’ tablets and smartphones now run applications that are intrinsically connected to the organization’s core business. Moreover, applications are migrating to the cloud, meaning enterprises are becoming heavily reliant on network reach, availability and quality, so employees can perform everyday tasks. As mobile networks become mission-critical for enterprises, operators should strongly consider the following:

1. Enterprise customers will push for contractual service level agreements (SLAs) on top of service performance parameters, and look for mobile operators who can actually deliver on and prove them.

2. High-level executives’ quality of experience is extremely important. Acting quickly and proactively to solve their problems [or not] can win [or lose] a thousand-seat subscriber account.

These business requirements may seem simple and trivial, but the implications are serious. Questions remain. In particular, are network service quality and operations teams – including the Network Operations Center (NOC) and Service Operations Center (SOC) – able to meet enterprises’ demands?

Traditional service assurance practices rely on network performance systems and network key performance indicators (KPIs) to monitor and diagnose network outages and service degradations. Engineers prioritize the most critical alarms and trigger the necessary corrective actions. They then move onto address the next-most critical alarm, repeating the process until all alarms are resolved. However, in the context of enterprise requirements, are network KPIs enough? If multiple alarms happen simultaneously, would engineers know which alarms are affecting the highest priority enterprise accounts?

First, network KPIs, in their essence, do not discriminate subscribers. Prepaid, postpaid and enterprise subscribers are treated as uniform groups. Consequentially, network KPIs alone cannot effectively measure, let alone prove, contractual SLA parameters for specific enterprises.

Second, variance between network KPIs and individual subscribers’ QoE can be large. As an example, a cell may have a drop call rate of 1.7%, whereas a subscriber using that same cell may experience a drop call rate of 100% (all calls lost!). This could result in a situation where the network performance alarm is treated as low priority, even when the subscriber in question is the CTO of a large enterprise account – a high-priority enterprise VIP subscriber!

Finally, subscribers move geographically. Different network elements serve them at different times at different conditions. Individual QoE parameters may also vary significantly from network KPIs in scenarios where subscribers are constantly moving. This raises yet another concern: How can mobile operators track these moving targets in the first place?

To cope with enterprises’ requirements, network and service quality and operations teams need to re-assess and re-align their long-established service assurance practices. Specifically, if they want to effectively target and prioritize enterprise customers (especially VIPs), they need to go beyond monitoring against just network KPIs.

Where to, though? What do they actually need?
What network and service quality and operations teams need is a solution that provides them different but complementary perspectives into network performance. These different perspectives can be combined and teams can collaborate in such a way that they can implement service assurance processes that focus on monitoring high-priority subscribers’ QoE (rather than the network KPIs), while still leveraging network KPIs as effective tools to actually detect and resolve the problems affecting these subscribers.

This concept become clearer when one describes the actual tools mobile operators need to achieve this goal.

**SUBSCRIBER-CENTRIC PERFORMANCE DASHBOARDS**

These dashboards must provide aggregated QoE indicators for groups of subscribers belonging to selected enterprise accounts.

Accounts should be identified by an ID (Account List) and sorted in Top/Worst fashion, so mobile operators can quickly identify accounts needing immediate attention.

Once a group ID is selected, the report shall display performance indicators for the specific groups of subscribers. For instance, mobile operators can monitor the drop call rate for employees of a certain enterprise, and compare it to the contractual SLA parameters.

Ideally, the operator should have the choice of sharing such online reports with the external client (delegating more limited access privileges), to prove the SLA and to establish a relationship of mutual trust.

Reports should also be of a more hybrid nature. For instance, the solution could combine subscriber and network intelligence to report how each cell is affecting different subscribers according to their priority level. This would allow engineers to accelerate detection of network elements affecting high-priority VIP enterprise subscribers. In the example, we clearly see that Cell 1 is the highest priority cell to troubleshoot.
ADVANCED ANALYTICS DASHBOARDS

By simply double-clicking on key areas of the previously discussed dashboards, engineers can drill down to have advanced analytics.

This must be done in context, so the engineer keeps the focus on the relevant information and problem at hand. For instance, if one selects a certain enterprise account, one should be able to access all IMSIs (subscribers) of that account quickly. If one selects a network cell instead, one should be able to identify the individual IMSIs that used the cell in question.

This way, mobile operators could go directly from a grouped view, designed for quick detection of subscriber problem and for setting the correct troubleshooting priorities, to individual subscriber analytics, including detailed layer 3 signaling information of individual voice or data service sessions.

These very detailed reports shall provide advanced analytical techniques to assist engineers in performing root cause analysis (RCA) and diagnosing both subscriber and network-level issues more precisely.

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END-TO-END PERFORMANCE DASHBOARDS
From the advanced analytics dashboards, network and service quality and operations teams can further drill down into comprehensive, end-to-end network performance dashboards containing both historical and near-real-time network KPIs.

Network performance dashboards should display the topology of the network allowing engineers to see the entire service delivery chain, from the Radio Access Network (RAN), to backhaul/transport, to mobile core and IP core.

This is important, as the quality of service (QoS), especially of convergent technologies such as LTE and VoLTE, depend on the performance of all networks working together. Having all KPIs in a single pane of glass could also enable different teams to collaborate in more complex cases, where one network may be affecting the performance of another network (for instance, when dropped packets in the backhaul affects the performance of radio cells).

However, many times, NOC and SOC teams will first see performance alarms using these network dashboards and KPIs. In this case, they should be able to follow the opposite workflow. That is, they must be able to select a network element on the network map, such as RAN cells, and, with a few clicks directly on the interface, open the advanced analytics dashboards. Using parameters such as the cell ID, engineers could then access detailed trace messages of a particular cell to verify (via IMSI filtering) if any VIP enterprise subscriber was affected.

If that is the case, the NOC and SOC can then proactively contact the subscriber and let him or her know the problem was detected, and that they are already working to solve it. Without such workflow, the NOC and SOC would remain oblivious to subscriber-level issues, and run the risk of learning about QoE issues only when the subscriber calls to complain.
Infovista offers a powerful next-generation, carrier-grade, pre-integrated software solution combining two main modules:

- **VistaInsight** – Network Intelligence Engine.
  A multi-vendor, end-to-end, near-real-time network performance tool covering all network domains, including the RAN, backhaul, transport, mobile core and IP core.

- **VistaNEO** – Subscriber Intelligence Engine.
  A multi-vendor, 24x7 call trace collection engine for 2G, 3G and 4G/LTE RANs, providing advanced subscriber geo-localized QoE analytics.

- It provides a centralized repository of network and subscriber intelligence, serving all teams and stakeholders including: Service Quality, Operations, Engineering, Network Optimization, Marketing and Executive teams.

- It implements automation extensively to process, store and present performance data, hiding complexity, eliminating the human factor whenever possible and allowing for quicker reaction times when problems happen.

- Contextual drill-down to/from end-to-end network performance reports to/from call-trace subscriber analytics allow users to quickly detect and solve complex problems in a seamless and intuitive fashion.

- It offers a rich set of out-of-the-box reports and KPIs for managing both network and subscriber-level performance indicators, and a modular and flexible design to quickly add new custom indicators and reports.

- It supports the most relevant networks and technologies, including partnerships with the most relevant network vendors (Cisco, Ericsson, Nokia, Huawei, Juniper, ALU and others).

- Different deployment and business models are available, including hosted and fully “as-a-service (aaS)” options to fit different budgets. Moreover, the solution is modular and can be adopted in gradual phases.

Infovista offers a proven solution, with a global presence and solid worldwide Tier-1 and Tier-2 customer references.
A Subscriber-Centric Network Performance Management solution can revolutionize the way mobile operators assure service quality. The unique combination of subscriber and network intelligence gives mobile operators the means to establish new practices and processes that truly focus on subscriber QoE.

More than 80% of mobile operators who answered our survey fully or somehow agree that this is indeed the right path to follow, with business benefits ranging from reducing churn to accelerating troubleshooting.

Ultimately, the goal is to provide a truly differentiated service, and delight even the most demanding and selective enterprise VIP subscribers.

The gold was located.

The digging has started.

If you are ready, Infovista is the right companion tool to help you mine for the gold, protect your riches and make you a winner!
Infovista, the leader in modern network performance, provides complete visibility and unprecedented control to deliver brilliant experiences and maximum value with your network and applications. At the core of our approach are data and analytics, to give you real-time insights and make critical business decisions. Infovista offers a comprehensive line of solutions from radio network to enterprise to device throughout the lifecycle of your network. No other provider has this completeness of vision. Network operators worldwide depend on Infovista to deliver on the potential of their networks and applications to exceed user expectations every day. Know your network with Infovista.