

Making Sochi Winter Olympics a Success for Social Media

Background Brief

The Winter Olympics is one of the biggest sporting events in the world, attracting the attention across the globe. For a period of about five weeks in 2014 (Feb 7 – Mar 16) Sochi is the focal point of attention giving every participant in this great event a tremendous exposure to the World, the same is true for the suppliers of telecommunication services.



Great care has been taken by the official supplier of telecommunication services to build a dedicated Olympic network setup to ensure optimal user experience for the huge numbers of spectators, press and VIPs who will attend. As the ecosystem changes to one where users share pictures, videos, social networking updates, instant messages – in fact any of the apps they use at home, the challenge only increases.

The Challenge

The challenge for the official network provider during the games is the same as any operator deploying a network to support the broad selection of services consumers expect, but accelerated by intense media attention, very short implementation timescales and the need for exceptionally rapid problem resolution.

In essence this isn't about ARPU or churn but enabling customers from all over the world to utilize the network in a seamless high quality manner and cementing the reputation of the official network provider and Russia as leading players on the world stage. Two of the main challenges are:

- To build a complete network in a very short time with an immovable delivery time
- To ensure superb user experience throughout the Olympic event

With 89 countries represented at the games, from USA to East Timor, there is the potential for many things to go wrong. With a large numbers of subscribers and high profile users such as press and VIPs using the network, the official network provider must be highly pro-active in identifying and resolving issues and can't afford to be reactive by waiting on issues being raised by subscribers' home roaming departments. Taking a reactive approach to issue identification and resolution isn't an option and could possibly result in poor perceptions and bad publicity for the official provider. Some of the key problems that impact quality perception are listed in Table 1.

Key Capabilities Required for a Service Assurance Solution

To successfully overcome the challenges of this massive event, the official network provider was in need of a service assurance solution that can help the operation teams to effectively navigate through the multitude of problems occurring in a network during such a stressful situation in a very short time to get to the root cause.

The main departments targeted for such a solution are the Network operations and Roaming departments, however, upper management and adjacent departments also benefit from the enhancement insight and troubleshooting capabilities of such a solution. Table 2 lists the main targeted departments' key challenges.

Network Accessibility	Service Performance	Reputation
No access to network or subscriber services	MMS/SMS failure	VIPs experiencing poor performance
Dropped calls	Handset problems with low bandwidth for social media updates	
No coverage		

Table 1: Key issues affecting Quality Perception

Key Challenges for Network Operations & Roaming Management
New network not tuned to a homogenous usage pattern due to the limited time
Unknown usage patterns for services
Non proven coverage across the Olympic area
Very low resolution time for problems
Prioritization of problems for key subscribers
Huge mobility of subscribers as they move between different venues
Coverage of all network technologies end to end
Very high focus on quality from both the official supplier's management and external parties
Proactive action on problems before they are escalated to management from external parties
Complete view of partner performance
Prioritization of problems for key subscribers

Table 2: Key challenges for Operator's targeted departments

To help network operations overcome the task of providing a superior service with the inevitable network problems, a solution that can rapidly pinpoint such problems and aid the resolution in minimum amount of time must be in place.

Segmentation and customer focus is key to ensuring that resources are deployed efficiently to resolve the problems that have the greatest impact on overall QoE . In order to prioritize and focus on the most important issues for greatest impact, the Operations department must apply the standard measures shown in table 3 to the identified segmentation groups shown in Table 4, taking into consideration the limited timeframe.

Service	2G	3G	LTE
Voice	X	X	(X) CS Fallback
SMS	X	X	X
Data	X	X	X
Mobility	X	X	X

Table 3: Services & networks monitored

Segmentation Groups
Olympic Objects —Olympic Venue and Clusters
VIP Subscribers — from individuals to Olympic Teams
Roaming Partners —International and National

Table 4: Defined segmentation groups

Alerting, trouble shooting and reporting

The solution must be able to provide information on the service quality perceived by an individual or group of customers, and at the same time give intelligence on how these experiences relate to network performance and devices used. For big events like the Olympics, geographic and time dimensions become important as individual subscribers participate in mass behaviour patterns related to physical location and application usage.

The definition of KPIs, real-time views and reports should not be limited to pre-aggregated data or fixed format templates. The implementation of new or altered views in an ad-hoc manner to visualize any issue that may occur as result of an unforeseen trend in customer behaviour should be possible without any loss of data or level of detail taking place.

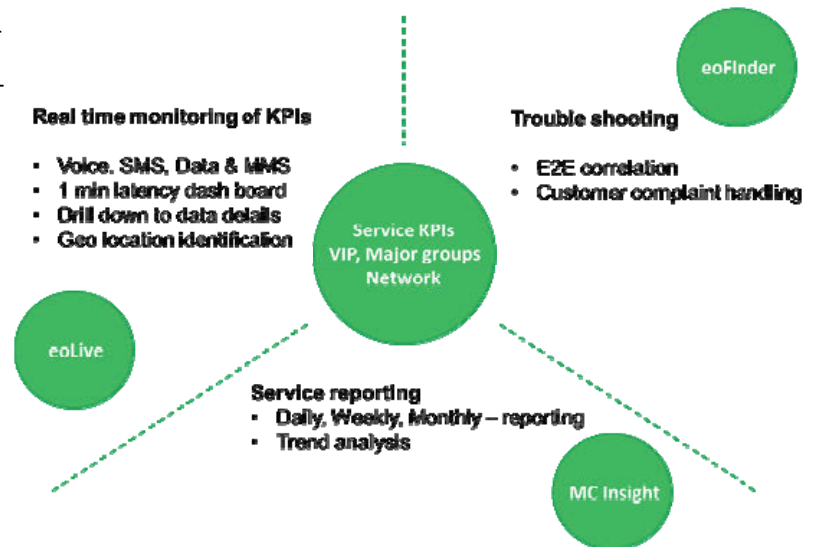


Implementation approach

In most cases, monitoring solutions are put in place after the network has been initially deployed, and they are extended as the network grows. In the case of the official network provider, this process was not followed due to the very short implementation time of the Network for the Olympic games. Despite the rigid deadlines for the completion of the Olympic network and the troubleshooting solution needed by the operator during the network's deployment and testing, the implementation process was a success.

The Solution - MasterClaw CEM

The MasterClaw ACEM solution was the chosen tool to overcome this massive task. One of the key differentiators was the ability to have a unified access to information across the different mobile technologies alongside the different troubleshooting, alerting and reporting tasks at hand.

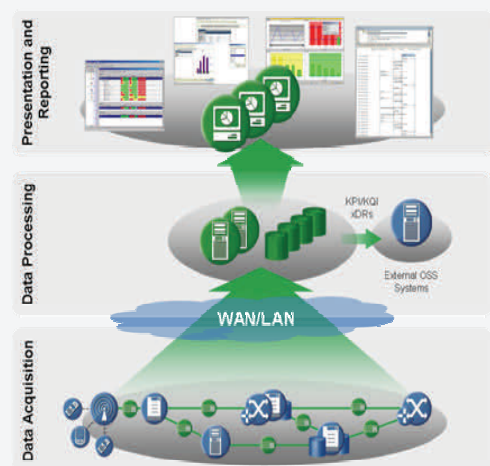


The key solution features deployed on top of the MasterClaw probe system are:

- Real time KPI monitoring and alerting
- Low level E2E troubleshooting
- Service level reporting and analytics

MasterClaw Solution Overview

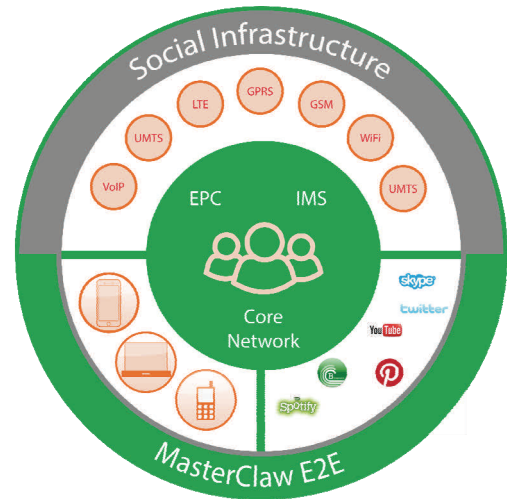
MasterClaw is designed as an extremely scalable and reliable three tiered architecture with distributed intelligence delivering unparalleled performance. MasterClaw's framework processes complex network information from a variety of data sources including our own non-intrusive multi technology probes. This information is ingested into state of the art data warehouses that deliver the business intelligence needed for network planning, investment decisions and customer experience. The suite of real-time applications enables simplification and visualization of complex network topologies for customer and partner (Interconnect & Roamers) performance management.



Rapid deployment of the solution along with the network rollout

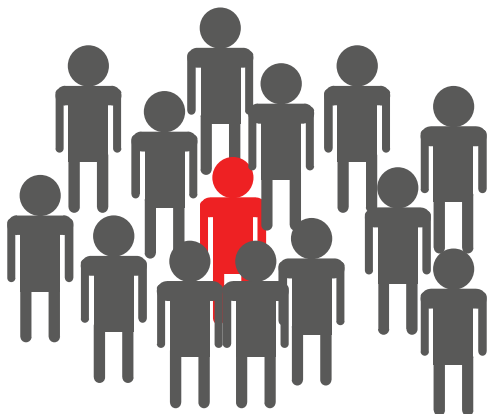
The uniform build of MasterClaw’s multi-network probe infrastructure is the key to the fast deployment of Anritsu’s E2E monitoring system. Information is made available instantly and initial low level troubleshooting is enabled.

Unified service definition and grouping allow users to quickly setup the system to match each event’s characteristics. The information is stored centrally and made available across all applications for data enrichment.



Transformation of data into actionable intelligence

It is of paramount importance for an event like the Olympics that issues are prioritized so that the most serious problems are solved first. The right data at the right time is key for ensuring such prioritization. MasterClaw solution transforms data into actionable intelligence by providing the information included in Table 5.



Key Data for Prioritization
Details on location and customer groups —Most important users (VIP, Enterprises, Roaming Partners) and areas are identified
Impact — Top priority problems are identified
Unique subscribers affected — ability to filter single subscribers affecting KPIs on call drops and single cell performance, in order to focus on high impact issues affecting many users

Table 5: Key data for prioritization process

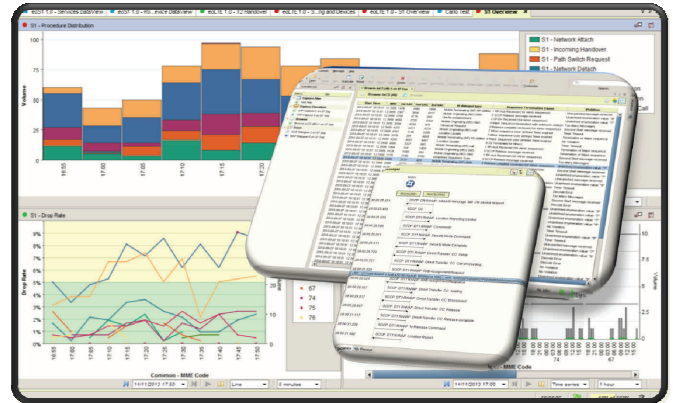
Flexibility to respond to unpredicted events

In order to rapidly respond to changes on mobile services usage pattern, MasterClaw eoLive application enables users to create almost any KPI from the vast list of fields available from all monitored interfaces. This flexibility combined with MasterClaw’s DPI service engine makes it possible to track the performance of almost any OTT service.

Fast time to resolution

The fast time to resolution capability delivered by MasterClaw is achieved by combining features such as prioritization of issues, dashboard representations, alarm engine and the rapid drill into low level details.

MasterClaw provides an integrated solution with direct linkage between the real time KPIs, data record details and low level PDUs stored at probe level. Problems detected on real-time on-line dashboards can be analysed within seconds, permitting the root-cause to be found immediately.



Conclusions

MasterClaw is the chosen monitoring system for the Sochi games and MasterClaw delivered. At the time of writing, there has been no mention of bad mobile coverage or service performance. This single fact is a clear proof that the Sochi Olympics official telecoms provide have done an incredible job and have also chosen the right partner for service assurance in order to provide a superior quality of Experience.

Key element in the success:

- MasterClaw has the solution to minimise key pains for operational departments maintaining the system for such events
- Strong cooperation between Anritsu and the Operator ensured smooth deployment and operation of the solution
- To ensure superb user experience throughout the Olympic event with very little problem resolution time

The high quality of service experienced at the Sochi Olympics shows that Anritsu is the partner of choice to ensure that network operators can deliver in high profile high pressure situations. Anritsu solutions and people can ensure that operators can deliver a superior service, not only in high profile events, but also in technology migrations and also coping with the changing ecosystem as it migrates to a consumer and app driven one.



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