



EXPERT OPINION:

Application SLA – the missing part of complete service SLA management?



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"I am a customer, my service is not working." A simple complaint, probably a simple solution, but how do I find the problem when I know that my network is working correctly? The problem is that the service models do not include information about used applications, and the applications are increasingly the heart of the service, while the network is simply reused.

How can operators ensure that the proper quality of so many complex services is delivered? Has the software for network and service monitoring enough functionality to provide the right information? Fortunately, OSS systems have evolved, and they currently contain functionalities allowing the operator to build comprehensive service management platforms.

Today, operators cannot even think about delivering modern services of a high quality without providing an SLA (service level agreement). This means that service assurance with SLAs becomes the most critical aspect of modern OSS (operations support systems) solutions. Additionally, since most modern services are built based on the number of applications, delivering the services over the network, the applications are becoming the core of the service models.

But let's start from the beginning.

Service assurance solutions

Modern service assurance solutions allow for monitoring the service by providing the following key functionalities:

- Service state propagation based on network layer monitoring and service models with detailed information about service-resource relations.
- Service quality management (SQM) with statistics gathered from a number of different sources, including the network, probing systems, applications, and supporting systems. It also generates the service affecting events based on threshold trespassing.

These solutions are capable of joining the data in order to provide comprehensive information about the state of the service. This

is a must-have solution when the service provider wants to implement the SLA and start including the applications within it.

How is the service provided? Where are the applications?

When comprehensive service assurance is in place the key issue is to identify the applications required to provide such a service. The service model should then be revised and all of the applications should be added to such a model. Even if the given application cannot be fully monitored, it is still valuable to have it as a part of the service. There are different ways for modelling the services. In Comarch's opinion, the best option is to build the model using SID (shared information & data), extending it to handle all necessary information.

"Next generation service management tools can handle not only network but also applications' impact on the services."

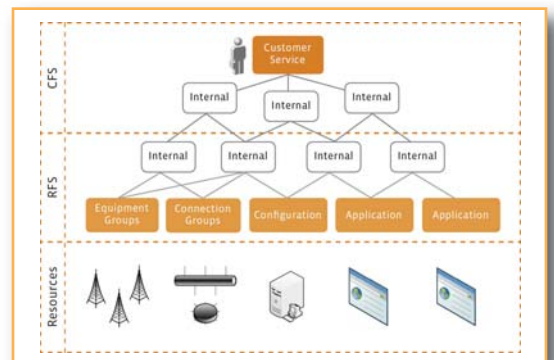


Fig 1. Service Models based on SID

The ideal service model provides information about used network resources and applications running together with them or on separate machines/clusters. Such a model is used to document an end-to-end service and present the big picture. Additionally, where possible, the propagation rules are set to describe how the events affect its direct



services (Resource Facing Services).

The integration of applications is not an easy task. With this, one may receive two events for the same problem: one originating from the device and one from the application. There are two solutions possible:

- Proper service model, allowing for correlation of these two events and propagating the alarm only if it affects both components of the service
- Correlation rules, which can narrow down the number of events and can enrich and qualify just one event.

Both solutions allow the service provider to enrich the monitoring of the services, which has a direct impact on the quality of its SLA management.

SQM and SLA management

When service models are documented there are two final things missing: Service Quality Management and SLA Management. The first is used to collect network & application metrics and calculate the KPI and KQI (key performance/quality indicator). These can then be propagated through the service models to the top level customer services. Such an approach creates the complete picture of a service:

- Service model as documentation of used components, resources, configurations, and most importantly in current complex services – used applications
- Service impact events providing almost real-time status of the service
- Service KPI and KQI providing the measurements for service quality.

By including the applications in the model, the overall service information is dependent on the state and performance of the used applications. If all this data is exported to the SLA management system, it can be used by a number of different SLA attributes such as availability, bandwidth or quality, to name just a few. With this approach one might even model services, which are purely based on applications, and manage the application quality and the application SLAs.

Why it is important

Service providers might question the necessity of including the applications, measuring them and monitoring them more closely with SLAs. But at the end-of-the-day, more and more of the services depend greatly on applications like content servers, LDAP servers or even the OS installed on their equipment.

These applications often generate more errors than the hardware used in the network.

The customers do not see the difference, from their perspective the service is either working or not, and they are willing to change the service provider if somebody will guarantee the quality and availability of the service. Increasing numbers of service providers use this as the differentiator of their offer, especially for large business customers.

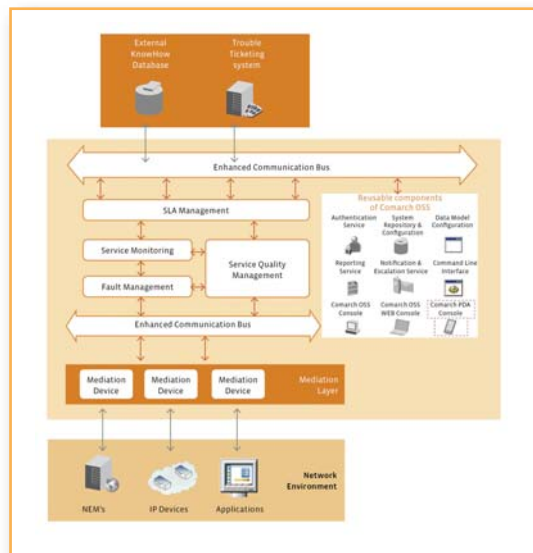


Fig 2. Schematic architecture of the Comarch solution.

The Comarch vision for realisation of such solutions is based upon the Comarch OSS Suite. It provides the ability, through the flexible service modelling tool, efficient fault management with an event correlation system, the Service Impact Monitoring tool, Service Quality Management and finally SLA Management. All of these modules have been included in Comarch Next Generation Service Assurance, which also includes modules of Comarch IT Management – source of knowledge and best practices for application management.

The modularity of the platform and the seamless integration of all the components with third party software, through OSS/J interfaces, delivers an OSS system which we believe takes service and application management to the next level. Since every new day brings new service requirements and demands, only tools allowing flexible service modelling and including applications in management can deal with the complexity of the service offer. ☺

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VanillaPlus Jargon Buster

KPI = Key Performance Indicator

KQI = Key Quality Indicator

LDAP = Lightweight Directory Access Protocol

OS = Operating System

OSS/J = Operations Support Systems through Java®

SID = Shared Information & Data (model)

SLA = Service Level Agreement

SQM = Service Quality Management