



OSS/J INTEGRATION HUBS

TROUBLE TICKETING HUB

Trouble Ticketing Hub

- Telecom Operators are faced with having to make significant investments to converge and harmonise disparate Trouble Ticketing systems throughout the supply chain of any one service
- The Trouble Ticketing Hub provides a low cost solution allowing harmonised Trouble Ticketing throughout the supply chain, and protects existing investment
- Based on Commodity Middleware, the Trouble Ticketing Hub provides most of the functionality of a custom system, at a fraction of the cost
- OSS/J Integration Hubs will provide a viable, low cost alternative for operators deploying Next Generation OSS
- The OSS through Java™ Initiative is a working group of industry leaders who have joined resources to speed the development of innovative OSS/BSS solutions

A key area in maintaining quality of service is the rapid identification, management and resolution of unplanned faults and planned maintenance. Trouble Ticketing systems are a key service assurance tool and it is essential they can communicate along the entire supply chain

Convergence and acquisitions within the telecom industry has led to companies running many disparate OSS systems supporting the same customer base, while deregulation has significantly increased the number of companies in the supply chain, all of which contribute key areas to the quality of service.

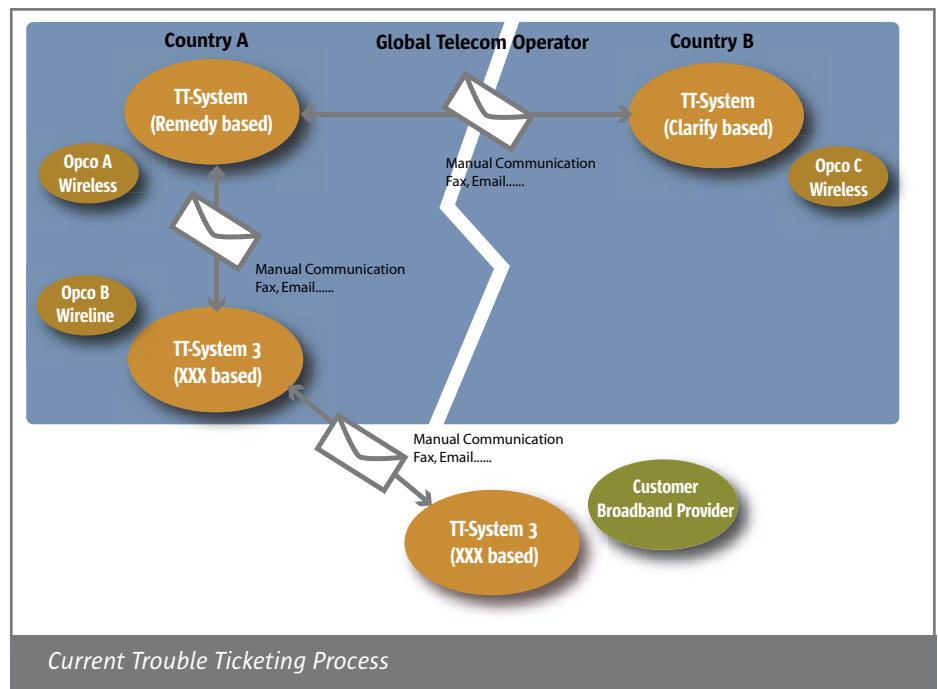
Today usually each operating company has its own customised Trouble Ticketing system, with its own processes, status-models, work flows and data models; email or fax is often used to transfer trouble tickets between companies with all the inherent risks of that these may not be acted upon. Up until now telcos have faced having to make significant investments to converge these systems, and even then, they are still faced with the problem of not being able to communicate effectively with customers and suppliers systems.

The ability to exchange Trouble Tickets, Information Tickets and Work Orders electronically, between Telecom Operators' Operational Companies and external suppliers/customers, is needed to ensure integrated and reliable Trouble Ticketing processes. This is the prerequisite for offering Service Level Agreements on a global level to the customers.



We estimate that the savings are probably 20 percent minimum and most likely more”.

Joerg Frankenberger
Vodafone



Problem Scenario

An example of a typical problem is illustrated on the right. A global telecom operator has different operating companies (OPCOs) in different countries, as well as offering wireless services through acquisition of an established wireless operator. As such all of the OPCOs are running different OSS systems, in particular the Fault Management or “Trouble Ticketing” systems.

In addition, the telecom operator provides the bandwidth and infrastructure for another operator who markets broadband services.

Customers in either country, or the customers of the third party supplier could be effected by problems anywhere throughout the supply chain.

At present these problems are communicated between the different systems by an inefficient and error prone manual system of email or fax.

This problem scenario could also apply to different wireless companies who are

hosting roaming customers and will need to be able to communicate any issues to the customers home service provider.

To fix this issue by conventional means would require significant investment on the part of the operator, and would still not resolve communication problems with external suppliers/customers.

Therefore, through the OSS through Java Initiative (OSS/J), leading telecom players, along with Sun and ISVs, have been developing an open standard set of Java based protocols and middleware that will ensure seamless and effective fault management across the group.

Sun OSS/J TT Hub meets the requirements

The Sun OSS/J TT Hub has been designed to address this problem scenario, effectively, at a low cost, while protecting the investment in legacy systems.

The key is that it is based almost exclusively on free to download commodity middleware, thus drastically reducing cost, but retaining nearly all of the

functionality of legacy turnkey systems.

The OSS/J TT Hub addresses the following key general aspects:

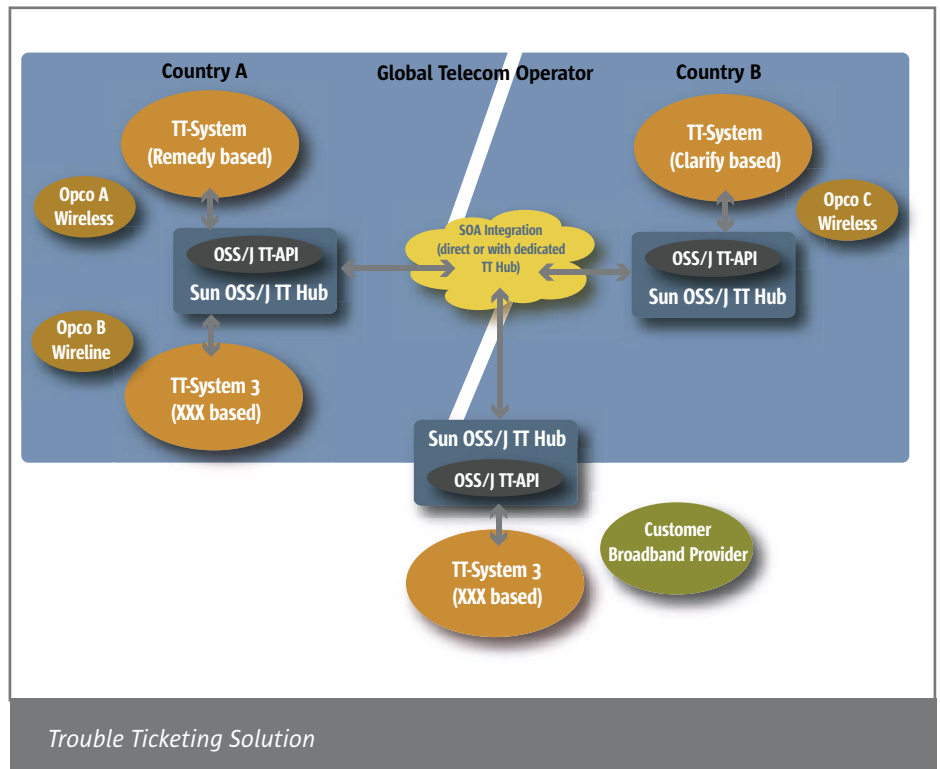
- The middleware enables the trouble ticketing system in any country/opco and customer/supplier to send and receive trouble tickets to or from any of the other operating companies so that the user does not have to log onto a different system or use email/fax/phone
- It monitors progress and reports any trouble tickets that exceed particular time thresholds based on the priority of the ticket
- It retains audit trails
- It is transparent to the user. Each company can retain their own TT-system, their own TT-processes, and their own data and status model
- No ticket information will be lost, even in the event of the middleware infrastructure being down or if there is no connection to the remote ticketing system for some time

OSS/J delivers “significant benefit to both the service provider community and the entire solution value chain”

Stratecast Partners

The OSS through Java™ Initiative is a working group of industry leaders who have joined resources to speed the development of innovative OSS/BSS solutions and enable fast deployment and integration of OSS components. Building on the success of Java EE™ technology in enterprise applications, the Initiative defines and implements an open, standard set of Java™ technology-based APIs that help jumpstart the implementation of end-to-end services on next-generation networks and leverage the convergence of telecommunications and Internet based solutions. It is the first and most comprehensive technology specific implementation of Next Generation OSS (NGOSS) specifications endorsed by the TeleManagement Forum (TMF).

Sun is a board member of the TMF, and a founder and leader of the OSS/J initiative.



Commodity Middleware

The “reference architecture” of the Sun OSS/J TT Hub is built on the Sun Java Enterprise System (JES) middleware, StarOffice™ and NetBeans™/Sun Java Studio. Standard modules include:

- Sun Java Enterprise System with:
 - OSS/J APIs executed on the Application Server
 - Presentation provided by Portal Server
 - Identity Management with Access and Identity Servers
- premioss™ integration components, support and test tools (from IP VALUE)
- Reporting (based on Sun StarOffice)
- NetBeans/Sun Java Studio for development and customization

When implementing the Sun OSS/J TT Hub in a specific customer scenario, some extensions/customizations are needed to meet their specific requirements , such as:

- TT Routing–using Sun standard business process management, a

rules engine or other mechanism

- TT Format Mediation
- Adapters to trouble ticketing applications–based on IP VALUE tools
- Inventory and Storage
- Presentation and reporting aspects–using standard Portlets technology

Hardware Requirements

The TT hub is completely scalable architecture that will run on any Sun platform from entry level Sun Fire™ V240 or Opteron based Sun Fire V20z up to Sun Fire E25K. Typically proof of concept and initial development can be carried out on a entry level server, reducing the cost of entry to the bare minimum. A large international operator would typically require a Sun Fire E6900 to effectively run their fault management.

NGOSS Integration Hubs

The Trouble Ticketing Hub is the first in a series of OSS/J compliant Integration

I believe OSS/J is an ideal operations infrastructure to satisfy our needs, and Sun's extensive telecommunications experience further makes them the right partner to develop an operations infrastructure for any network and application

Seonghak Seok

Director of OSS Labs, Korea Telecom



Commodity Middleware

Solutions for NGOSS environments, called “integration hubs”. Based on the Service Orientated Architecture (SOA), they integrate the various Sun software and OSS/J elements into proven stacks from which simplified Appliances can be built and sold

to address specific OSS needs. They realise the OSS/J specifications into a tangible set of components that can meet specific customer requirements, either standalone, or combined with third party partner products.

Further Information

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