2G and 3G Regional RAN Case Study

The Challenge - OSS-NMS Mediation

In order to provide Service Assurance, the Customer required a highly available data mediation solution between their UTRAN OSS and their Network Fault Management System. This requirement was complicated by the fact that both the customer's UTRAN network and NMS were regionalised.

The Customer had previously deployed point-to-point data integrations and was acutely aware of the high TCO associated with such solutions. In this regard, a more agile architecture was required.

The Solution - Dataduct Concert

Having considered various data-mediation alternatives, a hub-based architecture was considered to be the most flexible and scalable approach that would provide a single integration point for their NMS application while isolating it from underlying data sources.

The Customer was seeking a product-based solution. It was recognised that only through the use of product that key economies and benefits to the business could be realised. These included,

- a single way to monitor and administer data-mediation solutions for NMS & OSS
- reliability, stability and confidence of pre-tested and proven software
- economies of solution support reducing Opex

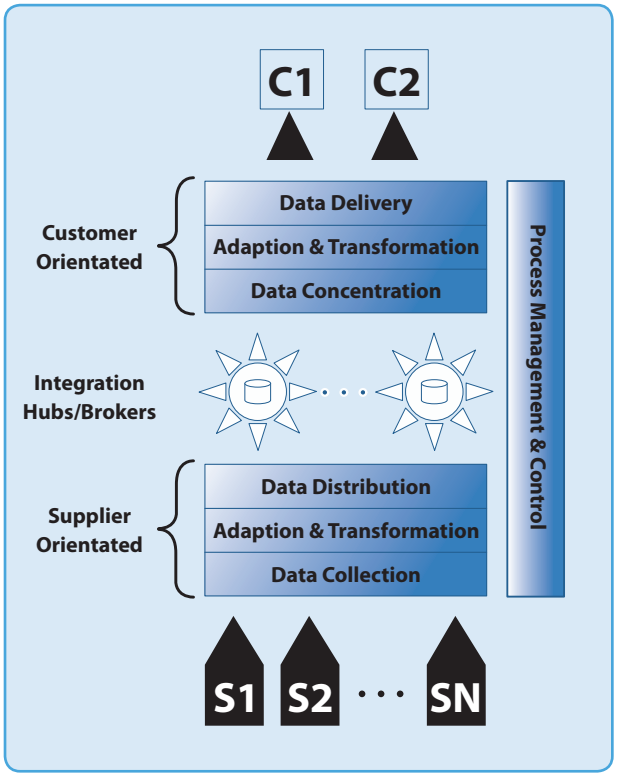
It was also planned to integrate their GSM network and the NMS Fault Management System at a later date. It was important that the integration solution would be extensible to allow the processing of additional network models as well as being able to scale linearly with the increasing processing requirements.

Extensible Architecture

Dataduct delivered a product-based integration solution consisting of a mediation platform and a set of pluggable Invobroker® gateways. The mediation platform initially consisted of a single data hub supporting 3G network topology data.

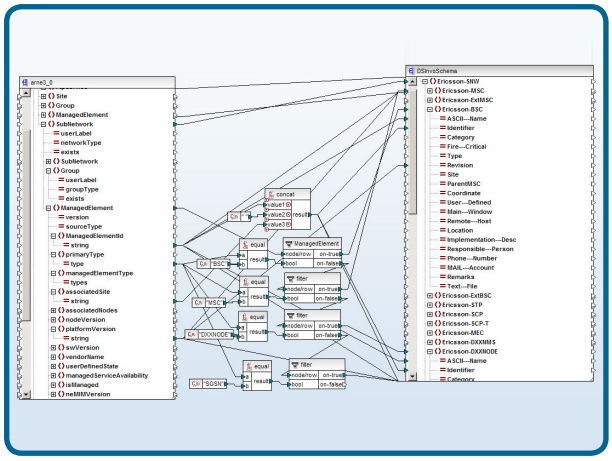
A 3GPP Bulk CM compliant gateway was used to connect to multiple regional OSSs and transform the OSS data before persisting it in the data hub.

In order to provide data load and synchronisation services to the client application a dedicated Fault Management specific gateway was employed. This application gateway was responsible for brokering and delivering the OSS data to the regionalised NMS Fault Management Systems. A GRAN configured gateway was added in a subsequent project to provide the GSM integration.



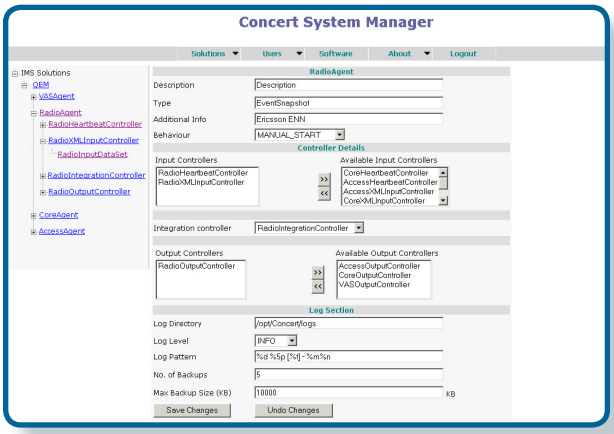
Dataduct gateways all share a common architecture. They are configured towards standard or application specific data models. In this case, southbound gateways were each configured according to the specific technology model requirements for importing data from the OSS/NMS layer applications. When delivering data to a client application they are usually configured towards an application specific data model, as was done for the customer's solution.

Data transformation within the gateways is achieved using an industry-standard transformation language. This language is graphically specified so that requirements can be agreed with the customer and the customer can at any time see how their data is being processed.



The data-hub and gateways operate autonomously and independently of each other. This results in a loosely coupled service oriented deployment. Maintenance and updates can be applied to individual gateways without affecting any other integrations or taking down the system. System availability meets the five 9s availability required by Telecom Operators.

As with all carrier class solutions, the mediation function must be monitored and managed. If the mediation solution degrades or fails, relevant alarms must be raised. A central administration console is provided for the graphical monitoring and management of all data mediation solutions on the platform. Warnings and alarms are routed to system managers.



Further integrations can be added seamlessly without any modification to the underlying platform. In addition, the OSS data extracted is now available to all other NMS applications from the internal data hub at a fraction of the cost of doing a traditional point to point integration. This flexibility and economy of re-use is why the industry is moving away from custom point-to-point solutions and moving towards data hub and product based architectures.

Customer Benefits

Dataduct Concert exactly met the customer's strategic and practical requirements in relation to data mediation for network service assurance in the NMS, OSS space. These requirements were,

- A single way to monitor and administer data-mediation solutions for NMS & OSS
- Rapidly deployed, vendor independent solution based on COTS products
- Reduced Opex through plug and play features of product offering

By utilizing pre-built component sets for NMS/OSS systems, Dataduct was able to deliver high quality solutions with very short lead times. The solutions have performed well in line with carrier-class expectations with zero unscheduled downtime in the past 2 years. The operational status of the solution and its performance are easy to establish at any time.

For the customer it was important for them to have their OSS-NMS data mediation solutions realised using a product-based data-hub platform. The product and solution have exceeded their business case expectations both in terms of Capex and Opex. Had they adopted other mediation solutions it is very unlikely they would have achieved such value.

Dataduct

Dataduct
46 Patrick Street
Dun Laoghaire
Co. Dublin
Ireland

Tel: +353 1 2304406
Fax: +353 1 2846545

Email: info@dataduct.com
Web: www.dataduct.com