Journey in Making Platform-as-a-Service Concept for Siebel and Analytics at Nokia

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Introduction — The presentation will describe how to change the IT of a large enterprise from scattered and locally managed Siebel implementations towards a global IT platform that can host multiple Siebel and Analytics instances with in-house platform-as-a-service concept. It will describe the journey, and aspects of the platform concept including governance, implementation, internal and external services, and virtualizing the computing environment.

Background — Nokia is the world leader in mobility, driving the transformation and growth of the converging Internet and communications industries. Nokia makes a wide range of mobile devices and provides people with experiences in music, navigation, video, television, imaging, games and business mobility through these devices. Nokia also provides equipment, solutions and services for communications networks. Market share of Nokia was 40% during the last quarter of year 2007. At end of year 2007 Nokia employed 112 262 employees including Nokia Siemens Networks. Net sales of Nokia in 2007 were EUR 51.1 billion, Operating profit EUR 8.0 billion with mobile device volumes of 437 million units. Nokia has HQ in Finland, R&D in 10 countries, and sales in more than 150 countries. Nokia is world's 5th most valued brand (Interbrand, 2007). More information is available at http://www.nokia.com/aboutnokia.

Use of Siebel at Nokia — Nokia has been using Siebel CRM since 1999. Currently the there are 13 production systems running on versions SEA 7.5, SIA 7.8, SIA 8.0, Siebel Analytics 7.8 and UCM 7.8. There is quite a high complexity with seven major business programs running in parallel and many of them targeting for a global deployment. Functionalities include consumer goods, sales, prm, service, contact center, customer data master, and analytics. The user base is roughly 14000 half of which counts for mobile handset users. The main reason for high complexity comes from the varying business needs and requirements for agility.

Platform-as-a-service concept — A platform is defined in Nokia IT as a base of technologies on which processes and configurations are enabled. A platform enables reuse of standard IT components and competencies. Nokia IT is investing on platform concept implementation and Siebel CRM technology is only one among the others. The platform-as-a-service concept consists of an organization, a technology and its implementation and a service offering.

Step 1 Technology management — The first step was to setup technology management. In 2005 Nokia IT started to create a central ownership of Siebel CRM, Siebel Analytics and related 3rd party technologies and licenses. A systematic technology co-operation was started with Oracle to get better visibility for the technology roadmaps and to manage licenses and contracts efficiently. During 2005 the first technology standardization work was started migrating operating systems from Windows to Unix. Also third party component standardization started.

Step 2 Platform management — The second step was to setup a platform management organization. The platform core team was established in 2006 and platform concept evaluation for Siebel CRM started. At the end of 2006 the organization of Nokia IT changed to support platforms in the enterprise scale. Platform core team owns the platform, technologies and the service offering. The team consists of a manager, an architect, an IT manager and a production manager. The extended team consists of Oracle technical account managers, project team, application support team and computing support team. The platform is under control of a global technology and architecture governance body. Business dimension is managed as a customer relationship allocating the costs to the applications' business owners.

Step 3 Platform service offering — The third step was to evaluate service offering for the platform and it started in 2006. The main options were: 1) one shared CRM application platform, 2) a few shared CRM application platforms, and 3) a virtualized infrastructure platform for CRM applications. Virtualized infrastructure option was chosen to be implemented first. A few shared application platforms would be logical the next step. The service offering includes also technology and licence management, support, training, and consulting.

Step 4 Implementing foundation — The platform was implemented as a data center consolidation effort where two sites and three server rooms were selected as a basis of a campus cluster solution. Sun Solaris 10 operating system and its container approach was used to virtualize the installations. There were many enabling factors that supported the decisions. Sun virtualization approach was already up and running at Nokia. The needed competencies were available in the computing department. Also the reference installations had shown very good stability with J2EE application server environment.

Step 5 Virtualization pattern — Virtualization approach of Sun Solaris 10 was selected and started. Every installation is standardized including naming, folder structures, firewall rules and technical configurations. Siebel Gateway, Siebel file system, Siebel servers, Informatica, and Analytics web and application server all have an own virtual server. It is critical that nothing is installed directly to the physical servers to maintain flexibility of the platform in future. At the time of implementation Oracle didn't officially support a virtualized installation. Virtualization is however seen as an invisible layer for the Oracle applications. The support of the computing department and strong co-operation with the hardware provider and with Oracle helped us to overcome the issues and in practice there hasn't been any difficulties on getting support.

Step 6 High availability pattern — As a basic principle of the platform the applications will be installed using exactly the same high availability approach to gain maximum benefits. Each installation has an active-passive cluster for Siebel server, Siebel Gateway and file system. Each installation has minimum two load balanced nodes utilizing the campus cluster in active-active mode. Site failover is automized. Analytics is installed as doubled with manual failover option. There are 5 virtual servers installed per each Siebel CRM application and 5 for each Siebel Analytics application. Web servers are also virtualized in the same manner.

Step 7 Capacity management pattern — A few key principles were identified for capacity management. We will keep always some extra capacity on the existing servers and reserve computing capacity to be taken in use. On the clustered hardware it is important to keep option to scale-up without any changes to applications. We will keep option add more load balanced nodes to clone or move existing virtual servers. One major issue was found. Oracle sizing review doesn't work for a virtualized environment. To solve this we requested Oracle Expert Service to work with us sizing examples and rules for our virtualized environment made.

Step 8 Support — The platform was ready but service approach missing. The service was based on the computing support team and internal core team only. ITIL based service management approach is now being taken in use including competencies for Siebel CRM, Siebel Analytics, Informatica, and for the virtualized infrastructure.

The results and next steps — Currently the platform is operating two Siebel SIA 7.8 installations, two Siebel Analytics 7.8 installations, and one Siebel UCM 7.8 installation. The system stability has exceeded all expectations. No critical incidents and no downtime since the first applications went live on the platform 7 months ago. The approach has reduced computing costs 60% in an apple to apple comparison. The total cost of computing has not reduced as much as there are still applications that will remain independent and applications migrating to the platform. Developing the service further is currently the main focus while preparing to take the platform approach in use in a consolidated CRM application platform form.

Conclusion — Platform-as-a-service concept can help large organizations to manage complex application space, run multiple parallel releases while reducing the IT cost. Virtualized infrastructure platform has been success at Nokia. Organizational support, core team and competencies are required to succeed. Invest on the technologies your computing department supports and has experiences with. Keep standardization as a top priority. Analyze all the options when setting-up the platform service — the service approach is the key not the technology.

