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Telcordia and SAP Provide a Solid Information Infrastructure Foundation

This Month's Feature Article

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Telcordia and SAP Provide a Solid Information Infrastructure Foundation

In today's competitive environment, customer demand for a complex product and service offers is rapidly increasing. When service providers have a single information infrastructure foundation from which to develop and manage their customers, products, services, and network data elements, they can respond in a more rapid and agile manner to market needs.

Together, Telcordia and SAP provide a real-time, enterprise-wide, single view of key network and services information. Solution components include Telcordia Common Language® Information Services and SAP NetWeaver® Master Data Management (MDM), both of which are key enablers for launching next generation services. Put them together in an integrated composite application (Network Data Infrastructure Management, NDIM, by SITA CORP) and you have an Industry Information Infrastructure solution that is greater than the sum of its parts.

The Quest for Quality

In an effort to continually compete and differentiate themselves, service providers are always on a quest to introduce new services and to enable collaboration with their trading partners. New service offers often require the introduction of new network technologies and flexible systems to manage that technology. In the aim to assure that new systems maximize their potential to evolve in the future, service providers continually evaluate systems from a long list of B/OSS providers. All of this is in an effort to choose those systems that will differentiate them in their ability to rapidly evolve their service offerings while delivering services quickly and at competitive prices. The need to develop a stable, but flexible, systems environment that enables trading partner collaboration, evolution of service offers, and significant automation all raise the significance of the importance of the information challenge. Implementing systems without a well-planned information infrastructure is like constructing a building on a weak foundation.

Information Challenges

When introducing new services, many service providers spend much effort and resources to procure B/OSS (Business/Operation Support Systems) and implement elaborate business processes through the development of methods and procedures while neglecting to focus on a formal data architecture or mechanisms for data governance. Master data, defined as data shared across the enterprise, is often dealt with on

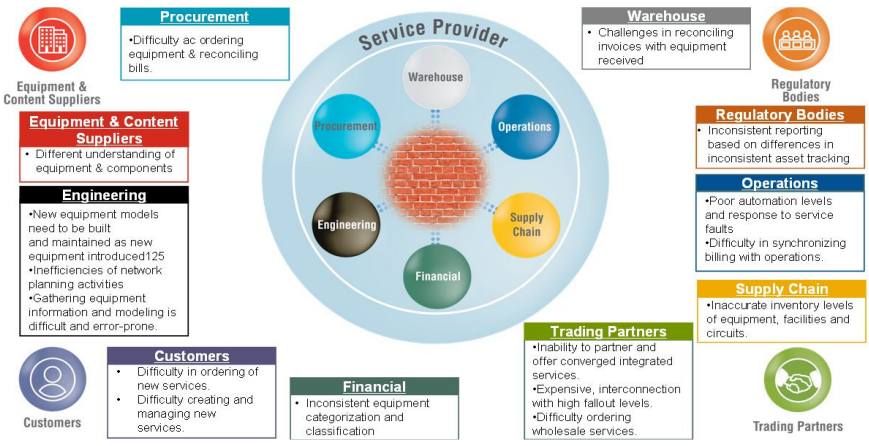
a piecemeal basis resulting in inconsistent representation and misinterpretation across systems and organizations, creating an environment where low levels of automation or automated systems producing poor results are destined to occur.

If a service provider wants to evolve toward the use of a meaningful, quality-information strategy, then it has to accept that an organization can't "own" the data just for their particular department; they have to maintain it for the benefit of the entire company. Without well-defined rules of information ownership, no level of systemization in the world can assure quality processes.

Other industries have recognized the need for data governance and are beginning to implement commercial solutions that include the use of Master Data Management (MDM) engines. MDM is expected to be a multi-billion dollar industry in the near future. These projections are based on a growing recognition that information is key, and management of information across a business entity is critical and requires increased focus.

The lack of a master data management strategy leads to high initial and ongoing systems integration costs, network overbuild, and inefficient operations. Looking across the global communications industry, we can see a lack of strategies to manage network and services information. The impacts can be huge, hampering service-provider profitability and industry innovation. In fact, the telecommunications industry probably stands alone with regard to its delivery of services to individual customers across networks owned by multiple service providers. While it is unreasonable to expect multiple service providers to leverage a single systems environment, the use of common information, based on one set of data structures, one language, and managed through the use of a well-planned master data management strategy is one way to blur the boundaries that typically haunt the operations associated with such services.

Figure 1: Impacts of a Poor "Equipment Information" Infrastructure



Specific examples of service provider issues due to poorly managed equipment information include:

- **Expensive Communications with Suppliers:** Equipment ordering, equipment receipt in the warehouse, and invoice reconciliation can be a costly process if inconsistencies exist between invoices and actual equipment received.
- **Distorted Financial Information:** Equipment classification and categorization based on individual judgment calls in the field leads to inaccurate information, impacting reporting to investors and regulators on the cost of service delivery based on asset depreciation.
- **Challenges Building Equipment Models:** Engineers require detailed equipment-attribute information when modeling equipment in the planning and design applications. Getting the information required from suppliers is a significant challenge. Models with different attributes must be built for supply chain, fulfillment, and asset management systems.
- **Over-investment in Inventory:** Non-standard, homegrown equipment identification and naming conventions can lead to duplicate names for the same equipment types, resulting in over-investment or duplicated procurement and high carrying costs for spares inventory.

Similar lists can be provided based on service-provider impacts related to poor location, connection, and service information.

Telcordia Common Language and SAP NetWeaver MDM — The Industry Information Infrastructure

For years, Common Language has been providing the telecommunications industry with a data governance function, creating and managing information that is relevant across business entities. However, historically, no one has come to the table with a well-planned, disciplined approach and a commercial platform to manage this information within the systems-footprint of an individual service provider.

To address the pervasive service-provider information challenge, SAP and Telcordia have joined forces to offer communication service providers an integrated solution combining the proven Common Language Information Services and SAP NetWeaver MDM platform. This unique solution combines the power of the Common Language information infrastructure (which provides data format or structure; data dictionaries and syntax rules; globally managed registries with naming engines plus publish and subscribe mechanisms) pre-integrated with the SAP NetWeaver MDM platform — enabling service providers to consolidate and harmonize their master data within heterogeneous IT landscapes (B/OSS). It consistently delivers vastly reduced data-maintenance costs, ensures cross-system data consistency, accelerates the execution of business processes, and greatly improves decision-making. In this context, SAP NetWeaver MDM is also indispensable within an enterprise service-oriented architecture (enterprise SOA).

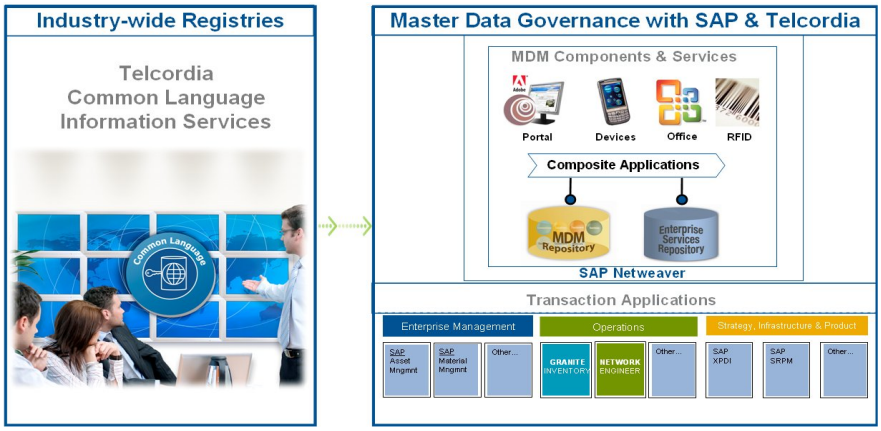
Introducing Master Data

A master data architecture provides an explicit blueprint for master data to do the following:

- Identify the objects and data elements to be managed in a standards-based approach
- Specify the policies and business rules for how master data is created and maintained
- Describe any hierarchies, taxonomies, or other relationships important to organizing or classifying objects
- Explicitly assign data stewardship responsibility to individuals and organizations.

Within this joint solution, SAP NetWeaver MDM will provide the standard customer, employee, asset, and supplier structures. MDM will also be populated with instance data from the Common Language registries in order to provide equipment, location, connections, and service master data to be accessed and harmonized with an IT landscape.

Figure 2: Master Data Management with SAP and Telcordia



SAP NetWeaver MDM will also provide the engine to consolidate, map, merge, and synchronize the information to all applications that may require such information, including SAP, Telcordia, or third-party applications (see Figure 2 above).

Telcordia Common Language Information Services are a complete standards-based information service that provides the communications industry with a single implementation of network and service data that is crucial to support nearly all service providers' business and operations. Implementing Common Language Information Services assures that important information is represented within and across corporations in a globally unique, consistent, and meaningful way. This is accomplished through the ongoing realization of standards:

- **Equipment Information Service:** A single source of network equipment and circuit pack identifiers (CLEI™ Codes) that enables a network operator to achieve seamless collaboration with their equipment suppliers. The equipment registry

currently has over 450,000 network equipment types across 1,000 equipment manufacturers.

- **Location Information Service:** A single source of network location information (CLLI™ Codes) that identifies physical locations (buildings, enclosures), the technology at locations, and the points of interconnection and points of presence for more than 8 million locations worldwide.
- **Connections Information Service:** A single approach to identifying physical, logical, and virtual connections (circuits, bearers, facilities, leased-line paths).
- **Services Information Service:** A well defined, managed approach to support service providers in defining all services.

The Telcordia Common Language and SAP product components are being pre-integrated in phases, by SITA CORP composite application NDIM, with the first phase focusing on the integration of Telcordia Common Language Equipment Information with SAP NetWeaver MDM and SAP ERP Materials Management, Portal iViews. Subsequent phases are expected to leverage other Common Language Information Services (e.g., Location, Connections, Services) and SAP applications (e.g., SAP ERP Asset Accounting, SAP ERP Plant Maintenance, SAP NPDI).

Equipment Information — A Multi-Function Example

A service provider wants to offer a new service, and this new service requires the introduction of new network technology. To purchase the required new technology, an RFP process usually takes place to solicit proposals from network vendors in support of the new service to be offered. Based on the proposals received, a short list of vendors is typically selected, followed by a lab trial that will lead to vendor selection. After equipment is selected, the winning vendor registers the equipment with Telcordia for inclusion in the Common Language Equipment Registry. Once registered, the relevant new equipment information is sent to the service provider's local SAP NetWeaver MDM/ Common Language repository to support the equipment data load.

Engineering

The equipment configuration necessary to support the new service is usually defined by the engineering department at the component level. The engineers are often the originators of this information and must input the date to build the equipment profiles. They are responsible for working with equipment vendors to define equipment material lists, collecting, and populating equipment reference data in the systems. The engineer logs into the SAP NetWeaver Portal and looks for equipment components under different criteria such as system ID. The solution will show in the Portal all the components (CLEI Codes) that belong to the System ID and at the same time will show which of those components already has a SAP ERP Material Number assigned, in order to avoid the creation of duplicated materials in SAP. The engineer will be able to select those components without a SAP ERP Material Number, select the prefer vendors, the SAP ERP Material Management plant, plus any other information he may need.

Engineers are at the front-end of the process and, in many cases, lack centralized data sources. In addition, these engineers typically need to source data from individual vendors and contacts. Gathering this equipment data without a single source of information is labor intensive and error prone. Oftentimes the data received from different equipment is not standardized or consistent across vendors, product lines, or documents. The Telcordia Common Language and SAP NetWeaver MDM products, together, significantly streamline the equipment definition process, not only for the materials management systems, but for engineering, financial, and fulfillment systems that rely on accurate, timely, equipment information to perform business functions.

Supply Chain

Once the information is entered by the engineer, before it can be purchased, it must be reviewed by the Supply Chain personnel. The Supply Chain staff is required to validate equipment information for registration into their material management system (SAP ERP). This often includes data enrichment of technical data to complete the record created by the information provided by the network vendor, which could include attributes of the equipment such as preferred supplier, hazardous materials content, or optimal stock levels. Based on business rules defined in the Common Language Equipment Registry, the asset valuation class will be defined automatically. In the same way, components requiring serialization (for identifying each instance of an equipment type) will be identified automatically.

A key point here is that downstream organizations must review, validate, and enrich records created by the engineer. These users must understand equipment as engineering defined it in the systems. Not having a clear, meaningful definition of the equipment and a central source for authoritative reference data forces the downstream organizations to stop their processes and contact engineering, creating unnecessary demand on the engineering organization.

Network Design

Each constituent of an organization who participates in new technology introduction needs to look at equipment data differently to perform their function, and each function requires different data. For example, the engineer requires a view that includes the physical dimension of the equipment; supply chain requires a view including preferred suppliers and delivery locations; the operations team requires the number of ports and services supported; while the accounting department requires asset classification and categorization information. Having one data source to meet all of those needs helps to ensure consistency and eliminate confusion.

In the network design process, the engineer will log into the SAP NetWeaver Portal and look for available equipment. The engineer will also have the capability of identifying interchangeable equipment to see if the EWO (Engineering Work Order) can be completed quicker. The other disciplines will perform similar functions — they will log into the Portal and look for equipment to assess the reference data relevant to do their job.

Purchase

Equipment is ordered in SAP ERP using information created during the Engineering and Network Design processes. The Common Language Equipment Identifier also known as the CLEI Code is used by a network designer to specify the equipment to be ordered by the procurement organization to ensure a shared understanding. Business rules can be set up in the supply chain and procurement systems to define standard configurations that can be automatically ordered when stock levels dip below the defined optimal levels. The purchasing department receives a purchase request and delivers the purchase order to the equipment supplier, who receives an order with the right technical information. The result is reduced purchase-order costs due to the reduction of errors.

Warehouse

The equipment vendor delivers the equipment to a service provider who receives it at their warehouse. Using automated data capturing tools such as scanners or RFID, the warehouse staff can easily track the movement of equipment as it is received from the vendor. Having common equipment identification throughout the supply chain allows for mechanized invoice verification and purchase-order validation into SAP ERP. Many equipment vendors print the CLEI Code on equipment faceplates and store it in the MIB (Management Information Base), making it possible to auto-discover the equipment when it is put in service.

The benefits of leveraging the scanning technology and auto-discovery can be significant. For instance, based on the results of a study commissioned by Siemens, it took 120 staff minutes using visual inspection to inventory a rack of equipment with no Common Language bar code labels. When Common Language bar code labels were added, the study found that it took 10 staff minutes to inventory that same equipment using a standard hand-held scanner. What's even more exciting than the factor of 12 increase in data capture efficiency is the improvement in data accuracy. Studies have shown that human error rates in the data capture of identifiers is on average 1 in 300, whereas for scanning technology, the error rates are closer to 1 in 1,000,000, thereby increasing the quality of capture from scanning to 33,333 to 1 over visual inspection.

Synopsis

This joint Telcordia/SAP solution enables seamless communication across trading partners in supply chain processes and ecosystems. All of the people involved in the process — from the technician to the equipment service provider — plus all applications can talk the same language with regard to equipment identification, attributes, and availability.

The Value of the Telcordia/SAP/SITA CORP Solution

As a result of the integrated approach that leverages key Telcordia and SAP assets, all the people involved in the process, and all applications, talk the same language. Overall network inventory and carrying costs are minimized when suppliers deliver equipment when it is needed, and where it is needed, with minimal lead times. As a result, network assets are more fully utilized and overall network utilization is maximized, effectively streamlining the network supply chain.

From a service-delivery viewpoint, customers get service within the requested and promised delivery times leading to significantly improved customer satisfaction, higher customer loyalty, and reduction in churn, which results in faster time to revenue and consequently improves service-provider cash flow. By adopting these lean practices and systems enablers, service providers can realize benefits such as the following:

- Reduce unused network inventory, saving approximately $5M per $1B of network investment
- Reduce data administration costs by as much as 90%
- Reduce initial and ongoing system integrations costs by up to 35%.

Referencing the business impact of the information challenge, Tony Gladden, VP – Products and Technology at SITA CORP (www.sitacorp.com), is quoted as saying "at one service provider, our analysis showed that poor data cost them in excess of $12M dollars over a 3 year period. Fixing the problem provided a payback of about 6 months! Mind you, this is a service provider that earns about $580M dollars a year in revenue. Imagine what this has got to cost a $50B dollar a year provider!"

SITA CORP is one of the largest implementers of SAP NetWeaver MDM Solutions in North America and has provided integration expertise in developing the pre-integrated Telcordia Common Language/SAP NetWeaver MDM solution.

Demo at Management World 2008

To see a working demonstration of Common Language pre-integrated with SAP NetWeaver MDM, visit the TM Forum Catalyst area at Management World 2008 on May 18-22, 2008, at the Acropolis Congress and Exposition Center in Nice, France.

SAP and Telcordia — World-Class

Telcordia Common Language and OSS are deployed at nearly 100 service providers with over 1,000 participating equipment vendors around the world. More than 32,000 companies run SAP across 25 industries with 12 million users in over 120 countries, with more than 500 companies in the communications industry. The overall effectiveness and efficiency of the SAP and Telcordia solution is a result of the pre-integration of their world-class offers by one of the world's leading SAP NetWeaver/MDM integrators.

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Or, locate your regional Telcordia sales office **here**.

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