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Communications Service Providers MDM Scorecard for 2006-07

Applying master data management to achieve competitive advantage in a convergent Communications market

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Executive summary

On behalf of IBM Software Group division, the CDI-MDM Institute conducted a multi-client survey during 2H2006, of early adopters and evaluators of customer data integration (CDI) and master product catalog solutions across a broad range of Communications Service Providers (CSPs) – ranging from regional wireless carriers to full spectrum conglomerates operating on a global, multi-continent scale.

Of the 25 organizations surveyed, 23% planned to buy master data management (MDM) software within the next 2-3 months with a like number purchasing within 6-12 months.

The survey sample included in-depth interviews in addition to web-based surveys of 25 very large Communications providers in both North America and Europe. 15% of the survey sample managed in excess of 50 million subscribers (customers or access lines), with an additional 54% managing more than 5 million customers.

Summary findings of the MDM scorecard survey for the CSP industry include:

- While over 60% of CSPs are focusing on the business need for "unified customer views" to support customer care initiatives, master product catalogs are also rapidly being realized as a key initiative for improved service
- CSPs clearly acknowledge the need for formal processes such as "data governance" to provide for the success of such enterprise MDM initiatives
- Unlike other industries (especially Financial Services), CSPs look more to "Revenue generation," "Sustained competitive advantage," and "Market share and strength" as a business justification and less to "Compliance"
- IT executives within CSP enterprises identify the importance of "data models" as a critical success factor to the blending of analytical (e.g., business intelligence) and operational systems (e.g., Operations Support System/Business Support System or OSS/BSS)
- The top business drivers for MDM initiatives are: (a) customer self-service to lower costs; (b) real-time marketing campaign management, (c) simplified and expedited time-to market of new products; and, (d) IT infrastructure mergers driven by business mergers and acquisitions (M&A)
- All survey respondents cited development of enterprise-wide customer and product data models that span across diverse applications and data repositories as very high in importance (38% of CSPs have over 100 master customer databases and between 5-20 master product catalogs); the need for customer and product MDM was recognized by even CSPs with far fewer master customer databases and product catalogs

Clearly, the CSP industry is focused on customer care solutions to increase cross- and upselling with a concurrent need to decrease operational costs. Such business strategies require more than CDI – e.g., product information management (PIM) via master product catalogs, and systems integration services for change management. These are all dependent upon MDM to deliver sustainable competitive advantage in a convergent communications market. These products and services are expanding rapidly due to exploitation of technologies of wireline, wireless, Internet, satellite, IMS-enabled (IP Multimedia Subsystem) services, and increasing demand for media and entertainment.

Increasingly, enterprise MDM is a major IT initiative being undertaken by a large number of the market-leading CSPs. Accenture and IBM Global Business Services are the two leading systems integrators for the evaluation, selection, development, and implementation phases. The two most common product sets under evaluation are: (a) IBM WebSphere Customer Center (WCC) along with IBM WebSphere Product Center (WPC), and (b) Oracle-Siebel Universal Customer Master and Oracle-Siebel Universal Product Master.

Introduction

In the past decade, Communications Service Provider (CSP) enterprises have added numerous applications and databases to their IT infrastructure as they diversify by adding product lines such as digital television (e.g., IPTV) and internet transport services (e.g., cable, DSL, wireless broadband) as they prepare for a convergent communications market.

As a result, CSPs have an unreliable view of customers, suppliers, products, etc., with no application or system having a "single version of the truth."

An enterprise needs to create a unified and comprehensive customer view from all disparate data sources – including call centers, financial reporting systems, billing subsystems, partners, and external data services. Once integrated, such "unified customer views" provide the entire CSP organization with the ability to drive meaningful business action within and across formerly product-centric business units.

Such master data management (MDM) initiatives provide the CSP enterprise with a comprehensive "system of record" which incorporates analytical (e.g., life time value, next best offer, etc.), as well as operational (credit rating, last "n" customer service inquiries, etc.).

Moreover, business process integration strategies such as customer data integration (CDI) and master product catalogs are increasingly essential to ROI realization of mergers and acquisitions (M&A). Every IT executive in growth-oriented CSP enterprises must understand their integration options regarding M&A. Clearly, the continued rise in M&A activity by CSPs will dramatically stress the CSP landscape throughout 2007-08, with most IT departments spending 3-5 years post-M&A before deriving appropriate IT efficiencies.

Master Data Management (MDM)
Authoritative, reliable foundation for data used across many applications and constituencies with goal to provide a single view of the truth no matter where it lies.

Customer Data Integration (CDI)
Processes and technologies for recognizing a customer and their relationships at any touch-point while aggregating, managing and harmonizing accurate, up-to-date knowledge about that customer to deliver it 'just in time' in an actionable form to touch-points.

Master Product Catalog
A central control point to synchronize product and offering data and processes with the ability to manipulate the information and provide different views for internal and external users.

Data Governance (DG)
Formal orchestration of people, process, and technology to enable an organization to leverage data as an enterprise asset.

Communications Service Providers (CSP)
A CSP is a company that transports information electronically by providing wireline, wireless, internet, cable, and satellite services.

Source: The CDI-MDM Institute

In summary, the vital questions that this survey addressed included:

- What are the business drivers for CDI-MDM in this industry?
- What are the technology challenges in implementing CDI-MDM for these enterprise magnitude business problems?
- How are the large CSPs evaluating CDI-MDM solutions?

Business findings

Clearly, market-leading Communications Service Providers plan to add CDI-MDM capabilities to their list of "strategic IT investments" to: increase customer satisfaction and retention, increase profitability, and create operational efficiencies. The business case for CDI-MDM capabilities is driven primarily by competitive market requirements – e.g., economies of scale promised by M&A, increased cross-selling and up-selling capability, ability to rapidly deploy product "bundles," reduce back office costs, increase levels of customer service, and enable customer-directed self-service.

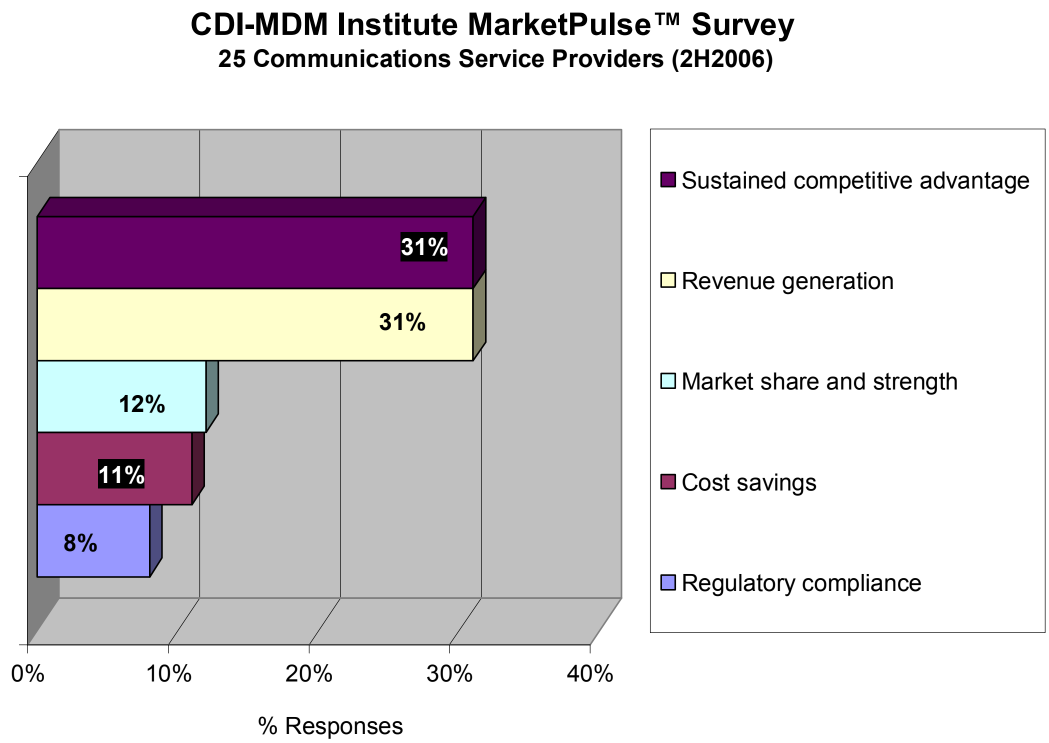

Figure 1 – "Top 5" strategic objectives driving CDI-MDM adoption

1. While the majority (60%) of the survey respondents had a STATED CORPORATE GOAL to ACHIEVE "ENTERPRISE MDM" a.k.a. "SINGLE VIEW", 80% of CSP respondents believed that master customer data and master product catalogs were IMPORTANT to the ability to achieve such master views; moreover, 20% of the respondents stated that CUSTOMER master data was critical to the success of ENTERPRISE MDM.
2. CSPs rank their most important "MDM STRATEGIC OBJECTIVES" as: "Revenue generation" (31%); "Sustained competitive advantage" (31%), "Market share and strength" (12%), and "Cost savings" (11%).
3. Each of the 25 organizations surveyed stated DATA GOVERNANCE to be either "IMPORTANT" (65%), "SOMEWHAT IMPORTANT" (23%), or "CRITICAL" (9%). In our CDI-MDM Institute Advisory Council discussions, we have found that all organizations with more than US$1 billion annual revenue likewise are mandating DATA GOVERNANCE as part of the CDI-MDM solutions which they are embarked upon. Unfortunately, almost 20% of the active CDI-MDM initiatives surveyed state that their enterprises are "not currently doing anything in this area"

4. While 58% believe their current DATA GOVERNANCE efforts are “FOUNDATIONAL” or “BASIC” a good 23% believe they are “ADVANCED” in their maturity level. Based on our 1:1 conversations with survey respondents, we believe the large number of “ADVANCED” self-ratings is due to the engineering heritage of many of the CSPs’ IT departments.
5. It has been widely believed by analysts that “Enable product bundling” is one of the most important “DESIRED MARKETING OUTCOMES” however with only 14% ranking this capability as important, this survey showed product bundling trailing “Enable solution selling” (38%), “Evolve to real-time marketing campaign management” (23%) and “Simplify expedite time-to-market of new products” (15%).
6. 58% stated their PLANNED USE OF A CUSTOMER MASTER across “Multiple areas of the business but using different methods and rules.” In contrast, 15% stated “Only within one area of the business” and not one surveyed organization planned for the mega commitment of “Common method and rules across the entire company”.
7. 38% of CSPs surveyed are “Specifically evaluating one or more [product master] solutions” with 15% “Currently in production with a vendor-offered solution”.
8. 38% of the survey sample also reported that “Lack of process flexibility adversely impacting time-to-market for new offerings” was their most important business challenge helping to further justify the business case for enterprise MDM.
9. 23% of the CSP respondents expect to spend in excess of US$1 million on their MDM solutions in the first year; 15% expect to spend between US$1 and US$2 million in their first year.

Among the business and technology challenges associated with customer management, the survey respondents highlighted these ongoing business needs:

- Self-service to drive down customer service costs
- Real-time marketing
- Integrated campaign management using predictive analytics
- Fraud detection
- Bill presentation

The evolution of the CSP industry will be radical as intense competition in wireless, long distance, Internet, and local service commoditizes products and slashes profits – not to mention VoIP further cannibalizing heretofore protected revenue streams and non-traditional service providers (e.g., Google, Yahoo) offering communications services.

Technology findings

Most large Communication Service Providers still rely upon homegrown solutions to synchronize and integrate customer and product data across business units and channels. Most in-house CDI-MDM infrastructure currently ranges from semi-batch operational data stores to near real-time rules engines. However, current IT infrastructure cannot cope with the wide spectrum of dynamic master data requirements across the enterprise as most current solutions were designed to manage low-velocity customer and product data in a single mode – either batch or online – and are not flexible enough to economically add new channels and sources of customer and product information. Although many organizations have improved end-to-end business processes through CRM implementations, the challenge of developing a unified customer or product view has not been fully addressed by the application suite vendors.

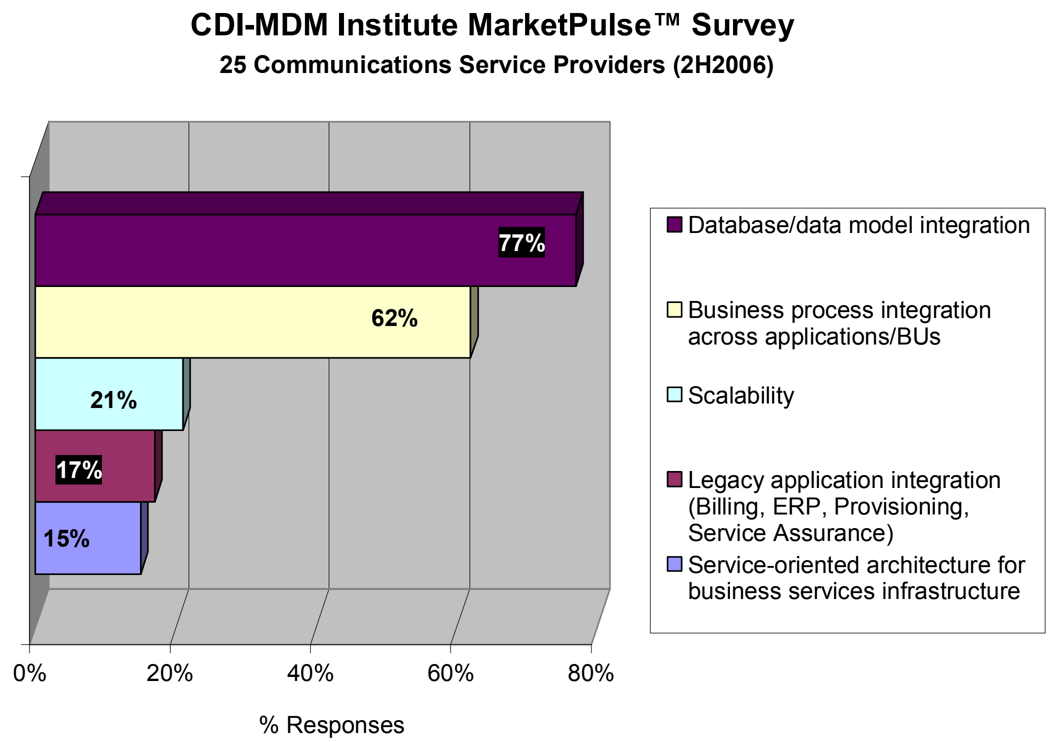

Figure 2 - "Top 5" technology challenges inhibiting CDI-MDM adoption

1. In ranking their company's MAJOR MDM "TECHNOLOGY CHALLENGES" it is clear that with 77% ranking "Database/data model integration" as most important, this area remains a key evaluation criterion for CDI-MDM solutions entering the Communications market. Additionally, 62% found "Business process integration across applications/business units" as very important. Additionally, 21% found "Scalability" as moderately important. Trailing that perception are "Legacy application integration" and "Service-oriented architecture (SOA) for business services infrastructure".
2. For cost savings, however, 38% found the somewhat futuristic "Service-oriented architecture for future infrastructure build out" as their #1 savings, tied with the more pragmatic "Data center consolidation" also at 38%.

3. 38% had more than 100 master customer databases; 23% had more than 50 master customer databases; and yet still 23% had only between two to five master customer databases. The latter group is known to be comprised of relatively young cable or telephone service providers.
4. Yet 38% of all the CSPs expect to utilize MDM software to manage the number of master customer databases down to between two and three; with 15% expecting to take this down to a single customer database. In side discussions with the survey participants, it became clear that the larger CSPs expected to keep residential/consumers master databases separate from the larger enterprise/small-to-medium businesses master customer systems.
5. 38% had between 5-20 master product catalogs at most; these same enterprises were evenly split in planning to manage these down to either 2-3 or 3-5 master product catalogs in the next 18-24 months.
6. For CDI-MDM architecture, “Composite (Hybrid Hub)” was preferred 2:1 over “Persistent (Data Hub)” with “Registry (Virtual Hub)” not identified by any of the enterprises as a desired architecture.
7. For ranked priority of initial MDM projects, “Single view of customer” (54%) and “Customer identification management systems” (31%) are ranked as very important more so than “Master product catalog” (15%). “Customer network management (CNM)” and “Migration from LEIS, LEIM, et al legacy systems” show as important to only 23% of the CSPs.
8. While almost 50% of the enterprises plan on sharing master customer data across more than 10 organizations in the first year of deployment, an equal number of the survey sample plan to share data between at most 2-5 organizations that first year.
9. In ranking their technology objectives, 100% of respondents cited “Develop enterprise-wide customer & product data models” as either most important or very important. In second place, was “Deliver rigorous cleansing, matching, linking & identification of master data” with 62% citing this as very important.

Case study – a major North American Communications Service Provider

A Global 1000 Communications Service Provider made the strategic decision to shift from product centricity to customer centricity. This enterprise's vision is to create a consolidated "Holistic View of the Customer" as a means of enriching and improving customer interactions and insights across all channels. This presents significant sales and retention uplift, operational savings, and risk management opportunities. In practice, the CSP is executing on a solid convergence strategy such that they are able to empower their contact center representatives (customer service reps or CSRs) to successfully cross-sell and up-sell in real-time based on customer information aggregated from the multiple divisions that particular customer is (or is not) a customer of. Thus the enterprise takes advantage of the approximately 14 million calls per year received by its wireline consumer business to cross-sell other products such as wireless and Internet, as well as product bundles (caller ID, three-way calling).

This CSP recently further evolved their convergence strategy by deploying a single client ID for all their lines of business. IBM's WebSphere Customer Center (WCC) product is a "customer data hub" solution that has had previous large scale success in Banking and Insurance industries. While the business case for this strategic investment in CDI-MDM did not initially focus on cost justification, the business leadership has found substantial cost reduction in software license consolidation. Additionally, peak match/merge rate was a consideration given that such customer data management capability becomes mission critical as it is woven into the fabric of the business's core enterprise applications. Because the CDI-MDM solution is responsible for the provisioning of customer data and customer business processes across all channels, it represents a critical Single Point of Failure.

The next major CDI-MDM upgrade for this strategic initiative is to integrate the remaining critical touchpoints/channels – i.e., the enterprise's web site interface and the IVR interface. Additionally, this CSP is looking to develop similar capabilities in the redesign of its non-integrated billing systems. This is expected to provide even greater reduction in infrastructure costs as 100+ diverse/specialized billing systems (homegrown, Amdocs, CDSS for older telecom billing, etc.)

One of the prime requirements was the need for a "householding view" to boost CSRs' sell through rates. Thanks to the "Holistic View of the Customer" enabled by IBM WCC, CSRs can now promote a customer into a higher segment for marketing purposes – in real-time. This powerful marketing capability empowers CSRs to promote "classic " (basic) customers to "premier" status which in turn generates differentiated offers in real-time based on the new customer status.

IBM WCC also serves as a stepping stone into the next generation of IT architectures collectively termed Service-Oriented Architecture (SOA) for the enterprise's Customer Master File (CMF) and Customer Identity Management requirements. As a major accelerator, IBM WCC provides a Business Service library of 500+ services for the Service Application Layer and a robust data model for storing master customer data.

The service provider has now embarked on another MDM initiative to streamline product catalogs which are currently manually maintained in spreadsheets. IBM WebSphere Product Center (WPC) is the single point for all products and offerings across their various divisions. The solution will reduce errors and provide fast and accurate order processing. They will also have the ability to configure and validate orders in real time. Another major improvement is the ability to introduce new products and offerings faster to the market. All this will help the company achieve their goals of growing revenue, improving customer satisfaction and lowering costs.

Moreover, the IBM MDM solution is targeted as the first phase of this enterprise's shift to VoIP products and bundles. Clearly, CDI-MDM is considered a success at this major communications provider as it is the enabler of key next-generation bundling and marketing capabilities.

Conclusion

The synchronization and delivery of a single customer [and product master] view to a diverse audience of corporate stakeholders within a Communications Service Provider (CSP) is an on-going strategic investment.

Moreover, communications industry leaders must acknowledge the inevitable state-of-affairs that continuous M&A confronts them with. As with all industries undergoing major M&A cycles, CSPs must achieve operational efficiencies through IT streamlining and outsourcing. Through it all, executive leadership must control the basic economics of the business while facing major strategic and operational challenges: rapid ROI on new systems development, and general systems upgrades and consolidation.

It is comforting news that market leaders in other industries have been implementing customer data integration (CDI) in the context of master data management (MDM) solutions for a number of years to provide a cogent answer to ongoing M&A activity. Whether the business outcomes of an enterprises' M&A result in "hang over" or "make over" depends upon the ability of the IT organizations to consolidate their staff, operations, data and processes. CDI-MDM is critical to these efforts and ultimately is the tipping point as to whether the business outcome achieves its intended ROI.

Strategic Planning Assumption for 2007-08

During 2007-08, market-leading CSPs must add CDI-MDM capabilities to their list of strategic IT investments as the market has proven that commercial off-the-shelf solutions are more cost-effective than custom-built middleware infrastructure. Those enterprises investing in customer relationship management (CRM), supply chain management (SCM) or other similar enterprise solutions must understand the value of weaving CDI-MDM into the fabric of their overall solution to achieve their business benefits. Furthermore, they must recognize the cost and risk of following the historical path of their peers and competitors that has exacerbated the problems identified in this CDI-MDM Marketpulse™ Study (i.e., multiple customer masters, over-integration, latency in basic business functions such as updating customer address, etc.).

The business case for CDI-MDM capabilities is driven primarily by competitive market requirements – e.g., economies of scale promised by M&A, reduced back office costs, increased levels of customer service, and customer-directed asset management. The enterprise's master customer data must be the most accurate, up-to-the-minute source of customer information and must feed downstream systems (e.g., billing systems, customer service, and provisioning). In summary, industry leaders and early adopters both need to:

- ***Improve shareholder value, efficiency, quality and decision making by sharing and integrating master customer and product data across the enterprise***
- ***Beat the competition by continuously improving quality of service while concurrently reducing costs – both back-office and front-office***
- ***Increase levels of regulatory compliance and financial transparency***

The enterprise data architecture teams in charge of these CDI-MDM projects reflect the mission-critical nature of this infrastructure – they want working, proven products from vendors that have proven track records. Accordingly, references are essential when determining if the CDI-MDM solution can meet the business's mission-critical reliability, availability, and scalability requirements ("production references" not "proof-of-concepts").

This CDI-MDM Institute MarketPulse™ study has highlighted some of the most representative experiences and lessons learned. To summarize these as prescriptions, the CDI-MDM Institute recommends that CSPs:

- Evaluate the CDI-MDM solutions vendor as a long-term strategic supplier
- Mandate data governance support between the people and process dimension and the technology dimension
- Focus on data model extensibility (e.g., corporate business hierarchies, large scale enterprise, small-to-medium business, consumer/residential)
- Evaluate functionality and extensibility of the customer identity management capability
- Insist on an open-ended and future-proofed CDI-MDM solution based upon services-oriented architecture (SOA) principles

Clearly, the synchronization and delivery of a single customer [and product master] view to the diverse constituency within a CSP is an on-going strategic investment. The evaluation process of such an enterprise CDI-MDM solution needs to accommodate the reality that such infrastructure is “mission-critical”.

For more information

To learn more about applying master data management to achieve competitive advantage in a convergent communications market, send an email to: mdm@tcdii.com or visit: www.the-CDI-MDM-Institute.com.

About the CDI-MDM Institute

Aaron Zornes is chief research officer of the CDI-MDM Institute. For additional info on this topic or other CDI-MDM Institute offerings, please contact info@the-CDI-MDM-Institute.com.

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