

The CMDB Landscape: Market Directions, Vendor Solutions and IT Deployments

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Executive Summary

EMA's work in assessing the probable advantages and possible pitfalls of the industry movement towards a Configuration Management Database (CMDB) began with analysis of the requirements for next-generation management architecture. As described in the first report in this series, "The ITIL Configuration Management Database: Panacea or Pandora's Box?," this architecturally-centered work took on a new life in 2004, when industry awareness of IT Infrastructure Library (ITIL) best practices, and in particular ITIL's notion of a CMDB, began to soar. During the course of researching and developing the first two reports in this series – the first in December and this one during the first five months of 2005, the industry interest in an ITIL-driven CMDB visibly expanded. It became, in fact, an even more intense discussion than EMA anticipated, as many vendors and many IT implementers began asking some of the same questions that EMA had posed surrounding ITIL's process-centric notion of a CMDB and its real-world, software-based, architectural equivalents.

In its first report, EMA discussed ITIL's view of the CMDB. In short, the CMDB becomes for ITIL a trusted resource for assuring consistency and efficiency across many IT disciplines in support of service management (IT Service Management or ITSM). According to ITIL, "Many organizations are already using some elements of Configuration Management, often using spreadsheets, local databases, or paper-based systems. In today's large and complex IT infrastructures, Configuration Management requires the use of support tools, which includes a *Configuration Management Database (CMDB)*. Physical and electronic libraries are needed along with the CMDB to hold definitive copies of software documentation. The CMDB is likely to be based upon database technology that provides flexible and powerful interrogation facilities." ITIL also posits that the CMDB should capture both the interrelationships and relevant histories across all system components, including incidents, problems, known errors, changes, and releases as they relate to services and business requirements.

EMA, along with many vendors, and to a lesser extent some IT implementers, has focused in particular on the opportunities and pitfalls of taking ITIL processes and practices surrounding its CMDB – and from these trying to develop an architecture and a real database system to support them. While some IT implementers are developing their own CMDB software, most are very early in the adoption curve and are, for the most part, seeking to invest in third-party software and products that can be customized to serve them. As a result, their concerns are typically less architectural, per se, and more investment and process oriented. This report surveys product implementations (planned and shipping) from more than 20 vendors, and assesses early-phase IT perspectives and implementation concerns.

Methodology

EMA surveyed more than 20 vendors in depth, and has had CMDB-related discussions with more than 50 vendors across the enterprise management marketplace. As discussed below, these vendors ranged from centrist, "framework" providers to configuration and change vendors, to asset and help desk vendors, to storage and security vendors. For the vendors profiled in the report, a detailed questionnaire was used (See Appendix A). In some cases, vendors received as many as five interviews in order to complete a balanced view of what for many was a still evolving story. For other vendors, discussions were more self-contained.

EMA also researched IT perspectives and implementation directions regarding the CMDB. More than 20 IT organizations were surveyed in some manner or other. These IT surveys took the following forms:

- Engagements (actual and pending) with IT organizations seeking guidance on CMDB adoption strategies
- In-depth phone dialogs with IT organizations
- E-mail correspondence with IT organizations

EMA has tapped six of its analysts to cover the full CMDB marketplace, and in the course of this report, many conclusions are the results of internal discussions and assessments within EMA itself.

Summary of Conclusions

The conclusions within the following report follow its table of contents and organizational structure. A very condensed summary of key findings might be as follows:

- Vendor activity regarding CMDB-related development exceeded EMA's expectations. In EMA's view, the pervasiveness of vendor attention to the CMDB phenomenon is reflective of a broader trend within enterprise management – the trend towards a more structural approach to market evolution. This structural approach places more attention on architectural elements, which have in the past been typically “under the hood.” Along with the CMDB, and related to it, there is similarly an increasing focus on analytics, portals and visualization, topological discovery, workflow, identity management, and software-centric policy enforcement.
- Vendor CMDB development was, not surprisingly, viewed according to the native role that each vendor had within the enterprise management marketplace. Configuration vendors, for instance, emphasized configuration and change. Portal-oriented vendors emphasized visualization. Asset and Help Desk vendors took an asset focus, etc. Even within the framework vendors, there is usually a clear beginning point from which a broader CMDB direction evolves, typically within the context of the service desk and/or asset management.
- IT organizations are less sure than their vendor counterparts about the urgency and value of the CMDB, and as a group seem to be in more disarray on the subject. But even here EMA saw a strong interest in creating standards and consistency for critical management tasks. These tasks spanned operationally focused service assurance, change and configuration management, and asset management. Most IT organizations were in the process of assessing CMDB directions rather than doing actual deployments, and among those with deployments, few had gotten beyond a first phase, single-discipline focus for the CMDB.
- The ITIL roots of the CMDB were strongest overall not among the vendor community, but among those few IT organizations that had already undergone significant process-oriented initiatives. In these cases, planned or actual CMDB deployments were a part of a broader ITIL ITSM initiative. Vendors, probably correctly, needed to focus more on the architectural demands of developing an ITIL-supportive CMDB in conjunction with their own product development directions. As a result, a number were only marginally conversant with ITIL processes per se, but understood the need for a consistent architectural, trusted source for data sharing across management applications.

Altiris' Unified CMDB

Context and Market Focus

Altiris has emerged from being a component-focused systems change and configuration solution towards being a more complete platform for operational management and change control. In this evolution, its CMDB, introduced in Q2, 2004, has been a key enabler for functional extensibility. With this in mind, Altiris understands that its CMDB is “core to everything we do.” More specifically, the CMDB is an enabler for Altiris to more effectively extend its functionality towards asset management, network change and configuration, release management and version planning, and incident management in a way that captures interdependencies across configuration items (CIs). Altiris is also well aware of the CMDB's ITIL roots, and has developed its CMDB to assist in the automation of ITIL-defined processes.

Altiris' position in the market is distinctive in several respects. Its solution set is targeted at mid-tier enterprises, with typically 2,500 to 5,000 nodes, although it is designed to scale upwards to support larger environments. But from a pricing and ease of implementation perspective, Altiris is one of the few CMDB providers seriously interested in downwards as well as upwards market scalability. Altiris is also distinctive in the tight integration it supports for both asset information and its equivalent to ITIL's Definitive Software Library (DSL), which Altiris delivers through its Wise Package Studio product. While Altiris recognizes that it is not an enterprise framework, and in many larger environments will not necessarily become the central CMDB, Altiris does seek to claim a central position more than one of mere “citizenship” in a federated CMDB system – especially among its core mid-tier enterprise customer set.

CMDB: Concept, Product and Design

Overall, the Altiris CMDB is designed to support change management, software packaging, software delivery, deployment and migration, patch management, security assessment and remediation, server provisioning, network management (in terms of configuration and change primarily), financial and contractual asset management, and basic levels of incident management and problem resolution. The CMDB is an SQL database bundled with Altiris Notification Server. It can be a standalone offering, or distributed in a hierarchic manner so that distributed CMDBs can export information to a central CMDB. Customers can establish policies that define what information is shared and when (how often) it is shared.

Altiris has designed its CMDB as an object-oriented model-based solution that leverages parent-child relationships to capture and automate interrelationships across configuration items. It supports hierarchic, dependency and adjacency relationships. Altiris positions its design point as focused on easy extensibility in capturing new infrastructure and service components, including asset and organizational information. It can leverage both LDAP and Active Directory information for capturing organizational structures targeted at both service customer groups and operational groups related to performing specific tasks.

Altiris is distinctive in its approach to modeling asset information as an extension of its configuration item models within the CMDB. Asset information is natively modeled within the CMDB, rather than simply accessed from a separate data store, and includes contractual information, leases, warranties, SLAs and SLOs. This asset information can be manually entered, or imported automatically through Altiris connectors designed to take in asset-specific information through external data sources, or through barcode asset tagging.

Similarly, Altiris is distinctive in how it integrates versioned application software information into its CMDB, the equivalent of what ITIL calls the Definitive Software Library (DSL). Altiris' Wise Package Studio populates the DSL. As packages and software are deployed to systems environments, the CMDB automatically creates the associations to the user, owner, cost center, department, and location.

Altiris can currently support management both through alerting on changes and through monitoring. Its agent-based “Monitor Solution” captures performance and availability information on specific systems. Its Site Monitor provides remote monitoring through polling, reading log files, and gathering SNMP information. These are supported and enriched contextually through CMDB associations. Altiris' SmartPath SmartTask in its Help Desk offering – for customer facing concerns – can also help to inform when remediation is needed to address a customer incident. Since more than 60% of performance and availability issues in the infrastructure are configuration-related, incident and problem management could become an area of growth for Altiris.



Discovery and CMDB Population

The Altiris Inventory Solution populates Altiris' CMDB. This discovery process includes both network physical connectivity, and basic logical, or IP auto-discovery, as well as network configuration information from its Bridgewater acquisition, along with agent-based systems discovery, and inventory. Altiris' agent-based capabilities support Windows, Mac, UNIX, Linux, PocketPC, PalmOS, and RIM systems and desktops and servers. Altiris can also import infrastructure discovery detail from third-party solutions.

Multi-vendor Directions

Currently, Altiris can export and import data from or to third-party sources using Web Services and XML. Integrations currently exist with Microsoft SMS, Remedy, HP OpenView, PeopleSoft, Active Directory and LDAP, and Altiris claims that other sources can be quickly integrated upon request via its Connector Solution. Altiris also can import information from third-party financial and HR databases.

Standards Directions

Altiris' CMDB modeling schema is published and open. The standards it currently supports are XML and Web Services.

Product-related Availability

Altiris first shipped its CMDB with Notification Server 6.0 in March of 2004. It is a free component of Notification Server and so is installed in virtually all current-level Altiris customer accounts.

EMA Perspective

Altiris rightly positions its CMDB as being focused on managing the risks associated with infrastructure and business service change from multiple perspectives. EMA believes that its ability to scale towards mid-market buyers coupled with its relatively rich functionality should bode well for its success. Moreover, Altiris enjoyed good timing in developing a CMDB early in 2004, so that it has both history to prove its viability, and a native foundational base for extending portfolio functionality. In other words, Altiris is not trying to recreate itself away from being a complex and fragmented set of pre-existing solutions. Its growth happened to be timed – and Altiris had the wisdom to see this – to a more structural approach to product and market evolution.

However, it should be made clear that Altiris does not pretend to be a complete platform or framework answer in and of itself. It does not provide, for instance, any level of automation in discovering and mapping service-to-infrastructure interdependencies. And it is not an advanced analytics engine for root cause, performance, and capacity planning.

Yet all in all, Altiris should offer customers some very concrete advantages and answer many of the core requirements for CMDB-ITIL process support. As it evolves, through partnerships and otherwise, and as it grows in functionality, Altiris should be a company to watch in the CMDB marketplace.