



BigFix and configuration management database solutions

Configuration management databases (CMDB) have emerged as an important tool for understanding relationships between IT assets and their support for business processes. Centralized federation and reconciliation of disparate asset information promises to optimize processes between critical IT disciplines such as operations and security. A CMDB, however, is only as good as the data sources that feed it and far too many CMDBs build on unstable foundations of incomplete, inaccurate and outdated data on configuration status of managed endpoints. The pervasive real-time visibility features incorporated in the BigFix platform provide the single source of truth for CMDB purposes—thorough, continually updated and accurate. BigFix's open interfaces enable integration of BigFix with other networked enterprise software including CMDB repositories, and help desk applications, to create truly best-of-breed CMDB solutions that can help move IT organizations to more advanced stages of operational maturity.

To meet these requirements, IT organizations urgently need to migrate to a new kind of security and system management platform—one with the ability to see and control IT assets in real time while consolidating and reducing infrastructure management costs. In transforming IT infrastructure management, a unified platform will empower the long-standing imperative of “doing more with less.”

CMDBs: At a Glance

A configuration management database is a repository of information related to all the components of an information system. In the ITIL context, a CMDB represents the configuration items (CI) within an IT environment. Providing a view into the relationships between these components and their configuration, a CMDB is different from an asset repository as it includes dependency mapping as well as financial information.

Dependency mapping traces connections between various assets, processes and business functions. For example, a dependency map might show whether a hardware asset is hosting an operating system that enables an Oracle database to serve information to an HR application that administers employee benefits. Additionally, this example dependency map would tell users that each of these components cost \$X, depreciate over Time Y, are part of Budget Z and are owned by Business Process A. As you can imagine, this requires the ability to collect accurate and timely information from a diverse set of data sources, including manual input, correlate it, and then make it available to a wide set of internal consumers.

A CMDB requires at least four basic capabilities:

- **Federation**—Integration of multiple configuration data sources, such as desktop, server, application, network, and user provisioning.
- **Reconciliation**—Correlating the same instance of a configuration item or component that might come into the CMDB from multiple sources, such as information on an IP address from multiple sources, and recognizing it as a single entity.
- **Dependency Mapping**—Logically or physically illustrating the peer-to-peer and hierarchical relationships between configuration items, such as how a specific set of hardware, software and application instances make up a service such as a benefits portal, e-commerce site, on-line banking, etc.
- **Change Synchronization**—Assuring that changes to the infrastructure conform to those recorded in the CMDB and change management tools.

Barriers to CMDB Adoption

CMDBs, as a concept, have attracted considerable interest in the IT community, but many organizations are struggling to realize their promised benefits due to technical, logistical, procedural and political challenges that inhibit successful production deployments. Furthermore, CMDB solutions, as with ITSM and ITIL in general, require levels of IT organizational maturity that remain rare even for best-in-class IT operations. Even if a vendor currently offered a complete CMDB solution, the solution would have to cross many organizational silo borders in most IT organizations. Few organizations are willing to risk disrupting or distorting an existing system management infrastructure to wrap it around the axle of CMDB. The service delivery and internal political risks can be too high to justify the benefits promised by CMDB.

CMDB does become powerfully attractive, however, when integrated into a comprehensive approach to infrastructure visibility, decision support, and asset management. This unites the insight provided by a CMDB with the ability to make decisive, far reaching changes in managed device configuration, behavior and security profiles. This CMDB-plus-policy-enforcement-and-remediation approach can shift an organization from low, reactive levels of operational maturity to a high functioning preemptive approach to infrastructure management. This frees staff and resources to focus on high-value add service delivery activities rather than remedial infrastructure maintenance.

The marketplace for CMDB tools is just now emerging, and no vendor offers a complete, end-to-end CMDB-in-a-box. Current generation production solutions range from internally developed databases with application logic built on top, modifying existing configuration management systems, and CMDB solution components from companies like BMC, HP, or IBM. However an organization chooses to proceed, designing and implementing a CMDB solution requires considerable systems integration skill and acceptance of the fact that some components may not be as strong as others or not play well together.

No Substitute for Accurate, Complete and Timely Data

As with any attempt to gain environmental insight, a CMDB is only as good as the data it collects, classifies and analyzes. Many organizations focus on the CMDB component and ignore limitations of their data collection methods. Far too many CMDBs rely on data that is limited in scope, ignores important classes of assets (laptop/notebook computers, non-Windows machines), stale, frozen in time, and/or lacking context. To feed a CMDB with inadequate data is the equivalent of building a house on a rotten foundation, that is to say, garbage in means garbage out.

It is absolutely essential that configuration information feeding into a CMDB solution be:

- **Real-time**—Yesterday's configuration information will not help enable intelligent business decisions, satisfy regulators or defeat today's security threats.
- **Accurate**—Data that introduces false positives and negatives into a database creates room for doubt.
- **Complete**—There can be no blind spots or exceptions, and it is better to have too much data about assets than too little. One can always filter out what might be deemed non-essential, but very often what seemed trivial months ago can suddenly burst into a hot button concern. Who, for example, would have thought that the serial numbers of laptop batteries would become a burning issue in enterprise IT?
- **Contextual**—Understanding operational context for configuration information; i.e. where an asset resides on the network, the role it plays in delivery of a service, who uses it, mission criticality, etc.

What BigFix Brings to the CMDB Party

BigFix enhances CMDB solutions in two ways. First, BigFix supplies comprehensive, accurate, real-time data on assets managed through the CMDB solution. Since its entry into the enterprise market, BigFix has demonstrated outstanding and unique abilities to report configuration data from computers irrespective of technology platform (Windows, Unix, Linux, Mac OS); connection (wired desktop and server or intermittently connected mobile laptop/notebook); or infrastructure scale (field proven in production environments from 1,000 to 100,000s of managed endpoints). BigFix does not scan and observe conditions on managed devices. Managed devices constantly report changes in their configuration and status, providing it straight from the source information. BigFix customers have come to regard it as their system of truth for managed device telemetry.

Second, BigFix amplifies the power of CMDB solutions through extensive policy enforcement and remediation capabilities. Policies reside on managed assets and remain in force whether or not the device is connected to the enterprise network or not. The BigFix remediation and policy content distribution system reduces cycle time to execute changes to an absolute minimum. Customers report that actions that formerly required weeks and months transact in minutes and hours—with full verification that a desired change has actually taken place on relevant assets.

While BigFix provides the brains, eyes and arms for a CMDB-based infrastructure management solution, third-party solutions are better suited to provide memory (database), and conscience (help desk and compliance reporting) required for a comprehensive CMDB-based infrastructure. Therefore, CMDB solutions will integrate multi-vendor, custom and in-house developed elements. To expedite this process, BigFix offers professional services focused on integrating BigFix solution elements with those from other vendors, end-customers, partners, system integrators and service providers.

The Bottom Line

BigFix dramatically increases the power and value of CMDB solutions by providing real-time visibility into IT infrastructure and dramatically condenses the time scales associated with performing IT operations, security and compliance tasks. BigFix can make the difference between CMDB as a nice-to-have to an essential instrument for highly-evolved, preemptive infrastructure management.

BigFix: Breakthrough Technology, Revolutionary Economics

Founded in 1997, BigFix®, Inc. is a leading provider of high-performance enterprise systems and security management solutions that revolutionizes the way IT organizations manage and secure their computing infrastructures. Based on a unique architecture that distributes management intelligence directly to the computing devices themselves, BigFix is radically faster, scalable, more accurate and adaptive than legacy management software. From Systems Lifecycle Management, Security & Vulnerability Management to Endpoint Protection, BigFix solutions automate the most labor intensive IT tasks across the most complex global networks saving organizations significant amounts of time, labor, and expense. Today, BigFix provides real-time visibility and control for over 8 million computing devices for 900 customers worldwide. The BigFix customer list counts many of the world's largest and most prestigious organizations in every industry including financial services, retail, education, manufacturing, and public sector agencies. More information can be found at www.bigfix.com.