

EMC Ionix Application Discovery Manager

Part of the Ionix Data Center Automation and Compliance Family

Ongoing insight and visibility into distributed applications through automated discovery and dependency mapping

The Big Picture

- Enhance processes related to change, configuration, incident, and problem management, and improve service desk effectiveness
- Identify and manage change impact and compliance issues
- Control configuration drift
- Comply with best practices for planning, migration, consolidation, audits, and maintenance of VMware-enabled data centers
- Enrich a configuration management database (CMDB) or configuration management system (CMS) with realtime configuration and dependency data
- Collect and analyze detailed configuration and dependency data—without using server-side agents
- Create custom reports of discovery data using new external reporting database capabilities
- Ensure ongoing performance and improvement in VMware environments by optimizing critical IT applications and services
- Integrate with third-party CMDB or CMS elements (such as BMC Atrium)

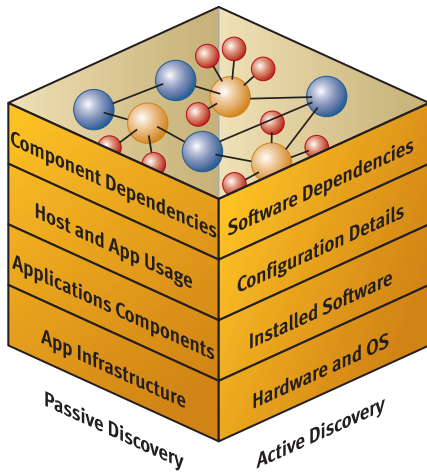
EMC® Ionix™ Application Discovery Manager (formerly EMC Smarts® Application Discovery Manager) provides the automated, realtime application discovery and dependency mapping capability you need for effective, dependency-driven change, configuration, incident, and problem management across physical and virtual environments. Through Application Discovery Manager's embedded, realtime data repository, enterprises can accurately manage change impact, precisely control configuration drift, quickly correlate infrastructure incidents to application impact, and help ensure their information infrastructures conform to IT governance or compliance standards.

Application Discovery Manager's repository provides a realtime, automated dependency catalog that allows enterprises to eliminate their reliance on "tribal knowledge" and guesswork, avoid change-induced service outages, degradations, and failures, and remain IT-compliant. This repository also allows users to precisely control configuration drift and populate third-party or homegrown CMDBs or CMSs based on the high-definition discovery data uncovered by Application Discovery Manager. Enterprises can detect, log, and report on software and hardware configuration changes and compare configurations server to server. External database reporting capabilities provide the ability to create customized reports based on the data in Application Discovery Manager's repository. With its native EMC Ionix (formerly Smarts) integration, users can quickly correlate infrastructure incidents to application impact based on realtime models of application topologies and dependency relationships. Operations teams can quickly determine what changed and track down the truth behind the all-too-common statement: "I didn't change anything."

Better understanding means easier management

Application Discovery Manager is the only application dependency mapping solution that provides realtime, agentless discovery to continuously and passively track application dependencies, demand, usage, service levels, and change events, and determine impact analyses. Application Discovery Manager enables enterprises to discover their entire application infrastructures, and visually map all resources and dependencies. This allows enterprises to manage more effectively by having a thorough understanding of relationships, impact, change and configuration, demand, usage, and service levels.

Discovery Analytics



Passively discover the application infrastructure, actively collect high-definition configuration details, and analyze discovered configuration items and dependencies

A hybrid approach to application discovery and dependency mapping

The agentless, top-down, auto-discovery process creates a realtime, interactive model of the entire application infrastructure in a fraction of the time and cost it would take to achieve the same results using manual methods or intrusive, agent-based technologies. The discovery and dependency mapping capabilities in Application Discovery Manager stem from a unique “hybrid” approach that combines the strengths of passive and active discovery with detailed, model-based analytics. Passive discovery identifies applications and discovers relationships by observing network traffic.

Application Discovery Manager augments passive discovery with active discovery, which uses common network protocols to remotely query servers in the managed network and obtain supplementary data about network hosts. (Enterprises may selectively choose the key servers, VMs, or services about which Application Discovery Manager gathers detailed configuration data.) Analytics capabilities perform deep-packet analysis of observed traffic, and help establish the relationships between passively and actively discovered entities. This hybrid approach allows Application Discovery Manager to automatically discover Layer 2 and Layer 3 network and storage devices, physical servers, VMs on ESX Servers, services, applications, databases, J2EE components, application servers, and composite n-tier applications.

Leveraging these capabilities, Application Discovery Manager automatically builds an interactive application dependency map as well as an application relationship and configuration model—within just a few hours. Both the dependency map and model are reconciled across diverse data sources and maintained in Application Discovery Manager’s repository. The application relationship and configuration model is then continuously updated with dependency, configuration, and usage changes.

Problem management: quickly correlate infrastructure incidents to application impact

Application Discovery Manager provides native integration with EMC Ionix (formerly Smarts) solutions to populate a realtime model of application topologies and dependency relationships for application-aware root-cause analysis. Ionix users can quickly determine application impact and identify what has changed. Ionix solutions can launch drill-down access to Application Discovery Manager configuration details to give users visibility into their applications in the context of the underlying infrastructure. Through integration with EMC Ionix Service Assurance Manager, users can visually correlate the potential application impact of network and storage infrastructure failures by displaying the software services running on impacted hosts as well as other connected software services. With Service Assurance Manager, enterprises can also drill down to see detailed configuration data for applications and hosts through in-context navigation to the Application Discovery Manager console.

Leverage Application Discovery Manager’s embedded, realtime repository throughout IT operations

Application Discovery Manager provides the flexibility of an embedded, realtime repository of dependency and configuration data. Enterprises can leverage this rich source of realtime data for:

- Populating or federating “the truth” to third-party or homegrown CMDBs or CMSs
- Enhancing change, configuration, problem, and incident management processes
- Jumpstarting foundational CMDB or CMS projects
- Providing visibility of application dependencies across physical and VMware-enabled environments
- Increasing the efficiency and effectiveness of discovery related to data center consolidations, virtualization efforts, and server rationalization projects and application audits
- Ensuring the information infrastructure conforms to IT governance guidelines and regulatory standards
- Identifying unexpected or unwanted relationships, applications, connections, and configurations

In addition to enhancing IT process initiatives, the dependency-rich application behavior models in Application Discovery Manager can improve service desk operations by infusing “help-desk CMDBs or CMSs” with the requisite, realtime interrelationships and detailed configuration data they need to extend and deliver value to other critical data center processes.

Easier transitions and ongoing IT service assurance in VMware environments

Application Discovery Manager supports IT operations before and after a consolidation and virtualization effort by automatically discovering all of the critical dependencies that exist among your applications and your information infrastructure.

Before virtualization, Application Discovery Manager augments the virtualization plan created by VMware® Capacity Planner by determining the key dependencies that exist between applications and their physical hosts. For example, Application Discovery Manager could identify a critical dependency between an application and database that could reduce overall network traffic. To maintain proper levels of performance after virtualization, IT operations could then ensure the application and database remain on the same server for greater efficiency. By using Application Discovery Manager to identify critical dependencies between applications and servers before consolidation and virtualization occurs, you have a smoother transition to virtualization while ensuring the delivery and performance of IT services.

After consolidation and virtualization, changes occur rapidly in the new environment. By providing visibility of the relationships and dependencies between applications on both physical and virtual servers, IT operations can ensure ongoing performance and optimization. This dependency information can help you identify potential application-related performance bottlenecks and reduce unnecessary network traffic. Application Discovery Manager helps you deliver on the promise of virtualization by allowing you to optimize the performance of critical IT applications and services before, during, and after the migration to virtualized environments.

A foundation for helping to ensure IT governance and compliance

Pressure from industry regulations (such as PCI or HIPAA), as well as an increasing desire to conform to governance and best practice standards, are compelling IT operations to first ensure and then maintain IT compliance—all while still having to manage the dynamic nature of the information infrastructure and the rapid pace of change in the IT environment.

Many IT organizations still rely on traditional manual and periodic audits as their primary approaches to gauging IT compliance. These approaches introduce significant risk because manual (people-based) methods will invariably introduce errors and periodic “snapshots” don’t occur often enough to keep up with the rapid pace of change in data centers. The dynamic nature of a virtualized environment adds new management complexity to an already complex process.

To ensure IT compliance, IT operations needs to take an automated approach to application discovery and dependency mapping. Application Discovery Manager represents an ideal foundational data source that IT operations can leverage to determine and ensure IT compliance.

When paired with Application Discovery Manager, EMC Ionix IT Compliance Analyzer—Application Edition adds unique compliance monitoring, analysis, and policy-violation alerting that helps identify violations of external regulations, internal governance policies, and best-practice guidelines.

Scalability for distributed data center automation

Application Discovery Manager permits you to scale across multiple data centers to provide a global, holistic view of the application environment—a critical solution when applications span multiple data centers. Even within a single data center environment requiring distributed collection, multiple collectors can be deployed and aggregated to provide a unified perspective. Application Discovery Manager does this using a combination of collector appliances that discover and feed host and dependency data to an aggregator appliance, providing unparalleled scalability and flexibility in deployments. Application Discovery Manager consists of three primary models:

- Application Discovery Manager Aggregator
 - Aggregates distributed collectors
 - Integrated data federation and reporting across collectors
- Application Discovery Manager Collector
 - Deployed to monitor distributed data centers
 - Enables scaling in single data centers
- Application Discovery Manager (Standalone)
 - Single data center configuration
 - Manages thousands of servers and virtual machines

Application Fingerprinting: classify common applications

Application Fingerprints™ uniquely identify common packages and applications. In addition, Application Discovery Manager's heuristic fingerprinting recognizes common n-tier application interactions and automatically groups and maps these applications, which allows enterprises to classify their applications rapidly. A user can also specify a grouping of hosts that make up an application and then discover all instances of that application and related hosts in the environment. Alternatively, deep-packet inspection can discover patterns within the discovery process—such as URLs and database table names—to allow the creation of new Fingerprints around these patterns for ongoing discovery of application instances.

Open reconciliation engine: integrate diverse data sources

The open reconciliation engine in Application Discovery Manager makes it possible to reconcile data across diverse discovery sources—including distributed collectors, third-party agents, and in-house repositories. To ensure that all configuration data is accurate, current, and “clean,” Application Discovery Manager automatically stages and reconciles the data in a separate pre-staging database before it can enter a CMDB or CMS.

Dashboards and analytics: track changes, map, and report

Dashboards provide a quick status of the application environment using graphs, charts, and tables that summarize discovery information and track changes that have occurred in the application infrastructure environment over time. Change-tracking features detect any change in configuration, dependency, or behavior. These changes can trigger alerts and actions for broader integration with third-party systems. Built-in reports provide detailed impact analysis, inventory, usage, and dependency data, as well as track underutilized and overutilized servers and services. In addition, new external reporting database capabilities allow enterprises to create custom reports based on the discovery data contained in Application Discovery Manager's repository.

Easy integration and federation

The open interfaces in Application Discovery Manager enable XML-based integration with any third-party or homegrown CMDB or CMS. By federating Application Discovery Manager's repository of data into a broader CMDB or CMS deployment, enterprises and service providers can leverage Application Discovery Manager's realtime dependency mapping and configuration data, allowing Application Discovery Manager to serve as the truth-based system of record for ITIL and business service management deployments.

About EMC

EMC Corporation is the world's leading developer and provider of information infrastructure technology and solutions that enable organizations of all sizes to transform the way they compete and create value from their information. Information about EMC's products and services can be found at www.EMC.com.



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Take the Next Step

To learn more about how EMC Ionix (formerly Smarts) Application Discovery Manager—and other EMC Ionix solutions—can positively impact your business and IT operations, contact your local EMC or EMC resource management sales representative, or visit our website at www.EMC.com.