

IBM Tivoli Application Dependency Discovery Manager

Highlights

- Gain a clear, holistic view of interdependencies between applications, computer systems and network devices, using agent-less and credential-free discovery and automated application maps
- Learn how applications, computer systems and network devices are configured and changing over time
- Determine if configurations comply with internal and regulatory policies
- Increase efficiencies by using open application programming interfaces (APIs) to share information between operational management products
- Leverage a foundational data store and a rich set of analytics to enable IT processes such as change and configuration management
- Use a solution that is scalable to global levels and supports enterprise-class security

IT has always been charged with aligning their resources with business goals. The challenge lies in accurately understanding a changing set of interdependent IT resources that support specific, customer-facing services. To accomplish this, IT needs application service visibility to:

- Know what they have.
- Learn how it is configured and changing over time.
- Determine if it is compliant.

A clear view of configuration items (CIs) that comprise services and their interdependencies enables IT to enhance service delivery and service support—and to achieve business alignment.

Key to efficient IT Service Management (as defined in IT Infrastructure Library® [ITIL®] guidelines) is IT's ability to accurately assess what changes have been made within the infrastructure—and determining how they will impact business services.

Application visibility shows which applications may be affected by a change, and how that change may affect the dependencies of that application.

An effective IT Service Management approach must start at the beginning, by understanding what are the pieces of the puzzle, how they are put together and how they change over time:

- What applications do I have, and what are their dependencies?
- How are these applications and their dependencies configured across my infrastructure?
- Are these applications and dependencies compliant, not just with external policies, but with our internal policies for standardized configurations?

IBM Tivoli® Application Dependency Discovery Manager is a robust application mapping and discovery tool that automatically gathers an inventory of all applications and dependencies, helps you understand configurations and helps prove compliance, with detailed reports and auditing tools.

Know what you have

With global workforces, multiple remote offices, siloed management tools, and mergers and acquisitions so common today, it is not unusual for IT to simply not know all of the applications and dependencies that exist throughout the organization.

- Is there a customer-facing application that relies heavily on a database maintained by someone in finance?
- What if a change is made to that database that causes your customer application to go down?
- Are your company and its reputation at risk?

Without complete service visibility, it is impossible to provide effective IT Service Management. Tivoli Application Dependency Discovery Manager automatically creates and maintains maps that describe run-time dependencies and include deep configuration values and accurate change histories. The software performs complete discovery and stores information on:

- Applications, including their dependencies.
- Servers that are hosting applications, both in the distributed world and on mainframes.
- Networks (routers, switches, load balancers).
- The relationships across all, from layer 2 to layer 7 of the Open System Interconnection (OSI) model.
- Application dependencies between mainframe and distributed applications.

It offers visibility into application complexity and supports a wide range of business applications and processes that can benefit from the information it discovers. Mapping the interdependencies in your IT environment—for example, a layer-2 port on a switch and a distributed business application—helps determine how changes to one element unknowingly affect another.

Learn how applications and dependencies are configured

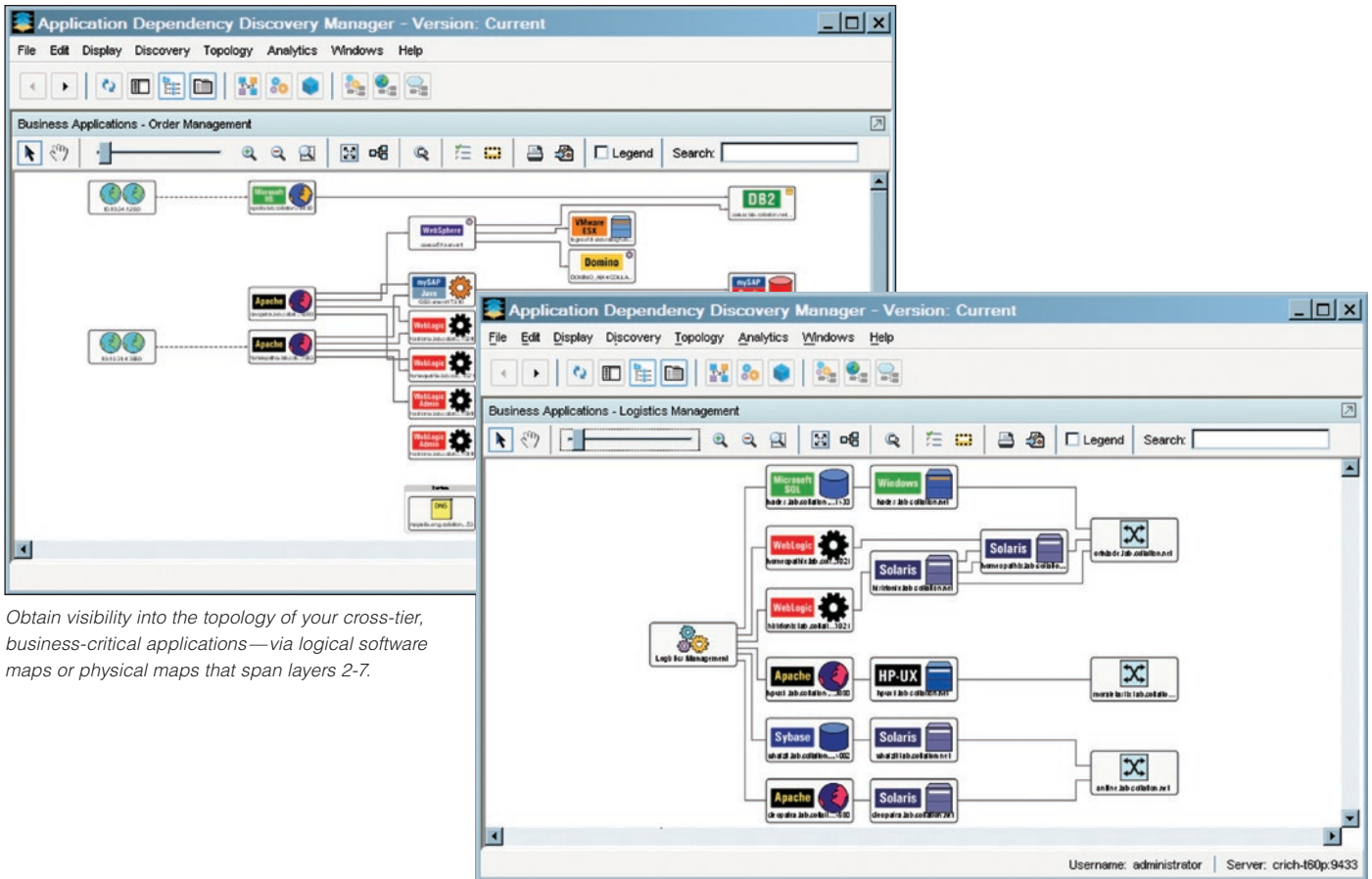
Just as important in your change and configuration management efforts is knowing how applications and dependencies are configured. For example, what are the configuration files on switches? How are performance and capacity configuration parameters set for Web servers? If a configuration is changed, will that affect the health of a business service? Since it is configuration that determines component behavior—thus affecting service availability—it is imperative to know what, if anything, has changed in an existing configuration, and what could happen if changes occur. Without this knowledge, any changes that are made could have a severe impact on your customers.

Tivoli Application Dependency Discovery Manager performs configuration auditing by tracking application changes and depicting that information on application maps and reports, delivering comprehensive visibility into configuration drift. Because the software can provide “discovery snapshots” about what components of an application have changed, you can help minimize time needed for root cause analysis.

Employ sensors to automate and speed application discovery

More than 250 sensors enable out-of-the-box discovery of most components found in the typical data center—across the application software, host, storage and network tiers. Discovery sensors are extensible and reside on the Tivoli Application Dependency Discovery Manager server, where they collect configuration attributes and dependencies, then organize them into application maps and views, including:

- Software application topology maps.
- Cross-tier business application maps showing dependencies between the logical and physical.
- Physical infrastructure (including layer 2) maps.



Obtain visibility into the topology of your cross-tier, business-critical applications—via logical software maps or physical maps that span layers 2-7.

Use discovery profiles to get the depth of discovery you need

Discovery profiles offer users the flexibility and power to manage discovery in accordance with their needs. These profiles are used to specify three choices: where the user wants to discover, what they are looking for and how deep they want to probe. Using agent-less and credential-free discovery, you can rapidly build the deep discovery profiles you need. You can phase in your discovery process, starting with a level 1 lightweight,

credential-free discovery of hosts, operating systems and network components, by inspecting the network stack and identifying components by their signatures. This information can be leveraged as a blueprint showing where you want to conduct deeper discovery. Next, using a level 2 scan you can probe deeper and capture the configurations of computer systems and application dependencies. Finally, using a level 3 scan you can perform a deep-dive discovery and capture application configurations.

Upon installation, the credential-free discovery process starts building your application topology, giving you results within hours—with minimal network impact. Agent-less discovery eliminates the CPU load, network bandwidth, maintenance and security costs associated with agent-based approaches. The powerful topology and task-driven user interface result in minimal training costs and support issues, and increased time to value.

Obtain deep configuration details

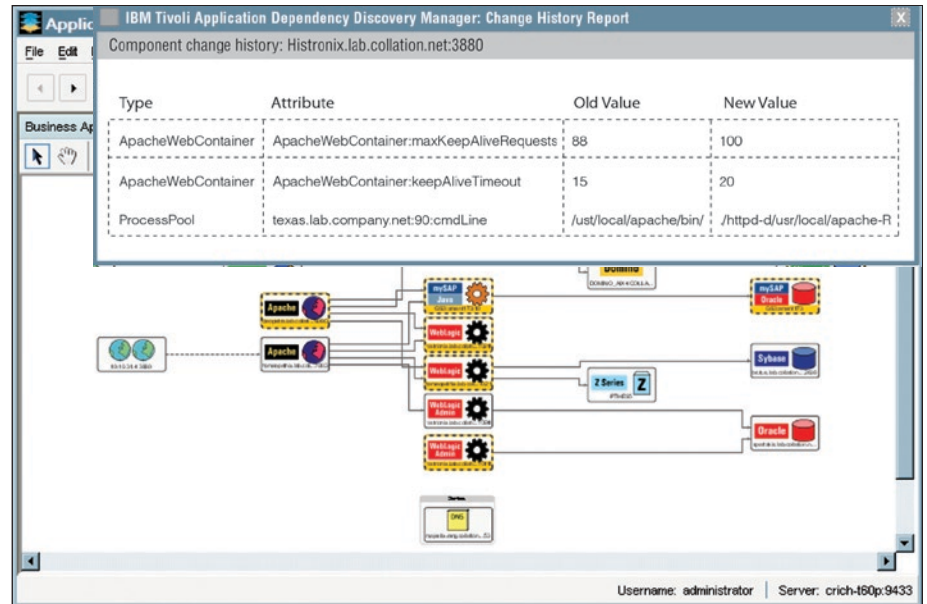
Tivoli Application Dependency Discovery Manager provides visibility to plan and manage applications for critical changes that impact IT Service Management, such as:

- Deployments of software objects such as Enterprise JavaBeans™ (EJBs).
- Changes to the configurations of Web servers, application servers and databases.
- Application and operating system patches.
- Alterations of network and storage settings.

The software allows you to view detailed change histories, to rapidly isolate changes and minimize problem isolation time. For every discovery, the software automatically creates a delta between the new configuration values and the old ones. In addition, users can create versions of their entire data center and compare these versions in an online report—especially useful when conducting data center consolidation or relocation.

Monitor compliance to support IT Service Management

IT organizations also must know whether or not their applications and dependencies are compliant—not just with regulations like Sarbanes-Oxley, but also with the organization's policies for standardization and configuration consistency.



View detailed change histories for all components within your complex applications.

You can use Tivoli Application Dependency Discovery Manager to compare configurations to a “golden master” to reveal policy violations, and audit the impact of changes to your business processes to ensure they have the expected results.

Facilitate data aggregation, querying and reporting to support compliance

Tivoli Application Dependency Discovery Manager provides a seamless query and reporting facility that helps prove internal and regulatory compliance. Its advanced analytics and reports include:

- Inventory.
- Change history.
- Configuration comparisons.
- Dormant components.
- Data center versions.
- Switch topology.
- Query-by-forms of the configuration management database (CMDB).

Augment application maps with queries into other IT, financial, asset and HR data sources using the federation capabilities of Tivoli Application Dependency Discovery Manager, to point to data in the repositories of other IT management products. Then use the information to address compliance, governance and IT Service Management issues.

Easily integrate with other products and processes

For easy integration, Tivoli Application Dependency Discovery Manager was built with an open architecture, robust and open APIs, and a complete, easy-to-use software development kit (SDK). Use these to rapidly deploy and share application maps across management products, teams and processes and to create closed-loop service management systems and processes.

The software integrates with other Tivoli operational management products, such as IBM Tivoli Business Systems Manager, IBM Tivoli Provisioning Manager, IBM Total Productivity Center for Storage, IBM Tivoli Monitoring Services, IBM Tivoli Composite Application Manager for SOA, and many more. Tivoli Application Dependency Discovery Manager is a major component of IBM Tivoli Change and Configuration Management Database (CCMDB), providing the core services for discovery, configuration auditing, reconciliation and federation.

Tivoli Application Dependency Discovery Manager APIs include:

Data API—complete, standards-based access to application maps.

Control API—enables other applications to set up and control the Tivoli Application Dependency Discovery Manager server, including discovery and discovery refreshes.

Tivoli Application Dependency Discovery Manager SDK features include:

- Java™, command line interface (CLI) scripting and Simple Object Access Protocol (SOAP) wrapper libraries.
- Complete documentation of the software's data center reference model and extensible markup language (XML) schema.
- Prepackaged integration tools, including libraries for XML Query Language and extensible style language translation (XSLT).

Take advantage of enterprise-class security and global scale

During discovery, Tivoli Application Dependency Discovery Manager uses industry-standard security protocols such as Secure Shell (SSH), Java Management Extensions (JMX) and Windows® Management Instrumentation (WMI) to control access to sensitive data. It can also perform discovery across firewall zones without compromising security or requiring policy changes.

The software is scalable to tens of thousands of servers across multiple domains without adverse impact on load, bandwidth or security. Large enterprises can deploy multiple servers to manage individual operational instances. Application infrastructure data from individual instances can be consolidated by the central Tivoli Application Dependency Discovery Manager Enterprise CMDB (ECMDB) for an enterprise-wide, dashboard view of IT.

For more information

To learn more about how Tivoli Application Dependency Discovery Manager can help maximize visibility into your applications and dependencies to support IT Service Management, contact your IBM representative or IBM Business Partner, or visit ibm.com/tivoli

About Tivoli software from IBM

Tivoli software provides a set of offerings and capabilities in support of IBM Service Management, a scalable, modular approach used to deliver more efficient and effective services to your business. Helping meet the needs of any size business, Tivoli software enables you to deliver service excellence in support of your business objectives through integration and automation of processes, workflows and tasks. The security-rich, open standards-based Tivoli service management platform is complemented by proactive operational management solutions that provide end-to-end visibility and control. It is also backed by world-class IBM Services, IBM Support and an active ecosystem of IBM Business Partners. Tivoli customers and business partners can also leverage each other's best practices by participating in independently run IBM Tivoli User Groups around the world—visit www.tivoli-ug.org

Web servers

- Apache
- SunONE
- IBM HTTP Server
- Microsoft® IIS

Application and messaging servers

- IBM WebSphere®
- BEA Weblogic
- JBoss
- Apache Tomcat
- IBM Lotus® Domino® Server (including support for Sametime®)
- Oracle Application Server
- IBM MQSeries®

zOS Applications (from the zOS DLA)

- CICS, IMS, DB2 for z/OS, MQ for z/OS, WebSphere for z/OS

Databases

- IBM DB2®
- Oracle
- Sybase
- Microsoft SQL 2000
- Postgres SQL
- MySQL

Network services

- Lightweight Directory Access Protocol
- Network File System
- Domain Name Server
- Microsoft Active Directory®
- Microsoft Windows File Server (Samba)

Hosts and operating systems

- IBM AIX®
- HP-UX
- Linux®
- Solaris
- Microsoft Windows Servers
- VMware ESX
- OpenVMS
- IBM pSeries®
- Citrix
- IBM z/OS®
- TRU-64

Network devices

- Load balancers (F5, Alteon)
- Network firewalls (Cisco, Netscreen, Checkpoint, Nokia IPSO)
- Cisco Routers and Switches
- CiscoWorks
- HP ProCurve Switches
- Extreme Switches
- Routers
- Switches

Storage devices

- EMC Clarion and Symmetrix
- Brocade switches
- Support for host bus adapters (Emulex and Qlogic)
- SANs and Network Attached Storage via integration with IBM TotalStorage® Productivity Center (TPC)

Third-party Network and Systems Management Products

- CiscoWorks
- SMS 2003
- Veritas Cluster and Storage Manager (Limited Availability)

Packaged applications

- Netegrity
- PeopleSoft
- Remedy
- SAP

Virtualized Environments

- VMware ESX 3
- IBM pSeries LPARs
- zOS LPARs
- Solaris Zones (Limited Availability)

Server requirements:

- AIX® 5.2 or 5.3 (PowerPC®)
 - Solaris 9 or 10 (SPARC)
 - Red Hat Server 3.0 or 4.0
 - SUSE Linux Enterprise Server 8.0, 9.0 or 10.0
 - Microsoft Windows Server 2003 Standard or Enterprise
 - RedHat Server 4.0 for System/390®
 - SUSE Linux Enterprise Server 8.0, 9.0 or 10.0 for System/390
 - 2 CPUs (2GHz) minimum
 - 2GB RAM minimum
 - 100GB of disk space
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Database requirements:

- IBM DB2 Universal Database™ 8
 - Oracle 9i, 10g
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Client requirements:

- Web browser
 - Java 2 Runtime Environment (JRE) 1.5
 - Java Web Start 1.4.2
 - Video card that supports 16-bit color at 1280x1024 resolution
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Software development kit client library requirements:

- Tivoli Application Dependency Discovery Manager server
- Operating system that supports JRE 1.4.2 or higher
- 1GB RAM
- 100MB of disk space
- One CPU (greater than 900MHz)



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