

Application Dependency Discovery Manager



# IBM Tivoli Application Dependency Discovery Manager 5.1.1 Fix Pack 004 readme file (5.1.1.4-TIV-ITADDM-FP0004)

*Version 5.1.1*



Application Dependency Discovery Manager



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*Version 5.1.1*

**Note**

Before using this information and the product it supports, read the information in "Notices," on page 43.

This edition applies to version 5, release 1, modification 1 of IBM Tivoli Application Dependency Discovery Manager and to all subsequent releases and modifications until otherwise indicated in new editions.

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## About this information

The purpose of this PDF document is to provide the information in a printable format.

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## Terms used in this information

The following terms represent important concepts in the IBM® Tivoli® Application Dependency Discovery Manager (also referred to as Configuration Discovery and Tracking):

### **Domain Database**

The database that a Domain Server uses to store topology and configuration data which is populated using Sensors, DLAs or the Configuration Discovery and Tracking API.

### **Domain Manager UI**

The Web UI for administrating a single Configuration Discovery and Tracking Domain Manager Server including: access control, configuring and running discovery, viewing topology maps and configuration details and running reports.

### **Domain Server**

An instance of Configuration Discovery and Tracking (including discovery, analytics and DB).

### **Enterprise Domain Database**

The database that the ECMDB uses to store topology and configuration data which is populated using synchronization with one or more Domain Servers.

### **Enterprise Domain Manager UI**

The Web UI for administrating multiple Configuration Discovery and Tracking Domain Manager Servers including: access control, synchronization and viewing cross-domain topology maps.

### **Enterprise Domain Server**

An instance of the ECMDB linking together one or more Domain Servers into a Federated CMDB.

### **Product Console**

The Java™ client UI for Configuration Discovery and Tracking.

### **Tivoli Application Dependency Discovery Manager (also referred to as Configuration Discovery and Tracking)**

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. It provides three key benefits, enabling you, the ITSM user, to do the following things:

- Understand what you have: By using agent-less discovery of interdependencies between applications, middleware, servers and network components and automated application maps.

- Learn how your configuration items are configured and changing over time: By capturing the configuration of each CI, tracking changes to it and providing analytics to report on the history of these configuration changes over time.
- Determine if your configuration items are compliant: By providing the capability to compare discovered configuration of CIs to a *reference configuration* and determine the variations that define violations to local policy.

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## Conventions used in this information

The following conventions are used for denoting operating system-dependent variables and paths and for denoting the *COLLATION\_HOME* directory.

### Operating system-dependent variables and paths

This information uses the UNIX<sup>®</sup> convention for specifying environment variables and for directory notation.

When using the Windows<sup>®</sup> command line, replace *\$variable* with *%variable%* for environment variables, and replace each forward slash (/) with a backslash (\) in directory paths.

If you are using the bash shell on a Windows system, you can use the UNIX conventions.

### *COLLATION\_HOME* directory

The *COLLATION\_HOME* directory is the directory where Configuration Discovery and Tracking is installed plus the *dist* subdirectory.

On operating systems such as AIX<sup>®</sup> or Linux<sup>®</sup>, the default location for installing Configuration Discovery and Tracking is the */opt/IBM/CMDB* directory. Therefore, in this case, the *\$COLLATION\_HOME* directory is */opt/IBM/CMDB/dist*.

On Windows operating systems, the default location for installing Configuration Discovery and Tracking is the *c:\IBM\CMDB* directory. Therefore, in this case, the *%COLLATION\_HOME%* directory is *c:\IBM\CMDB\dist*.

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## Chapter 1. Prerequisites for Fix Pack 004

The Configuration Discovery and Tracking feature is sometimes referred to as IBM Tivoli Application Dependency Discovery Manager.

Configuration Discovery and Tracking is a feature of IBM Tivoli Change and Configuration Management Database, Version 1.1.1. This fix pack only applies to Configuration Discovery and Tracking.

Before installing Fix Pack 004, you must install the following software:

- Configuration Discovery and Tracking server, version 1.1.1.  
(Windows and Linux on System z™ only) Install Configuration Discovery and Tracking server, version 1.1.1 via Limited Availability Fix 001 (5.1.1.2-TIV-ITADDM-LA0001)
- Fix Pack 003 for Configuration Discovery and Tracking server, version 1.1.1 (1.1.1.0-TIV-CCMDB-FP0003)

Fix Pack 004 has been released after IBM Tivoli Application Dependency Discovery Manager (TADDM), Version 7 Release 1. Fix Pack 004 includes fixes that are not in TADDM 7.1. If you upgrade to TADDM 7.1 after installing Fix Pack 004, you lose fixes that are included in Fix Pack 004, but not TADDM 7.1. The following table summarizes the fixes that are included in Fix Pack 004, but not in TADDM 7.1. (See the TADDM Support site for more details on the TADDM 7.1 Interim Fix 1 and the functionality and fixes that are included in that interim fix.)

*Table 1. Fixes and features included in Fix Pack 004, but not in TADDM 7.1*

APAR or defect number	Abstract
16829	The custom query function from a remote TADDM client requires an additional port to be opened on a firewall between the client and server.
18357	Paginated results should be ordered on the entire result set.
20056	Implement query functionality in Product Console Query.
20363	Lite discovery mode needed for Veritas Cluster Server sensor.
20444	Federation error with null data.
20580	Formatting of change history LIC panel broken.
20644	Details panel issues. (IZ09747)
20722	ECMDB is not synching.
20769	Incremental synchronization breaks if clocks disagree between domain and enterprise.
20776	The extended attributes information from a saved Version gets erased on Clearing Topology Data in Product Console.
20779	ECMDB second sync never ends - waiting for alias table.
20871	Explicit relationship is not cleaned up when a component is removed from business service from UI.
20997	DbWriteCallback returns without status being set.
21014	Application Summary does not show up in Domain Manager (ECMDB).
ICA0042	Use JDBC batching for eCMDB sync and commit less frequently.

Table 1. Fixes and features included in Fix Pack 004, but not in TADDM 7.1 (continued)

APAR or defect number	Abstract
ICA0044	File systems removed from computer systems are not removed from Configuration Discovery and Tracking database.
ICA0045	Array element creations not reported properly by Change History.
ICA0053	Memory leak in API.
ICA0055	Introducing lite mode for VSF.
ICA0057	MIB2 sensor de-duplicator.
ICA0059	Adding Version information for business applications.
ICA0062	Use the sync.conf file to configure the commit and batch size.
IZ07108	Warning messages are issued in the ViewManager.log file during the TopologyBuilder or running refresh operations on <b>Topology</b> → <b>Business Application</b> .
IZ07788	WMI provider reports that it is out of date when it is not.
IZ08374	Merge problems: VMware ESX guestOs machines have Δdups.Δ
IZ08632	When launching the Domain Manager Web UI, select a server and right click for details. Try clicking the storage tab, storage volumes, SCSI Volumes (or FC Volumes). Despite clicking, the tabs are not selected.
IZ08751	Configuration Discovery and Tracking synchronizes objects that do not change during a full discovery. Other than the timestamp, there are no changes to the object.
IZ08823	In the <b>Topology</b> → <b>Application Infrastructure Graph</b> options this is a bug with the Computer System filtering. If no Computer System types are checked, no Computer Systems are shown in the graphs If one Computer System type is checked, all of the Computer Systems are shown in the graph, regardless of type.
IZ09053	Problems deleting some CIs with multiple relationships.
IZ09135	Looking at the topology build agents, one of the agents is marking the L2 interfaces as deleted rather than simply removing them. There is another agent earlier in the list which garbage collects deleted stuff, including L2 interfaces, so this behavior causes the software to process a lot of the L2 interfaces twice.
IZ09268	The api.sh command does not return any information when the condition specified for the query has a sequence of characters S followed by a digit.
IZ09682	Web server sensor fails.
IZ09747	Details panel takes a long time to display for concurrent users and Domain Manager Details panels are slow to display.
IZ09766	Discovery of the Cisco switches are not populated with the other switches. The Cisco switches are populated in the unknown IP device bucket.
IZ10070	Cannot add two different types of deployed objects to a business application.
IZ10803	Monitoring coverage report fails with an OutOfMemory error message.
IZ10939	Details port tab takes a long time to build.
IZ10947	The displayName of AppServers is incorrect when the IP address of the primarySAP is 127.0.0.1 (loopback address). The data for the AppServers remains correct and the AppServers are mapped as they should be - the error is in the displayName only.

Table 1. Fixes and features included in Fix Pack 004, but not in TADDM 7.1 (continued)

APAR or defect number	Abstract
IZ11032	The api.sh script find does not work for MQL like : select * from MSSObjectLink where obj='96731644558335108942967010459896' The problem occurs when the value of obj consists only of digits.
IZ12992	Serial number wrong on Linux systems running on VmWare.
IZ13079	Missing Oracle indexes on upgraded TADDM servers.

For the latest information regarding Fix Pack 004, go to the IBM Tivoli Application Dependency Discovery Manager Product Support Web site at <http://www-306.ibm.com/software/sysmgmt/products/support/IBMTivoliApplicationDependencyDiscoveryManager.html>. To download Fix Pack 004, look for a link to the fix pack under the Download heading.



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## Chapter 2. APARs and defects in Fix Pack 004

The following APARs and defects have been addressed in Fix Pack 004.

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### Configuration Discovery and Tracking feature APARs for Fix Pack 004

Fix Pack 004 has been released after IBM Tivoli Application Dependency Discovery Manager (TADDM), Version 7 Release 1. Fix Pack 004 includes the following fixes that are not in TADDM 7.1. If you upgrade to TADDM 7.1 after you installing Fix Pack 004, you lose the fixes that are included in Fix Pack 004, because they are not included in TADDM 7.1. See the TADDM Support site for more details on the TADDM 7.1 Interim Fix 1 and the functionality and fixes that are included in that interim fix.

The following APARs are included in Fix Pack 004 for the Configuration Discovery and Tracking feature:

*Table 2. APARs in Fix Pack 004 for Configuration Discovery and Tracking*

APAR number	Abstract
ICA0002	Unable to load TaddmWmi.dll even after adding execute permission: Access is denied.
ICA0003	AIX can no longer discover multiple IP addresses on an interface.
ICA0012	Add support for setting numeric attributes from Custom Server Extensions.
ICA0013	IIS: agent.AgentException: String index out of range: 26
ICA0018	Add switch to disable the restart of WMI service when deploying WMI Provider. For ICA0018 the following settings in collation.properties file can be made: <ul style="list-style-type: none"><li>Restart WMI if a WMI error is encountered during AutoDeploy:<ul style="list-style-type: none"><li><code>com.collation.RestartWmiOnAutoDeploy=true</code></li><li><code>com.collation.RestartWmiOnAutoDeploy.1.2.3.4=true</code></li></ul></li><li>Restart WMI if a WMI error is encountered (except during AutoDeploy):<ul style="list-style-type: none"><li><code>com.collation.RestartWmiOnFailure=true</code></li><li><code>com.collation.RestartWmiOnFailure.1.2.3.4=true</code></li></ul></li></ul>
ICA0020	Oracle sensor uses case-sensitive match to find ORACLE_HOME on OpenVMS.
ICA0021	WebLogic sensor performance improvements.
ICA0026	The crontab file capture does not work because of a missing space in the command.
ICA0027	Prioritize which DNS domain is used for system fqdns, if the host is in multiple DNS domains.
ICA0028	Enhance F5 BigIP sensor to support newer F5 OID.
ICA0029	Enhance api.sh script to stream XML instead of buffering, reducing memory footprint.
ICA0030	Sync performance issues.
ICA0031	Windows sensor now sets system name based on hostname returned by MS CIMv2 WMI provider.

Table 2. APARs in Fix Pack 004 for Configuration Discovery and Tracking (continued)

APAR number	Abstract
ICA0033	Comparing two WebLogic Components causes an infinite loop.
ICA0034	Workaround JVM bug causing StackOverflows in regular expressions.
ICA0035	Wrong label on "Oracle version" in GUI.
ICA0037	Enhance WMI provider to detect open ports without aports.dll file.
ICA0039	Enhance performance of gateway file validation.
ICA0040	Default port for Enterprise Configuration Discovery and Tracking.
ICA0041	Add ability to disable certain topology views.
ICA0042	Use JDBC batching for eCMDB sync and commit less frequently.
ICA0043	The dist/bin/explicitrel.bat file was inadvertently left out of Fix Pack 003 distribution.
ICA0044	File systems removed from computer systems are not removed from Configuration Discovery and Tracking database.
ICA0045	Array element creations not reported properly by Change History.
ICA0046	The pix sensor starts, but the enable password does not always work.
ICA0049	ModelObject proxies returned by TopologyManager are not thread safe.
ICA0053	Memory leak in API.
ICA0055	Introducing lite mode for VSF.
ICA0057	MIB2 sensor de-duplicator.
ICA0059	Adding Version information for business applications.
ICA0062	Use the sync.conf file to configure the commit and batch size.
IY96565	GenericServerSensor now fails if it cannot find any listening servers.
IY97231	Federation external adapters do not work.
IY97459	WebLogic sensor results are slow to store.
IY97828	Issues discovering WebLogic Resources.
IY99032	Incorrect results in UI for some JBoss parameters.
IY99596	OracleServer agent has been modified to optionally store listening IP (taken from the first listener) in name attribute.
IY99849	L3 Switches do not appear on Business Application L2 Topology.
IY99888	SNMP sensors do not run if a target is being discovered via an anchor and the target supports ssh.
IZ00110	Federation portal generates bad SQLfor numeric compare.
IZ00388	MQQueueManager display name can optionally be changed from "name" to "hostname:name"
IZ00457	Storage Sensor failed on Qlogic 24xx Series.
IZ00459	Sybase sensor fails if the sybase commandline contains "-c"
IZ00595	User without Admin role has access to add, edit and schedule in ECMDB.
IZ00614	Storage Error when storing WebLogic results.
IZ00752	Increasing local anchor timeout beyond 2 hours does not work.
IZ00839	Duplicate descriptions in Scope creation dialog cause entries to be merged.
IZ00931	The loadscope.jy script does not handle scope exclusions correctly.
IZ01321	MQ commands with (*) fail on UNIX systems.

Table 2. APARs in Fix Pack 004 for Configuration Discovery and Tracking (continued)

APAR number	Abstract
IZ01341	Duplicate WebLogic Domain objects are created by the sensor.
IZ01597	CiscoTelnet sensor needs to use a different command to turn off the console pager on PIX targets.
IZ01870	Discovery problems with very large scope sets.
IZ01872	On some Configuration Discovery and Tracking servers, the GUI is unable to connect after Configuration Discovery and Tracking restart.
IZ01914	Unknown servers are not stored, might cause dependencies not to work.
IZ01941	Error message in the UI not accurate when the Windows user does not have access to share.
IZ02365	The z/OS® MQ Subsystem is shown twice.
IZ02649	Cannot start anchor on AIX 5.3.
IZ02660	Windows Services omitted from the comparison of two or more Windows computers.
IZ02788	The Configuration Discovery and Tracking console does not report correctly the timezone of the z/OS DLA.
IZ03037	Chunk size during synchronization is not customizable.
IZ03210	CDM portal launch in context sometimes fails with NullPointerException.
IZ03230	File descriptors are leaked.
IZ03236	StackScan sensor ignores all configuration settings.
IZ03338	Custom server extensions fail when trying to set integer attributes.
IZ03571	Configuration Discovery and Tracking does not support Linux Ethernet adapters with "." in the name.
IZ03863	Duplicate computer systems caused by Vmware sensor.
IZ03994	Control script "./CONTROL BAD SUBSTITUTION" on Solaris 10.
IZ04002	AttributeNotSetException discovering OpenVMS.
IZ04010	New FP3 database tables are not being synchronized.
IZ04046	ANCHOR server performance issues.
IZ04265	"CI Info" tab missing from some computer system details panels.
IZ04291	AIXCOMPUTERSYSTEMSENSOR has syntax errors in prtconf.
IZ04580	LOCAL-ANCHOR.LOG owned by root when rolled by the StackScan sensor.
IZ04666	Template definitions and designer.jar are not copied to anchors.
IZ04699	Jservice does not background properly. (Windows only)
IZ04843	WebLogic Sensor sometimes does not set the TCP port of the cluster.
IZ04978	Using the API to set "label" on a Business Application causes it to not be delete-able through the GUI.
IZ05024	MQ sensor fails on anchors.
IZ05150	Comparison of CICS® regions is not consistent.
IZ05184	API sessions leak.
IZ05426	Multiple runtime processes attached to a single WebLogic Server instance.
IZ05429	WebLogic Application Descriptors cannot be retrieved.

Table 2. APARs in Fix Pack 004 for Configuration Discovery and Tracking (continued)

APAR number	Abstract
IZ05447	The getMetaData API is missing from EJB layer. This APAR is not included in this fix pack. We are not propagating fixes on the EJB layer into the Fix Pack 004 release because, in IBM Tivoli Application Dependency Discovery Manager (TADDM) 7.1, there is not support for the EJB interfaces in IBM Tivoli Change and Configuration Management Database 1.1.1. To improve product quality, testing has focused on both EJB and Java APIs into the Java APIs to make these more robust. The EJB layer has been removed from TADDM 7.1 documentation and code base. The Maximo PMPS integrate with TADDM through the ITIC adapter. The adapter uses standard Java APIs. Given this, for Fix Pack 004, you might request the fix for this APAR (websphere.zip) through IBM support. Remember, this is not supported in TADDM 7.1.
IZ05469	Cisco PIX sensor does not start.
IZ05770	WebLogic Server does not show dependencies to Oracle database.
IZ05834	Duplicate sensors started on multihomed hosts if all interfaces are in scope.
IZ05835	Dependencies to DB2 <sup>®</sup> databases not detected properly.
IZ05946	WMI provider load failures.
IZ05949	On Solaris 10 servers with no zone configuration, virtual interfaces are allowed to participate in system naming.
IZ05958	Cannot discover OpenVMS network interfaces with negative packet transmission counts.
IZ06017	Some software installations on Windows appear as registry key numbers in Configuration Discovery and Tracking user interface.
IZ06032	Change history does not track deletes of manually added computer systems.
IZ06213	WebLogic sensor creates duplicate domains.
IZ06561	MSSQL sensor discovers base MSSQL version, not patched version.
IZ06567	Unsupported WebLogic 6.1 discovery no longer works.
IZ06568	Discovery seed re-serialization causes high CPU utilization.
IZ06586	User interface takes six to eight minutes to display the switch topology. This fix is actually a generic fix for topology views to a) reduce mem usage and b) boost performance of view builds. Because it makes the shallow topomgr proxies have all the right attributes upfront, thus preventing a roundtrip (performance hit) and too many attributes being fetched (memory consumption). This fix in addition to adding the indexes and completing runstats as described in the FP4 install instructions improves some topology view performance dramatically.
IZ06617	Bulkloader and sync error on duplicate rows in CMDB_GUID_ALIAS.
IZ06673	A sensor running through the local anchor fails with the generic error message: Sensor failed in remote server : An error occurred, unable to connect to the local anchor, localhost  This APAR is specific to the SUSE operating system as noted in this Sun bug: <a href="http://bugs.sun.com/bugdatabase/view_bug.do?bug_id=6483406">http://bugs.sun.com/bugdatabase/view_bug.do?bug_id=6483406</a> The workaround is to add a property <b>-Djava.net.preferIPv4Stack=true</b> in local-anchor.sh script. The local-anchor.sh script might be replaced by maintenance. Note changes made to this file so that they can be re-applied after any maintenance change.



Table 2. APARs in Fix Pack 004 for Configuration Discovery and Tracking (continued)

APAR number	Abstract
IZ06787	Failures in the WMI call to enumerate devices causes no devices to be discovered.
IZ06865	Windows discovery fails when a domain is not reported.
IZ07108	Warning messages are issued in the ViewManager.log file during the TopologyBuilder or running refresh operations on <b>Topology</b> → <b>Business Application</b> .
IZ07126	Interface parsing code on Solaris assumes base interface type does not contain numerics.
IZ07141	Component comparison on WebSphereCells never completes.
IZ07173	Excessive Exceptions logged when discovering some HpUx machines.
IZ07788	WMI provider reports that it is out of date when it is not.
IZ07829	findRelationships() stops returning valid relationships due to session timeouts.
IZ08150	Incorrect ComputerSystems appearing as dependencies in Business Applications.
IZ08220	Removing a business application does not remove the functional group.
IZ08374	Merge problems: VMware ESX guestOs machines have "dups."
IZ08632	When launching the Domain Manager Web UI, select a server and right click for details. Try clicking the storage tab, storage volumes, SCSI Volumes (or FC Volumes). Despite clicking, the tabs are not selected.
IZ08751	Configuration Discovery and Tracking synchronizes objects that do not change during a full discovery. Other than the timestamp, there are no changes to the object.
IZ08823	In the <b>Topology</b> → <b>Application Infrastructure Graph</b> options this is a bug with the Computer System filtering. If no Computer System types are checked, no Computer Systems are shown in the graphs If one Computer System type is checked, all of the Computer Systems are shown in the graph, regardless of type.
IZ08852	Discovery never finishes if last sensor is out of scope for an anchor.
IZ09053	Problems deleting some CIs with multiple relationships.
IZ09135	Looking at the topology build agents, one of the agents is marking the L2 interfaces as deleted rather than simply removing them. There is another agent earlier in the list which garbage collects deleted stuff, including L2 interfaces, so this behavior causes the software to process a lot of the L2 interfaces twice.
IZ09268	The api.sh command does not return any information when the condition specified for the query has a sequence of characters S followed by a digit.
IZ09682	Web server sensor fails.
IZ09747	Details panel takes a long time to display for concurrent users and Domain Manager Details panels are slow to display.
IZ09766	Discovery of the Cisco switches are not populated with the other switches. The Cisco switches are populated in the unknown IP device bucket.
IZ10070	Cannot add two different types of deployed objects to a business application.
IZ10803	Monitoring coverage report fails with an OutOfMemory error message.
IZ10939	Details port tab takes a long time to build.

Table 2. APARs in Fix Pack 004 for Configuration Discovery and Tracking (continued)

APAR number	Abstract
IZ10947	The displayName of AppServers is incorrect when the IP address of the primarySAP is 127.0.0.1 (loopback address). The data for the AppServers remains correct and the AppServers are mapped as they should be - the error is in the displayName only.
IZ11032	The api.sh script find does not work for MQL like : select * from MSSObjectLink where obj=='96731644558335108942967010459896' The problem occurs when the value of obj consists only of digits.
IZ12992	Serial number wrong on Linux systems running on VmWare.
IZ13079	Missing Oracle indexes on upgraded TADDM servers.

## Configuration Discovery and Tracking feature defects for Fix Pack 004

The following defects are addressed by Fix Pack 004 for the Configuration Discovery and Tracking feature:

Table 3. Defects in Fix Pack 004 for Configuration Discovery and Tracking

Defect number	Abstract
14396	On Oracle, there is no last_modified_time in the Details panel like other sensors. (DB2 & SQL have this information.)
14767	ApiPool resource leak causes degradation in performance.
14927	COLL_PROGNAME on Windows systems is incorrectly expanded. The Windows path separator "\" is being removed, even though the entire environment variable was enclosed in double quotes.
14971	The explicitrel.sh script is really slow on DB2 databases.
15118	OAL EJB user session handling.
15163	Intermittent problems discovering Windows.
15202	Weblogic Results continue to fail to store.
15258	Application descriptors are not showed in the GUI for the MQ sensor.
15334	The Remove Person From Orgs function returns wrong list.
15372	The Citrix sensor fails in FP3 with MissingKey exceptions.
15439	The Domain Manager custom query fails when there is a space in the value.
15485	An out of memory (OOM) error occurs during discovery, PFM change.
15500	StorageSensor on Solaris fails in non-English TADDM server.
15507	Synchronizing on String constant results in lock contention in AbstractOs.java.
15533	ECMDB sync failures caused by Oracle's Flashback feature in 10g
15549	Error in results file when loading a delta DLA book using the TCORE bulk load program.
15665	Need to retry "Permission Denied" ssh failures if the auth has previously worked.
15732	Permissions disappear after topology clear.
15777	The AdapterInit gives an error during initialization.
16004	Fix for progressively Slow Weblogic Discovery.

Table 3. Defects in Fix Pack 004 for Configuration Discovery and Tracking (continued)

Defect number	Abstract
16250	Address space memory problems.
16316	Unable to load TaddmWmi.dll even after adding execute permission: Access is denied.
16586	Windows discoveries fail (GetIpInterfaces exception).
16829	The custom query function from a remote TADDM client requires an additional port to be opened on a firewall between the client and server.
17381	The ms xchange sensor fails to start - taddmtool problem.
17420	Add throttle based on chunk size to the eCMDB.
17464	setString can only process strings of less than 32766 characters.
18357	Paginated results should be ordered on the entire result set.
18510	Discovery hang (problem in AbstractSessionClient).
18743	findchanges(...delete) returns GUIDs for resources not deleted.
18824	findChanges() incorrect when the functional group is removed from business application.
18915	Remove context based deadlock avoidance from FP3.
18917	Relationships incorrect after editing business application.
19191	getStatus() inaccurate for topology and bulk load.
19419	New Launch in context is not working.
19603	Incremental synchronization SQL incorrect in the Change History Table.
19645	DELETE's in synchronization causing table scan of entire PERSOBJ table.
19779	ECMDB fails sync from 2nd domain and on.
20029	Updates not shown in change history until system restarts. Change history has incorrect timeframe.
20056	Implement query functionality in Product Console Query.
20363	Lite discovery mode needed for Veritas Cluster Server sensor.
20381	Unexpected system error, The Session ID is not valid.
20444	Federation error with null data.
20550	Run RUNSTATS on each table in the eCMDB database immediately after it is populated.
20580	Formatting of change history LIC panel broken.
20631	Added domains in ECMDB do not show up for scheduling.
20644	Details panel issues. (IZ09747)
20658	New indexes on foreign keys.
20666	Host dependencies details panel is broken.
20722	ECMDB is not synching.
20726	Anchor fails on Windows from time to time with premature EOF.
20769	Incremental synchronization breaks if clocks disagree between domain and enterprise.
20776	The extended attributes information from a saved Version gets erased on Clearing Topology Data in Product Console.
20779	ECMDB second sync never ends - waiting for alias table.

Table 3. Defects in Fix Pack 004 for Configuration Discovery and Tracking (continued)

<b>Defect number</b>	<b>Abstract</b>
20871	Explicit relationship is not cleaned up when a component is removed from business service from UI.
20911	Application descriptor does not work for VeritasCluster sensor.
20940	There were no explicit relationships associated with the business application.
20997	DbWriteCallback returns without status being set.
21012	Make db2updatestats.bat and db2updatestats.sh available for FP4.
21014	Application Summary does not show up in Domain Manager (ECMDB).
21016	cdm:Label = 0409 for WindowsOperatingSystem objects.
21037	StackScan sensor fails when run from an anchor.
21067	Out of memory error opening extended attr definition.

---

## Chapter 3. Installation overview for Fix Pack 004

This fix pack is supported on a limited number of operating systems. Before beginning the installation, verify that your system is running a supported operating system and that you meet all hardware and software requirements.

If you have installed the Enterprise Configuration Discovery and Tracking server and the Configuration Discovery and Tracking server, you must upgrade the Enterprise Configuration Discovery and Tracking server and the Configuration Discovery and Tracking server at the same time. If the Enterprise Configuration Discovery and Tracking server and the Configuration Discovery and Tracking server are not at the same code level, they do not work properly.

---

### Supported operating systems

The following operating systems are supported for this fix pack:

Table 4. Supported operating systems for Fix Pack 004

Operating system and supported release	Support details
AIX 5.2 and 5.3 (Release prior to current platform release)	<ul style="list-style-type: none"><li>Client or endpoint supported: 32b app tested on 32b kernel, 32b app tested on 64b kernel under 'toleration' mode</li><li>Server or anchor supported: 32b app tested on 32b kernel, 32b app tested on 64b kernel under 'toleration' mode</li></ul>
RedHat Enterprise Linux 3.0 x86 32 bit (Two releases previous to current platform release)	<ul style="list-style-type: none"><li>Client or endpoint supported</li><li>Server or anchor supported</li></ul>
RedHat Enterprise Linux 4.0 x86 32 bit (Release previous to current platform release)	<ul style="list-style-type: none"><li>Client or endpoint supported</li><li>Server or anchor supported</li></ul> <p>Problems such as out of memory conditions and <i>ClassNotFoundException</i> exceptions might occur on updates prior to RedHat Enterprise Linux, Update 6. If you experience these issues, upgrade to Update 6.</p>
RedHat Enterprise Linux 4.0 for System z (Release previous to current platform release)	<ul style="list-style-type: none"><li>Requires 5.1.1.2-TIV-ITADDM-LA0001</li><li>Client or endpoint supported: 32b app tested on 32b kernel, 32b app tested on 64b kernel under 'toleration' mode</li><li>Server or anchor supported: 32b app tested on 32b kernel, 32b app tested on 64b kernel under 'toleration' mode</li><li>Red Hat Update 3 is also required</li></ul>
Solaris 9 SPARC (Release previous to current platform release)	<ul style="list-style-type: none"><li>Client or endpoint supported</li><li>Server or anchor supported</li></ul>
Solaris 10 SPARC (Current platform release)	<ul style="list-style-type: none"><li>Client or endpoint supported</li><li>Server or anchor supported</li></ul>
SUSE Linux Enterprise Server 9.0 and 10.0 x86 32 bit (Release previous to current platform release)	<ul style="list-style-type: none"><li>Client or endpoint supported</li><li>Server or anchor supported</li></ul> <p>At the time of release, IBM Software support is investigating intermittent problems with the JVM and SUSE Linux Enterprise Server 9.0 and 10.0. Contact IBM Software support for additional information.</p>

Table 4. Supported operating systems for Fix Pack 004 (continued)

Operating system and supported release	Support details
SUSE Linux Enterprise Server 9.0 and 10.0 for System z (Release previous to current platform release)	<ul style="list-style-type: none"> <li>• Requires 5.1.1.2-TIV-ITADDM-LA0001</li> <li>• Client or endpoint supported: 32b app tested on 32b kernel, 32b app tested on 64b kernel under 'toleration' mode</li> <li>• Server or anchor supported: 32b app tested on 32b kernel, 32b app tested on 64b kernel under 'toleration' mode</li> <li>• SUSE Patch Level 3 is also required</li> </ul> <p>At the time of release, IBM Software support is investigating intermittent problems with the JVM and SUSE Linux Enterprise Server 9.0 and 10.0. Contact IBM Software support for additional information.</p>
Windows 2000 Advanced Server, DataCenter Server, and Professional (Two releases previous to current platform release)	<ul style="list-style-type: none"> <li>• Client or endpoint supported</li> </ul>
Windows Server 2003 DataCenter (Current platform release)	<ul style="list-style-type: none"> <li>• Client or endpoint supported</li> <li>• Requires Microsoft® Server Pack 2</li> </ul>
Windows Server 2003 Standard Edition and Enterprise Edition (Current platform release)	<ul style="list-style-type: none"> <li>• Requires 5.1.1.2-TIV-ITADDM-LA0001</li> <li>• Client or endpoint supported</li> <li>• Server or gateway supported</li> <li>• Requires Microsoft Server Pack 2</li> </ul>
Windows Server 2003 Standard and Enterprise x64 Edition AMD64 and EM64T (Current platform release)	<ul style="list-style-type: none"> <li>• Client or endpoint supported: 32b app tested on 32b kernel, 32b app tested on 64b kernel under 'toleration' mode, limited manual installation is required</li> <li>• Requires Microsoft Server Pack 2</li> </ul>
Windows XP Professional (Release previous to current platform release)	<ul style="list-style-type: none"> <li>• Client or endpoint supported</li> </ul>

If you use one of the supported Linux for System z operating systems, consider using TADDM 7.1. Unlike Fix Pack 004, TADDM 7.1 supports the 64-bit JVM on Linux for System z. The 64-bit JVM provides the improved memory support necessary for large installations.

Configuration Discovery and Tracking needs read, write, and execute permissions for its installation directory and contents, as well as the temporary directory for the system. For the installation directory, the default is /dist. Generally, the temp directory is %TEMP% on Windows systems and /tmp on AIX, Linux, and Solaris systems.

The IDD StackScan sensor is not supported when the Configuration Discovery and Tracking server is running on an AIX operating system. There is no reliable Nmap version available.

Refer to the online documentation for the Configuration Discovery and Tracking feature for more information about anchors and gateways. Publications for the Configuration Discovery and Tracking library are available at the following Tivoli software library Web site: [http://publib.boulder.ibm.com/infocenter/tivihelp/v10r1/topic/com.ibm.ccmdb.doc/ccmdb\\_welcome.htm](http://publib.boulder.ibm.com/infocenter/tivihelp/v10r1/topic/com.ibm.ccmdb.doc/ccmdb_welcome.htm)

All Windows gateways must be running the Bitwise WinSSHD 4.x version of SSH. The Configuration Discovery and Tracking server communicates with the gateway using SSH, regardless of the platform that the server is using.

If the Configuration Discovery and Tracking server is running on a Windows or Linux for System z system operating system, anchors on Windows systems are supported.

If the Configuration Discovery and Tracking server is running on a Windows or Linux for System z system operating system, an anchor and a gateway running on the same Windows system is supported.

---

## Hardware requirements

The following list describes the processor, memory, and disk space requirements for a Configuration Discovery and Tracking server. The requirements are the same whether the machine is a single Configuration Discovery and Tracking server, an enterprise Configuration Discovery and Tracking server, or a domain Configuration Discovery and Tracking server.

Each Configuration Discovery and Tracking server requires a system with the following requirements:

- 100 GB of available disk space.
- 2 - 4 CPUs with a minimum process speed of 2 GHz.
- 2 - 8 GB of memory.

For a Linux for System z operating system, you should have at least 4 GB of memory to run all of the Java services.

You must install the database on a different machine. That machine and the Configuration Discovery and Tracking server must each have 2 GB of memory. For medium to large environments, use more memory.

---

## Software requirements

Before installing Fix Pack 004, you must install the following software:

- Configuration Discovery and Tracking server, version 1.1.1.  
(Windows and Linux on System z only) Install Configuration Discovery and Tracking server, version 1.1.1 via Limited Availability Fix 001 (5.1.1.2-TIV-ITADDM-LA0001)
- Fix Pack 003 for Configuration Discovery and Tracking server, version 1.1.1 (1.1.1.0-TIV-CCMDB-FP0003)

### Firewall considerations

If a firewall exists between IBM Tivoli CCMDB and Configuration Discovery and Tracking resources, you cannot use the silent install and silent uninstall options.

---

## Prerequisite tasks

Before you install Fix Pack 004, complete the following tasks:

1. If running in an enterprise environment, perform an incremental sync of all domains before installing Fix Pack 004.

2. If running in an enterprise environment, upgrade all your enterprise servers before upgrading domain servers.
3. Create a backup of the database. To create a backup of a DB2 database, complete the following steps:
  - a. Stop the Configuration Discovery and Tracking server.
  - b. Use one of the following procedures:
    - For Linux, Solaris, AIX, and Linux on System z operating systems, log in as the DB2 database instance owner. For example, you can use the **db2inst1** ID.
    - For Windows operating systems, open the DB2CMD command prompt.
  - c. Run the following command:
 

```
db2 backup database cmdb
```

 Replace *cmdb* with the name of your database.

If you use an Oracle database, refer to the Oracle documentation for instructions about how to back up the database.

4. Create a complete backup of the Configuration Discovery and Tracking server files. Depending on the operating system, use the zip or tar command to archive the entire directory. For Linux, Solaris, AIX, and Linux on System z operating systems, you want to tar the /opt/IBM/cmdb directory. For Windows operating systems, you want to zip the C:\ibm\cmdb directory.
5. If you have made changes to the cmdb-context.xml file, save a copy of the cmdb-context.xml file. (For the Enterprise Configuration Discovery and Tracking server, the file name is ecmdb-context.xml. The file is located in the same directory as the cmdb-context.html file.)

For Linux, Solaris, AIX, and Linux on System z operating systems, the file is usually located in the /opt/IBM/cmdb/dist/deploy-tomcat/ROOT/WEB-INF/cmdb-context.xml directory. For Windows operating systems, the file is usually located in the c:\ibm\cmdb\dist\deploy-tomcat\ROOT\WEB-INF\cmdb-context.xml directory.

After the installation process is complete, you can update the cmdb-context.xml file installed with Fix Pack 004 before starting the Configuration Discovery and Tracking server. Changes you might make in the cmdb-context.xml file, might also be made in the collation.properties file. Contact support to determine if the changes to the cmdb-context.xml file can alternatively be defined in the collation.properties file.

---

## Installing Fix Pack 004 for the Configuration Discovery and Tracking feature

When installing this fix pack, for Linux, Solaris, AIX, and Linux on System z operating systems, if you installed the Configuration Discovery and Tracking server with a root user ID, use a root user ID to install the fix pack. Likewise, if you installed the Configuration Discovery and Tracking server with a non-root user ID, use a non-root user ID to install the fix pack.

For Windows operating systems, use a Windows login ID with Administrator authority.

(For Linux, Solaris, AIX, and Linux on System z operating systems) If you have non-root user dot profile (for example, .profile, .bashrc, .cshrc) that starts another shell, you need to disable the shell call or the profile before running the install. Otherwise, the installation process locks up.



To install Fix Pack 004 for the Configuration Discovery and Tracking feature, complete the following steps:

1. Open a command prompt window and set the *JAVA\_HOME* environment variable:

**For Linux operating systems**

```
export JAVA_HOME=$COLLATION_HOME/external/jdk-1.4.2-Linux-i686
```

**For Solaris operating systems**

```
export JAVA_HOME=$COLLATION_HOME/external/jdk-1.4.2-SunOS-sparc
```

**For AIX operating systems**

```
export JAVA_HOME=$COLLATION_HOME/external/jdk-1.4.2-AIX-powerpc
```

**For Windows operating systems**

```
set JAVA_HOME=%COLLATION_HOME%\external\jdk-1.4.2-Windows-i386
```

**For Linux on System z operating systems**

```
export JAVA_HOME=$COLLATION_HOME/external/jdk-1.4.2-Linux-s390
```

2. Navigate to the directory where you downloaded the fix pack.
3. Unpack the fix pack file.
4. Change to the fix pack directory.
5. (Linux, Solaris, AIX, and Linux on System z operating systems only) Change the access profile for the installation file with the following command:

```
chmod 755 installFixPack.sh
```

6. Run the installation process. Use one of the following commands:
  - For Linux, Solaris, AIX, and Linux on System z operating systems, `./installFixPack.sh`
  - For Windows operating systems, `installFixPack.bat`

You can run the installation process in silent mode. You do not need a response file for the silent installation mode. To run the silent installation mode, use one of the following commands:

- For Linux, Solaris, AIX, and Linux on System z operating systems, `./installFixPack.sh -silent`
- For Windows operating systems, `installFixPack.bat -silent`

7. Click **Next**.
8. Select the **I have reviewed the information above.** checkbox and click **Next**.
9. After the installation process is complete, a page, indicating the status of the installation, is displayed. Click **Finish** to close the installation program.
10. Verify that your Configuration Discovery and Tracking server is running.
11. For improved performance, run the `dbupdate` command to create new indexes. From a command prompt, use one of the following procedures to run the commands:

- For Linux, Solaris, AIX, and Linux on System z operating systems:

```
cd <dist>/bin
dbupdate.sh fp4Indexes.sql > fp4Indexes.out
```

- For Windows operating systems:

```
cd <dist>\bin
dbupdate.bat fp4Indexes.sql > fp4Indexes.out
```

Review the `fp4Indexes.out` file results for any errors. On Oracle systems, the following errors can be safely ignored as the error message indicates that the index exists:

```
ORA-01408: such column list already indexed
```

On DB2 systems, the following error can be safely ignored as the error message indicates that the index exists:

```
SQL0605W The index was not created because the index <name>
already exists with the required description. SQLSTATE=01550
```

12. After adding the indexes, run runstats on all tables in the databases. The Database optimizer uses information and statistics in the Database catalog in order to determine the best access to the database, based on the query that is provided. On both domain and enterprise servers, complete the following steps:
  - a. Run the following commands:

```
cd /opt/IBM/cmdb/dist/support/bin
./gen_db_stats.jy > runs.sql
```
  - b. Copy the runs.sql file to the database server. Use one of the following procedures to apply it:
    - If you use a DB2 database, run the following commands:

```
su - <db2 instance id>
db2 -tvf runs.sql
```
    - If you use an Oracle database, use sqlplus to apply runs.sql to the TADDM database.
13. (Enterprise environment only) Run a full synchronization. The full synchronization synchronizes the new database schema changes. A full synchronization must be run after any fix pack installation.

**Important:** Shallow sync has been deprecated in Fix Pack 004 and the default sync is now deep sync. For more information, go to “Enterprise environment changes” on page 39 and see *Updates to synchronization functions*.

14. If you have not set up sudo, you need to comment out the following lines in the collation.properties file:
  - **com.collation.discover.agent.command.interfacesettings.SunOS=sudo ndd**
  - **com.collation.discover.agent.command.interfacesettings.Linux=sudo mii-tool**If you do not comment out these lines, performance might be negatively affected.
15. (Optional) If you saved a backup copy of the cmdb-context.xml file, you can update the cmdb-context.xml file before starting the Configuration Discovery and Tracking server. (For the Enterprise Configuration Discovery and Tracking server, the file name is ecmdb-context.xml. The file is located in the same directory as the cmdb-context.html file.) For Linux, Solaris, AIX, and Linux on System z operating systems, the file is usually located in the /opt/IBM/cmdb/dist/deploy-tomcat/ROOT/WEB-INF/cmdb-context.xml directory. For Windows operating systems, the file is usually located in the c:\ibm\cmdb\dist\deploy-tomcat\ROOT\WEB-INF\cmdb-context.xml directory.

Changes you might make in the cmdb-context.xml file, might also be made in the collation.properties file. Contact support to determine if the changes to the cmdb-context.xml file can alternatively be defined in the collation.properties file.

16. If you use WebLogic sensors, complete this step. After upgrading from Fix Pack 003 to Fix Pack 004, WebLogic sensors are disabled in the Level 3 discovery profile. To enable the WebLogic sensors, you have to create a new discovery file that enables the WebLogic sensors.

To create a WebLogic 8.x discovery profile, enable the following sensors:

- WeblogicServerVersionSensor
- WeblogicSensor
- Anchor sensor
- GenericServer sensor
- SessionSensor
- PingSensor
- PortSensor

To create a WebLogic 9.x or 10.x discovery profile, enable the following sensors:

- WeblogicServerVersionSensor
- WeblogicSensor2
- Anchor sensor
- GenericServer sensor
- SessionSensor
- PingSensor
- PortSensor

To create a WebLogic 8.x, 9.x or 10.x discovery profile, enable the following sensors:

- WeblogicServerVersionSensor
- WeblogicSensor
- WeblogicSensor2
- Anchor sensor
- GenericServer sensor
- SessionSensor
- PingSensor
- PortSensor

If the installation fails, the log files contain information that you can use to troubleshoot the problem.

In the collation.properties file, the

**com.collation.topomgr.generateExplicitRelationship** property has been deprecated. Ensure the property is set to *false*:

**com.collation.topomgr.generateExplicitRelationship=false**. If you are integrating with IBM Tivoli Business Systems Manager, go to “Generating explicit relationships for IBM Tivoli Business Systems Manager integration” on page 28.

In addition, after you install the Configuration Discovery and Tracking server, you must clear the Java Web Start cache on each client system where you log in to the Product Console. You must clear the Java Web Start cache on each client system where you log in to the Product Console after an upgrade.

To clear the Java Web Start cache, complete the following steps:

1. Go to the directory where Java 1.5 is installed.
2. Change directories to the \jre\bin directory.
3. Double-click on **javaws.exe**.
  - a. In the Java Application Cache Viewer window, click **Edit** → **Preferences**.
  - b. In the Java Control window, under the Temporary Internet Files section, click **Delete Files**, check all boxes, and click **OK**.

- c. Click OK.

---

## Locating log files

The software generates log files that contain message information. You can access this information for general use or when requested by IBM Software Support.

For Linux, Solaris, and AIX operating systems, message log files can be found in the following directory: `<install_dir>/installLogs`.

For Windows operating systems, message log files can be found in the following directory: `<install_dir>\installLogs`.

For Linux for System z operating systems, message log files can be found in the following directory: `<install_dir>/installLogs`.

---

## Roll back for the Configuration Discovery and Tracking feature Fix Pack 004

To roll back Fix Pack 004 for the Configuration Discovery and Tracking feature, complete the following steps:

1. Use the following command to stop the server:  
`$COLLATION_HOME/bin/control stop`
2. Restore the backup files for the Configuration Discovery and Tracking server. (You created a backup of these files before you installed the fix pack.) To restore the backup files for the server, complete the following steps:
  - a. Go to the `/opt/IBM` directory.
  - b. Rename the current installation directory to `cmdb.bak`.
  - c. Extract the backup files. For example, use the following command:  
`unzip cmdb.zip`
3. For Linux, Solaris, AIX, and Linux on System z operating systems, use the following command to change file ownership to non-root: `chown <non-root_user_id>:<non-root_user_group> <collation_home>` For example, `chown cmdbuser : cmdbgrp /opt/ibm/cmdb/dist`
4. Restore the database. Use one of the following procedures:
  - To restore a DB2 database, complete the following steps:
    - a. Log in as the DB2 database instance owner. For example, you could use the `db2inst1` ID.
    - b. Run the following command:  
`db2 restore database cmdb`  
Replace `cmdb` with the name of your database.
  - To restore an Oracle database, refer to the Oracle documentation for instructions.
5. Start the Configuration Discovery and Tracking server.

---

## Dropping a database and clearing the View Manager Disk cache

If you are dropping your database and you have the View Manager Disk cache enabled, you have to manually delete the old disk caching directories.

To do this, after you drop the database, go to the directory where you have configured the `com.collation.view.cache.disk.path` property and delete the contents of the following sub-directories:

- `/graph`
- `/tree`

The default directory is `dist/var/viewmgr`.



---

## Chapter 4. Configuring Configuration Discovery and Tracking

You do not have to complete any specific configuration tasks before using Configuration Discovery and Tracking. This section provides instructions for optional configuration tasks that can be useful in your environment.

If you plan to discover WebSphere® through an anchor, ensure that WebSphere is installed on the anchor host. The directory where WebSphere is installed should be the same as the value specified for the property **com.collation.websphere.root.dir** in the `collation.properties` file on the main Configuration Discovery and Tracking server host.

---

### Updating the `collation.properties` file

All of the properties are commented in the `collation.properties` file.

When you want to configure the server, edit the `collation.properties` file. The file is located in the following directory:

- For Linux, Solaris, AIX, and Linux on System z operating systems, `$COLLATION_HOME/etc`
- For Windows operating systems, `%COLLATION_HOME%\etc`

With Fix Pack 004, the following properties in the `collation.properties` file have been added or updated:

**com.collation.agent.weblogic.classpaths**= *directory1,jdk1;directory2,jdk2;...;directory(N-1),jdk(N-1);*

This property configures the `WeblogicServerVersionSensor` sensor.

The *directoryN* variable is used for storing WebLogic JAR files. The WebLogic JAR files must be located in the `dist/lib/weblogic` directory. The *jdkN* version of the Java JDK that you use can be 1.5.0 or 1.4.2.

You can configure as many pairs of *directoryN,jdkN* as needed. For example,

```
com.collation.agent.weblogic.classpaths=10.0,1.5.0;9.0,1.5.0;8.0,1.4.2
```

This example configures three sets of configuration for `WeblogicServerVersionSensor`. The first set uses JAR files from the `dist/lib/weblogic/10.0` directory with JDK 1.5.0. The second set uses JAR files from the `dist/lib/weblogic/9.0` directory with JDK 1.5.0. The third set uses JAR files from the `dist/lib/weblogic/10.0` directory with JDK 1.4.2.

**com.collation.agent.weblogic.defaultconfiguration**=*10.0,1.5.0,10*

If the `WeblogicServerVersionSensor` sensor does not recognize the BEA WebLogic Server that is running, use this property to force configuration.

In this example, the `WeblogicServerVersionSensor` sensor uses JAR files from the `dist/lib/weblogic/10.0` directory with JDK 1.5.0 and assumes that the WebLogic Server 10.x is running.

**com.collation.agent.weblogic.domainsconfiguration**=*1.2.3.4:7001-1.2.3.8:7002,1.2.3.5:7001;1.2.3.6:7001-1.2.3.9:7002,1.2.3.7:7003;*

Use this property when the WebLogic server is using multiple interfaces on the Domain Admin Server. Syntax:

```
domain_ipA:domain_portA-listen_ip1:listen_port1,listen_ip2:listen_port2;  
domain_ipB:domain_portB-...  
domain_ipA:domain_portA will be used instead of listen_ip1:listen_port1
```

**com.collation.gui.doNotShowGraphs**=*Business Applications,Application Infrastructure,Physical Infrastructure*

This property allows you to hide graphs from display in the Java user interface. There are three valid values that you can enter: business application, application infrastructure, and physical infrastructure. If you enter more than one value, use a comma to separate the entries.

**com.collation.platform.os.ignoreLoopbackProcesses**=*true*

If the WeblogicServerVersionSensor sensor tried to start using the localhost address (127.0.0.1), set this property to *true*.

**com.collation.RestartWmiOnAutoDeploy**=*true*

This property is used by the WindowsComputerSystemSensor. Valid values are *true* or *false*. The default is *true*. If a Windows Management Instrumentation (WMI) error occurs during the deployment of the Configuration Discovery and Tracking WMI Provider, this property allows the sensor to restart WMI and retry the deployment of the WMI Provider.

**com.collation.RestartWmiOnAutoDeploy.1.2.3.4**=*true*

This property is used by the WindowsComputerSystemSensor. Valid values are *true* or *false*. The default is *true*. If a WMI error occurs during the deployment of the Configuration Discovery and Tracking WMI Provider, this property allows the sensor to restart WMI and retry the deployment of the WMI Provider.

In addition, this is a scoped property. For this scoped property, you can append a scope (either an IP address or the name of a scope set) to the end of the property name. The scope makes the property dependent on the hosts being discovered.

**com.collation.RestartWmiOnFailure**=*true*

This property is used by the WindowsComputerSystemSensor. Valid values are *true* or *false*. The default is *true*. If a WMI error occurs during discovery, this property allows the sensor to restart WMI and retry the failed discovery step. This property has no effect during the AutoDeploy step of a Windows discovery (that is, the deployment of the Configuration Discovery and Tracking WMI Provider). WMI restart during AutoDeploy is controlled by the **com.collation.RestartWmiOnAutoDeploy** property.

**com.collation.RestartWmiOnFailure.1.2.3.4**=*true*

This property is used by the WindowsComputerSystemSensor. Valid values are *true* or *false*. The default is *true*. If a WMI error occurs during discovery, this property allows the sensor to restart WMI and retry the failed discovery step. This property has no effect during the AutoDeploy step of a Windows discovery (that is, the deployment of the Configuration Discovery and Tracking WMI Provider). WMI restart during AutoDeploy is controlled by the **com.collation.RestartWmiOnAutoDeploy** property.

In addition, this is a scoped property. For this scoped property, you can append a scope (either an IP address or the name of a scope set) to the end of the property name. The scope makes the property dependent on the hosts being discovered.

**com.collation.SshWeirdReauthErrorList**=*Permission denied*

This property has been added to the collation.properties file to allow you to retry the user name and password pairs that have previously worked



during discovery runs. The property is needed because Windows randomly denies valid log in attempts. The property needs to have the *Permission denied* setting.

---

## Configuring for sensors and DLA data merging

The data merging logic in Fix Pack 003 implements a course-grained priority system for incoming data.

Data from different sources, including discovery systems, is assigned a numerical priority that determines whether the incoming data can overwrite existing data.

When data from two different sources describes the same object, the priority of the sources is compared. You can overwrite existing data only if the incoming data source has a lower priority number.

By default, the DLA loading process has the highest priority in the system. This means that DLA data can always overwrite data discovered by Configuration Discovery and Tracking sensors. In many cases, this is the best setting for the system.

In some cases, it is preferable that Configuration Discovery and Tracking sensors to overwrite DLA data. For example, when loading data from the z/OS DLA with WebSphere attribute information populated, the priority property would be set in this case so the WebSphere attributes populated by the WebSphere discovery sensor merges with the DLA data.

If this is the case, the DLA loading process priority can be lowered by setting the property `com.collation.bulkload.data.priority=10` in the `$COLLATION_HOME/etc/collation.properties` file. After setting this property, restart the Configuration Discovery and Tracking server.

From this point on, until the priority value is changed, DLA data has approximately equivalent priority as Configuration Discovery and Tracking discovered data, allowing either discovered data or DLA data to overwrite each other's values. Data coming from the APIs of Configuration Discovery and Tracking continue to have a priority of 0, regardless of the property setting in the properties file.

In cases where Configuration Discovery and Tracking discovered data has different details about an object than DLA data, it is possible for some details from the Configuration Discovery and Tracking to be lost. This is a result of the merging and consolidation logic that takes place in the product. The only current solution for this situation is to alter the loading priority of DLAs so as not to overwrite discovered data.

---

## Configuring Linux for System z systems

For Linux for System z environments, if you have trouble starting the Configuration Discovery and Tracking server, perform some configuration tasks to enable the start up process.

The following list provides information about errors that can be reported in log files during the start up process and ways to solve the problems. To see the errors, set the log level, `com.collation.log.level`, to `DEBUG`.

- Error: In the `tomcat.log` file:

rmiid: (WARNING) restart service throws:java.rmi.activation.ActivationException:  
timeout creating child process

Solution: In the `collation.properties` file, increase the default value of the `com.collation.jini.rmi.timeout = 30000` property to `300000`. Start the Configuration Discovery and Tracking server.

- Error: In the `ClientProxy.log` file:  
`jini.JiniServiceFactory - retry limit reached breaking`

Solution: In the `collation.properties` file, increase the default value of the `com.collation.jini.service.timeout = 10` property to `100`. Start the Configuration Discovery and Tracking server.

- Error: When starting the bulk load process, by calling the `loadidml.sh` file, either the "Segmentation fault" or "Option too large: -Xmx1024M" message is displayed.

Solution: In the `bulkload.properties` file, decrease the default value of the `com.ibm.cdb.bulk.allocpoolsize = 1024` property. The next allowable size is `768`. If you go any lower than `512`, the server does not run. Start the Configuration Discovery and Tracking server.

- Error: When running a Linux for System z system with the minimum memory requirement of 2 GB, the Configuration Discovery and Tracking server does not start when requesting a Java heap size of 1024 MB.

Solution: In the `collation.properties` file, change the default size of the **`com.collation.Proxy.jvmargs`** property from `-Xmx1024M` to `-Xmx768M`. Start the Configuration Discovery and Tracking server. If the **`com.collation.Proxy.jvmargs`** property is not present in the `collation.properties` file, the administrator can safely add it.

- Error: When you configure a system, the system cannot create another JVM.

Solution: Some Linux for System z servers cannot reserve large blocks of memory. In the `collation.properties` file, change the default size of the **`com.collation.Proxy.jvmargs`** property from `-Xmx1024M` to `-Xmx512M`. Start the Configuration Discovery and Tracking server. If the **`com.collation.Proxy.jvmargs`** property is not present in the `collation.properties` file, the administrator can safely add it.

---

## Configuring WebSphere Application Server for discovery when security is enabled

When security is enabled on WebSphere Application Server, there are two steps to complete to configure the WebSphere Application Server for discovery: access list configuration and certificate set up.

### Access list configuration

If security is disabled, user accounts are not needed. If security is enabled, you must configure the following items:

- WebSphere Administrator user ID and password
- Client-side SSL certificate, includes two files: trust and key stores, including their passphrases. The default passphrase is `WebAS`.

If the user has the *Administrator* role, Configuration Discovery and Tracking discovers all configuration data, including security configurations. WebSphere

documentation and support say that the *Monitor* role privilege works for everything, but security configuration. This information has not been validated extensively in the field.

If you have disabled security, that does not mean that you are not using SSL. You need to see if you are prompted for a password when you connect to the WebSphere Application Server Administrator Console. If you need only a user name to log in to the Administrator Console, security is disabled. If you need a user name and password to log in to the Administrator Console, security is enabled.

## Certificate set up

When you set up the access list, including the user name, password, and scope limitations, you can click **SSL Settings** to set up the certificates.

The certificates need to be on the machine running the console, which is not necessarily the Configuration Discovery and Tracking server. These certificates can be retrieved from the WebSphere Application Server.

Depending on the version of WebSphere Application Server installed, you can find the files `DummyClientTrustFile.jks` and `DummyClientKeyFile.jks` in the `<WebSphere Root Directory>/profiles/default/etc` directory. If the files are not in this directory, do a file search for the dummy client certificate files.

The default passphrase is *WebAS*.

---

## Saving Domain Manager reports

If you want to save Configuration Discovery and Tracking server and Enterprise Configuration Discovery and Tracking server Domain Manager reports in the PDF, CSV, or XML formats, update the **`com.collation.domain.pdfreport.enabled`** parameter.

To update the **`com.collation.domain.pdfreport.enabled`** parameter, complete the following steps:

1. In a text editor, open the `collation.properties` file (`/opt/IBM/cmdb/dist/etc/collation.properties`).
2. Change the **`com.collation.domain.pdfreport.enabled`** parameter from *false* to *true*.
3. Save and close the `collation.properties` file.
4. Restart Configuration Discovery and Tracking.

Bidirectional support is not provided for saving Domain Manager reports in the PDF, CSV, or XML formats. In addition, the instructions provided in this section have been tested with the English locale; the instructions may not work with non-English locales.

---

## Generating explicit relationships for IBM Tivoli Business Systems Manager integration

To generate explicit relationship information on discovered resources, run the `explicitrel.sh` script or call the `generateExplicitRelationships` API. Using either the script or calling the API can take a long time.

The `explicitrel.sh` script is located in the following directory:

- For Linux, Solaris, AIX, and Linux on System z operating systems:  
/opt/IBM/cmdm/dist/bin
- For Windows operating systems: \opt\IBM\cmdm\dist\bin

The `explicitrel.sh` script takes one optional parameter. There are three options for specifying the parameter:

- If the parameter is not supplied, the program runs in delta mode. (In delta mode, explicit relationships are created only from the data that was added since the last time the program ran.)
- If the parameter supplied is `0`, the program runs in full refresh mode. (In full refresh mode, each time the program runs, it deletes all explicit relationships and creates new instances of the explicit relationships in the database.)
- If the parameter supplied is `1`, the program runs in delta mode. This mode is the same as providing no parameter.

When the API is called, a delta operation is performed, as if the parameter supplied is `1`.

---

## Upgrading the IBM CMDB Enterprise JavaBean Application Programming Interface

If you are upgrading the CMDB Enterprise JavaBean (EJB) Application Programming Interface (API) for Fix Pack 003, make sure the following property is added to the `<CMDB_WebSphere>/etc/collation.properties` file:

```
com.ibm.client.type=ejbclient
```

`<CMDB_WebSphere>` is the directory where the `CMDB_WebSphere.zip` file is installed.

See the *Configuration Discovery and Tracking SDK Developer's Guide* for information on installing and configuring the CMDB EJB API.

---

## Chapter 5. Limitations, known problems and workarounds

The following sections contain information about the limitations and problems that apply to this fix pack.

---

### Limitations

This section describes limitations in this fix pack. Where applicable and known, workarounds are identified.

#### Discovering SAP for Windows operating systems is not supported

**Problem:** Currently, the SAP sensor is not supported on the Configuration Discovery and Tracking server running on the Windows operating systems.

**Workaround:** No workaround is identified. Contact support for the estimated time of availability.

#### Support for application descriptors by the Microsoft System Management Server sensor

**Limitation:** The Microsoft System Management Server (SMS) sensor does not support application descriptors in Fix Pack 003.

**Workaround:** To check on the status of SMS sensor support for application descriptors, contact support.

#### Support for the self monitoring tool

**Limitation:** The self monitoring tool is not supported by Fix Pack 004.

**Workaround:** To check on the status of support for the self monitoring tool, contact support.

#### Text for the Name in the Software Components table is unexpected

**Limitation:** The text that is displayed in the Name column for the Software Components table is unexpected.

**Workaround:** Some software components use a GUID for the registry key. By default, the value of the registry key is displayed in the Name column in the Software Components table. In the case where the registry key is a GUID, this fix attempts to replace the GUID with something more user friendly. The algorithm to compute the Name is as follows:

- If the key is not a GUID, the key is used as is as the Name. Note that the key value is determined to be a GUID if it follows the following format:  
{xxxxxxxx-xxxx-xxxx-xxxx-xxxxxxxxxxxx}
- If the key is a GUID, the Name is set to one of the following:

- First choice, the registry display name, if not null.
- Second choice, the registry publisher name (concatenated with the GUID), if not null.
- Third choice, registry key (the GUID is used).

This fix addresses the majority of the cases where a GUID is used as the software key name. In cases where the GUID is not in the proper format, no conversion is done.

---

## Known problems and workarounds

The following sections identify problems that might occur during the use of this fix pack. Where available, workaround solutions are provided for the problems.

### Anchors do not start

**Problem:** The anchor does not start if the sshd daemons are not configured to allow port forwarding. Anchors rely on local port forwarding to be enabled in the remote anchor server.

**Workaround:** The configuration file for the sshd daemon should be located in either the `/etc/ssh` or `/usr/local/etc/ssh` directory. Open the `sshd_config` file and ensure the **AllowTcpForwarding** option is set to *yes*. The default is *yes*, but it is possible that when an IBM server is installed, the option is changed to *no*.

If you use SSH2, SSH2 adds four **TcpForwarding** options. These options restrict forwarding for groups and users. These options must be enabled or absent.

### Cannot install the Configuration Discovery and Tracking server to a non-ASCII directory

**Problem:** The Configuration Discovery and Tracking server installation path string must be only ASCII characters. If the path contains non-ASCII characters, the Configuration Discovery and Tracking server will not start, even if the installation was successful.

**Workaround:** Use only ASCII characters in your Configuration Discovery and Tracking server installation path.

### Change history does not display current data

**Problem:** If you add, remove, and then re-add a resource to a business service, and use the same functional group, the change history does not immediately display the current data.

**Workaround:** After you re-add the resource to a business service, using the same functional group, perform another operation on the business service. For example, you can add or remove an additional resource. When this additional task is complete, the change history view displays the correct data.

## Configuration Discovery and Tracking cannot be installed to path containing a space

**Problem:** On the supported Windows operating systems, you cannot install Configuration Discovery and Tracking to a path containing a space. There is a problem with GigaSpaces, the component which starts up all of our services. The GigaSpaces component uses third party code that has a problem handling spaces in the path name.

**Workaround:** Install Configuration Discovery and Tracking in a path with a name that does not contain spaces.

## ECMDB synchronization performance

**Problem:** When using ECMDB with a DB2 database, the synchronization performance might take longer after installing Fix Pack 004.

**Workaround:** Contact support for additional information.

## Extended attributes are not displayed in the Details panel of an object

**Problem:** Extended attributes are not displayed in the Details window of an object if the values for the attributes are not set.

**Workaround:** Set values for the extended attributes and they will be displayed in the Details window.

## Fix pack installation process hangs

**Problem:** The fix pack installation process hangs when a non-root user does not have write permissions to the directory where the user wants to install the product.

**Workaround:** Complete the following steps:

1. Stop the installation process.
2. Obtain write permissions for the directory where you want to install the product, or select a directory where you have write access.
3. Restart the installation process.

## IDD StackScan sensor is not supported when the Configuration Discovery and Tracking server is running on an AIX operating system

**Problem:** The IDD StackScan sensor is not supported when the Configuration Discovery and Tracking server is running on an AIX operating system.

**Workaround:** There is no reliable Nmap version available on AIX. Use an anchor on an alternative platform to run the StackScan sensor

## IP Range information missing for the Details window of the SMS Site

**Problem:** When you log in to the Product Console and select **Show Details** for the SMS Site, on the Boundaries tab, the IP Range is not displayed.

**Workaround:** No workaround is identified.

## Multiple copies of same computer system are displayed

**Problem:** On the Product Console, multiple copies of the same computer system are displayed when both of the following actions occur:

- You run the Tivoli Monitoring 6.1 Fix Pack 003 and later DLA and use the bulk load program to load the IDML book to Configuration Discovery and Tracking.
- You perform a sensor discovery of systems where Tivoli Monitoring agents or servers reside.

If you query the computer systems using the API, multiple copies of the same computer system are also displayed.

**Workaround:** Use the reconciliation tool (the `ldfxidml.sh` script) instead of the bulk load program (the `loadidml.sh` script) to load Discovery Library books into the Configuration Management Database. The readme files for the reconciliation tool (`$COLLATION_HOME/etc/ldfxidml.readme`) and bulk load program (`$COLLATION_HOME/etc/loadidml.readme`) provide more information.

## Network configuration on Linux for System z systems does not create packets that Nmap can read

Network configuration on Linux for System z systems does not create packets that Nmap can read.

**Problem:** The StackScan sensor uses Nmap to gather data about the targets for credential-less discovery. If Nmap is not working properly, the StackScan sensor will not leverage Nmap and only use the hostscanner capability. It can run without errors, but the Linux for System z system running the StackScan sensor returns the following message:

```
stored - 0 ComputerSystems in the database
```

If you type the `nmap <hostname>` command for any system other than the local host, the following message is displayed:

Note: Host seems down. If it is really up, but blocking our ping probes, try `-P0...`

**Workaround for SUSE Linux for System z:** The network needs to run with the following option:

```
QETH_OPTIONS='fake_11=1'
```

This option should be added to the configuration file for the NIC. Depending on the NIC that is used, the exact name of the file changes.

Contact your system administrator for the exact name of the configuration file used by your system.

The configuration file should be in the `/etc/sysconfig/hardware` directory. The file name could be `hwcfg-qeth-bus-ccw-0.0.5000`.



**Workaround for RedHat Linux for System z:** The network needs to run with the following option:

```
OPTIONS='fake_11=1'
```

This option should be added to the configuration file for the NIC. Depending on the NIC that is used, the exact name of the file changes.

Contact your system administrator for the exact name of the configuration file used by your system.

The configuration file should be in the `/etc/sysconfig/network-scripts` directory. The file name could be `ifcfg-eth0`.

Verify that the alias in `/etc/modprobe.conf` contains the following:

```
alias eth0 qeth
```

## On Windows operating systems, changing `com.collation.websphere.root.dir` for WebSphere discovery might cause problems

**Problem:** When the Configuration Discovery and Tracking server is running on a Windows system and the `com.collation.websphere.root.dir` property in the `collation.properties` file is changed to point to the WebSphere JAR files on the system, the path should escape out the backslashes.

For example, if the path to the WebSphere JAR files is `C:\IBM\WebSphere\AppServer\`, then the path should look like this:

```
com.collation.websphere.root.dir=C:\\IBM\\WebSphere\\AppServer\\
```

If there is a space in the path, for example, `C:\Program Files\IBM\WebSphere\AppServer\`, an error message is displayed.

**Workaround:** Copy `<WebSphere Root Directory>/lib`, `<WebSphere Root Directory>/java/jre/lib/ext`, and `<WebSphere Root Directory>/properties` to a directory without a space in the path.

## Process/thread limit on Linux operating systems

**Problem:** On a Linux operating system, each thread is considered a process, so you might have a problem with the process/thread (nproc) limit.

**Workaround:** When Configuration Discovery and Tracking is installed on a Linux operating system, there is an additional entry that should be added to the `/etc/security/limits.conf` file. To solve this problem, you have to add two lines to the `/etc/security/limits.conf` file at installation time. Complete the following steps to fix this problem:

In the `/etc/security/limits.conf` file, add these two lines to the file:

```
coll hard nproc 16000  
coll soft nproc 16000
```

Replace `coll` with the Configuration Discovery and Tracking service account user.

## Query of either the Hardware Management Console (HMC), IVM, or Virtual I/O Server (VIOS) objects in the Domain Manager does not work

**Problem:** When you attempt to query either the Hardware Management Console (HMC), Integrated Virtualization Manager (IVM), or Virtual I/O Server (VIOS) objects in the Domain Manager, the query fails.

**Workaround:** When querying for HMC, VIOS or IVM from the Domain Manager, you have to query for ComputerSystem Objects providing the proper object type. The following query is an example of how to use the Domain Manager to query for HMC Systems whose displayName contains 'ibm':

```
localhost.ComputerSystem.type equals 'HMC' && localhost.ComputerSystem.displayName contains 'ibm'
```

## Session sensor might not start on some targets

**Problem:** When running a discovery with a profile that includes enabling the Ping sensor and the StackScan sensor, the Session sensor might not start on some targets.

**Workaround:** Run the discovery using a discovery profile that contains either the Ping sensor or the StackScan sensor enabled. Do not enable both the Ping and StackScan sensors. If you do not have Nmap in your environment, enable the Ping sensor.

## A System p topograph icon is not created when you discover a System p system

**Problem:** If you discover a System p™ system and then look at the topology graph, the System p icon is not displayed. After you discover a non-System p system, and then view the topology graph, the System p system that you discovered earlier displays.

**Workaround:** Discover a non-System p system in order to get a System p system icon to display in the topology graph.

## Timeout while discovering WebSphere MQ on Windows operating systems

**Problem:** A timeout might occur during the discovery of WebSphere MQ V5.3 or V6 on the Windows operating systems because Windows WMI (Windows Management Instrumentation) runs very slowly.

**Workaround:** You can increase the timeout interval by adding the following line to the collation.properties file in the Agent Settings section:

```
com.collation.discover.agent.MQServerAgent.timeout=X
```

where X is the timeout value in milliseconds. The default value is 600000.

## Unable to start discovery using discovery profiles

**Problem:** The ProfileManager cannot get discovery profiles from the database and throws the following exception:

```
java.lang.Exception [PLATFORM.JINI.E.0] The application cannot find the Jini Service.
```

**Workaround:** Complete the following steps:

1. Open the collation.properties file.
2. Find the com.collation.jini.service.retries property. Set the value to 200.
3. Restart the server.

## Uninstallation process on Windows completes without error, but database is not dropped

**Problem:** During the installation process, the following message is displayed:  
The database already exists. Do you want to continue?

**Workaround:** There are two options:

1. Open a DB2 Windows command prompt and manually drop the database using the following command:

```
db2 drop database <db_name>
```

Continue with the install.

2. Continue with the installation process and complete the following steps after the installation process is complete:
  - a. Stop the Configuration Discovery and Tracking server.
  - b. Open a DB2 Windows command prompt and run the following command:  
dist/bin/support/bin/make\_db2\_db <db\_name>  
The command drops the existing database and creates a new database.
  - c. Restart the Configuration Discovery and Tracking server.

## Using IDD StackScan sensor with SELinux does not work

**Problem:** On systems that have Security-enhanced Linux (SELinux), the IDD StackScan sensor runs, but the operating system of the each discovered target is not stored.

This problem occurs if the security level on the Configuration Discovery and Tracking server is high.

**Workaround:** To determine whether your system has SELinux, and at which level it is set, complete the following steps:

1. On a Linux command line on the system running the Configuration Discovery and Tracking server, log on as *root*.
2. Type *getenforce* and press Enter.

If the *getenforce* command returns a value of *permissive* or *disabled*, the StackScan sensor will run properly.

If the *getenforce* command returns a value of *enforcing*, you must change the security level in one of the following ways:

- Temporarily change the security level to *permissive* in order to decrease the security level.
- Permanently change the security level to one of the following values:
  - *Disable*, to disable SELinux.
  - *Permissive*, to decrease the security level.

To temporarily lower the security level, complete the following steps:

1. On a Linux command line, type `setenforce 0` and press Enter to set SELinux to *permissive*.
2. Run another discovery using the StackScan sensor.
3. After the discovery has completed, you can enable SELinux by typing `setenforce 1` and pressing Enter to set SELinux to *enforcing*.

To permanently change the security level to *disable* or *permissive*, edit the `/etc/sysconfig/selinux` file and reboot the machine.

## Using the JBoss sensor after installing Fix Pack 004

**Problem:** The JBoss sensor does not work after installing Fix Pack 004.

**Workaround:** If you want to use the JBoss sensor after installing Fix Pack 004, complete the following steps:

1. Delete all existing JBoss servers from the user interface.
2. Remove the `JBossSensor.xml` and `JBoss3xSensor.xml` files from the following directory:
  - For Linux, Solaris, AIX, and Linux on System z operating systems:  
`$COLLATION_HOME/etc/discover-sensors`
  - For Windows operating systems: `%COLLATION_HOME%\etc\discover-sensors`

## WebSphere discovery does not work on Windows operating systems

**Problem:** When the Configuration Discovery and Tracking feature runs on a Windows machine, discovery fails for WebSphere discovery when the `com.collation.websphere.performance.setting` property is set to *true*:

**Workaround:** By default, this property is set to *false*. If you do not change the default value for the `com.collation.websphere.performance.setting` property, the problem does not occur.

## Windows randomly denies valid log in attempts

**Problem:** Windows randomly denies valid log in attempts.

**Workaround:** A property has been added to the `collation.properties` file to retry the user name and password pairs that have previously worked during discovery runs. The property is `com.collation.SshWeirdReauthErrorList`. The property needs to have the *Permission denied* setting. For example:

```
com.collation.SshWeirdReauthErrorList=Permission denied
```

---

## Chapter 6. Functions provided with Fix Pack 004 for the Configuration Discovery and Tracking feature

This section identifies and explains the functions that are available for the Configuration Discovery and Tracking feature in Fix Pack 004.

---

### Sensors provided with Fix Pack 004 for the Configuration Discovery and Tracking feature

The following table identifies the sensors that are delivered with the Configuration Discovery and Tracking feature in Fix Pack 004.

The sensors are delivered after IBM Tivoli Application Dependency Discovery Manager (TADDMM), Version 7 Release 1 and therefore are not included in the 7.1 release.

Table 5. Sensors provided by Fix Pack 004 for the Configuration Discovery and Tracking feature

Sensor	Gather configuration information from
WeblogicServerVersion	Gathers the version of the BEA WebLogic Server.
WeblogicSensor2	Gathers information from WebLogic Server 9.x and 10.x systems.

#### Prerequisite WebLogic sensor files

The WeblogicSensor sensor requires additional JAR files. (These files are part of the BEA WebLogic Server installation.)

After upgrading to Fix Pack 004, create the following directories:

- For Linux, Solaris, AIX, and Linux on System z operating systems:
  - `$COLLATION_HOME/dist/lib/weblogic/8.0`
  - `$COLLATION_HOME/dist/lib/weblogic/9.0`
  - `$COLLATION_HOME/dist/lib/weblogic/10.0`

The `$COLLATION_HOME/dist/lib/weblogic/$VERSION_DIR` directory should match the `com.collation.agent.weblogic.classpaths` in the `collation.properties` file. There is no limitation for the number of `$VERSION_DIR` directories created in the `$COLLATION_HOME/dist/lib/weblogic` directory, but each directory must be configured in the `collation.properties` file.

- For Windows operating systems:
  - `%COLLATION_HOME%\dist\lib\weblogic\8.0`
  - `%COLLATION_HOME%\dist\lib\weblogic\9.0`
  - `%COLLATION_HOME%\dist\lib\weblogic\10.0`

The `%COLLATION_HOME%\dist\lib\weblogic\%VERSION_DIR%` directory should match the `com.collation.agent.weblogic.classpaths` in the `collation.properties` file. There is no limitation for the number of `%VERSION_DIR%` directories created in the `%COLLATION_HOME%\dist\lib\weblogic` directory, but each directory must be configured in the `collation.properties` file.

Before starting a discovery, use one of the following procedures to copy the following JAR files:

- For Linux, Solaris, AIX, and Linux on System z operating systems, complete the following steps:
  - copy `$WEBLOGIC_HOME/server/lib/weblogic.jar` to `$COLLATION_HOME/dist/lib/weblogic/$VERSION_DIR/`
  - copy `$WEBLOGIC_HOME/server/lib/webservices.jar` to `$COLLATION_HOME/dist/lib/weblogic/$VERSION_DIR/`
  - copy `$WEBLOGIC_HOME/server/lib/wljsxclient.jar` to `$COLLATION_HOME/dist/lib/weblogic/$VERSION_DIR/`
- For Windows operating systems, complete the following steps:
  - copy `%WEBLOGIC_HOME%\server\lib\weblogic.jar` to `%COLLATION_HOME%\dist\lib\weblogic\%VERSION_DIR%`
  - copy `%WEBLOGIC_HOME%\server\lib\webservices.jar` to `%COLLATION_HOME%\dist\lib\weblogic\%VERSION_DIR%`
  - copy `%WEBLOGIC_HOME%\server\lib\wljsxclient.jar` to `%COLLATION_HOME%\dist\lib\weblogic\%VERSION_DIR%`

## Configuring for the WebLogic sensors

In the `collation.properties` file, you can edit the settings for the following properties:

**com.collation.agent.weblogic.classpaths**= *directory1,jdk1;directory2,jdk2;...;directory(N-1),jdk(N-1);*

This property configures the `WeblogicServerVersionSensor` sensor.

The *directoryN* variable is used for storing WebLogic JAR files. The WebLogic JAR files must be located in the `dist/lib/weblogic` directory. The *jdkN* version of the Java JDK that you use can be 1.5.0 or 1.4.2.

You can configure as many pairs of *directoryN,jdkN* as needed. For example,

```
com.collation.agent.weblogic.classpaths=10.0,1.5.0;9.0,1.5.0;8.0,1.4.2
```

This example configures three sets of configuration for `WeblogicServerVersionSensor`. The first set uses JAR files from the `dist/lib/weblogic/10.0` directory with JDK 1.5.0. The second set uses JAR files from the `dist/lib/weblogic/9.0` directory with JDK 1.5.0. The third set uses JAR files from the `dist/lib/weblogic/10.0` directory with JDK 1.4.2.

**com.collation.agent.weblogic.defaultconfiguration**=*10.0,1.5.0,10*

If the `WeblogicServerVersionSensor` sensor does not recognize the BEA WebLogic Server that is running, use this property to force configuration. In this example, the `WeblogicServerVersionSensor` sensor uses JAR files from the `dist/lib/weblogic/10.0` directory with JDK 1.5.0 and assumes that the WebLogic Server 10.x is running.

**com.collation.agent.weblogic.domainsconfiguration**=*1.2.3.4:7001-1.2.3.8:7002,1.2.3.5:7001;1.2.3.6:7001-1.2.3.9:7002,1.2.3.7:7003;*

Use this property when the WebLogic server is using multiple interfaces on the Domain Admin Server. Syntax:

```
domain_ipA:domain_portA-listen_ip1:listen_port1,listen_ip2:listen_port2;
domain_ipB:domain_portB-...
domain_ipA:domain_portA will be used instead of listen_ip1:listen_port1
```

`com.collation.platform.os.ignoreLoopbackProcesses=true`

If the `WeblogicServerVersionSensor` sensor tried to start using the localhost address (127.0.0.1), set this property to `true`.

## Discovery profile configuration

To create a WebLogic 8.x discovery profile, enable the following sensors:

- `WeblogicServerVersionSensor`
- `WeblogicSensor`
- Anchor sensor
- `GenericServer` sensor
- `SessionSensor`
- `PingSensor`
- `PortSensor`

To create a WebLogic 9.x or 10.x discovery profile, enable the following sensors:

- `WeblogicServerVersionSensor`
- `WeblogicSensor2`
- Anchor sensor
- `GenericServer` sensor
- `SessionSensor`
- `PingSensor`
- `PortSensor`

To create a WebLogic 8.x, 9.x or 10.x discovery profile, enable the following sensors:

- `WeblogicServerVersionSensor`
- `WeblogicSensor`
- `WeblogicSensor2`
- Anchor sensor
- `GenericServer` sensor
- `SessionSensor`
- `PingSensor`
- `PortSensor`

## Tips for using the WebLogic sensors

WebLogic JAR files taken from WL.8.x can be used only to discover WebLogic 8.x.

WebLogic JAR files taken from WL.9.x can be used to discover WebLogic 9.x and 10.x.

After upgrading from Fix Pack 003 to Fix Pack 004, WebLogic sensors are disabled in the Level 3 discovery profile. To enable the WebLogic sensors, you have to create a new discovery file that enables the WebLogic sensors.

---

## Enterprise environment changes

In Fix Pack 004, there are changes that apply only to the Enterprise Server (ECMDB):

## Updates to synchronization functions

Shallow synchronization has been deprecated and deep synchronization is now the default setting. Deep synchronization is the ability to synchronize all the attributes for the configuration item from the domain, as opposed to just shallow data. With deep synchronization, you need to know the following information:

- The Enterprise Configuration Discovery and Tracking database has all the data for the configuration items, not just shallow configuration items.
- At runtime, the Enterprise Server does not go to the domain to retrieve data. All data for all domains is locally present in the ECMDB.
- Changing from a shallow synchronization to a deep synchronization requires a full synchronization, for the first time. When doing a full synchronization, note that all data, including relationships, for a domain is deleted before it is re-synchronized.

Deep synchronization is configured by creating or changing a `dist/etc/domainquery` file to start with `SYNC_ALL_ATTRS` and restarting the server. The Fix Pack 004 installation program makes this change for you. Switching from deep synchronization to shallow synchronization is not supported. Some user interface functions do not return proper data unless a deep synchronization is enabled.

## Configuring the commit and batch sizes for enterprise synchronization

To configure the commit and batch size for JDBC writes to the ECMDB, you can change the following properties in the `sync.conf` file in the `dist/etc/sync` directory. The file contains the following properties:

### **defaultBatchSize=100**

The **defaultBatchSize** property is the threshold that causes the executed write PreparedStatements to be sent to the database. This threshold is useful when the database is remote from the ECMDB.

Standard JDBC makes a round trip to the database to run a prepared statement whenever the statement's `executeUpdate` method runs. When using Batch Updates, this feature associates with each prepared statement object an integer called its batch size. JDBC accumulates that many execution requests for the statement before passing the requests to the database for execution. This is beneficial in reducing the number of network send and receive operations, and is particularly relevant when the database is remote from the application server. The default size of `100` should give you good performance for sync operations, but you can experiment with larger sizes to determine if it will give you performance improvements in your environment.

### **defaultCommitSize=1000**

The **defaultCommitSize** property is the threshold that causes the changes that have been made over a JDBC Connection to be written to the database and any locks held by the Connection to be released.

Every update to the database, for example, `INSERT`, `UPDATE`, or `DELETE`, causes an entry to be written to the database log files. In order to optimize database logging for large batch operations, and to avoid partial log writes, it is best to group multiple updates and commit them together. The default size of `1000` should give you good performance for sync operations, but you can experiment with larger sizes to determine if it will give you



performance improvements in your environment. CommitSize should always be set as a multiple of BatchSize.

## Default port for Enterprise Server

Prior to this fix pack, a random port has been used for communication between the enterprise and domain.

The Enterprise Server ports are defaulted in the following directory:

- For Linux, Solaris, AIX, and Linux on System z operating systems, dist/external/gigaspace-4.1/policy/reggie.config
- For Windows operating systems, dist\external\gigaspace-4.1\policy\reggie.config

If a different port is needed because of a firewall, the port can be changed. For the change to be effective, you must restart the Enterprise Server.

Blocking or unblocking the ports through the firewall while Configuration Discovery and Tracking is operational requires a Configuration Discovery and Tracking restart.

If you block and then unblock communications between an active domain and ECMDB, you have to restart Configuration Discovery and Tracking. Without a restart, the software does not connect.

The following example is a sample reggie.config file using 19435 for the default port:

```
import net.jini.jeri.tcp.TcpServerEndpoint;
import net.jini.jeri.BasicJeriExporter;
import net.jini.jeri.BasicILFactory;

com.sun.jini.reggie {
  /* to change the Lookup Groups, see <container-name>-server.xml file */
  initialMemberGroups = new String[] { "$INITIAL_LOOKUP_GROUP" };
  persistenceDirectory = "${REGGIE_LOG_FILE}";

  serverExporter = new BasicJeriExporter(
    TcpServerEndpoint.getInstance(19435),
    net BasicILFactory()
  );
}
```

In the sample provided, the 19435 value is the fixed port that needs to be added to the firewall rules between enterprise and domain.

## The ecmdb script has been removed

The ecmdb.sh file has been removed. The file is not required for the software to run.

---

## Custom query changes

This feature was developed after IBM Tivoli Application Dependency Discovery Manager (TADDM), Version 7 Release 1 and therefore is not included in the 7.1 release. This feature works only in the Product Console, not the Domain Manager.

In the Product Console, the number of results returned by a custom query was restricted to 100 rows. This limitation is removed in Fix Pack 004. In addition, you can export the results of a custom query in various file formats (for example, Adobe® Portable Document Format, Comma Separated Values, or XML).

After you perform a query, click **Save** on the toolbar. The current page of results is saved. If there is more than one page of results, the full report can be exported. To export the results, complete the following steps:

1. In the toolbar, select the **Save Full Report** checkbox.
2. Click **Save**.

---

## Lite discovery mode for VERITAS Cluster Server sensor

This feature was developed after IBM Tivoli Application Dependency Discovery Manager (TADDM), Version 7 Release 1 and therefore is not included in the 7.1 release.

The VERITAS Cluster Server sensor generates a lot of configuration items, most of them are VERITAS resources, and stores them in the database. You can run the VERITAS Cluster Server sensor in lite mode and not collect all of this configuration item information.

By default, the VERITAS Cluster Server sensor runs in lite mode (1). You can change this setting by editing the property in the collation.properties file: **com.collation.vcs.discoverymode**. If you change 1 to 0, the VERITAS Cluster Server sensor collects and stores all configuration item information.

---

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