EMC² smarts

Application Connectivity Monitor

2.0

RELEASE NOTES

P/N 300-002-830
REV A02

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Introduction

EMC Smarts Application Connectivity Monitor 2.0, in conjunction with EMC Smarts Service Assurance Manager and EMC Smarts IP Availability Manager, automatically discovers TCP-based applications on the network, and monitors application connectivity to pinpoint the root cause of application problems. Application Connectivity Monitor 2.0 is the successor to Application Services Manager and Application Connectivity Monitor version 1.0.

Platform Support

Application Connectivity Monitor version 2.0 supports the following operating systems:

- Solaris 9 on SPARC
- Windows 2000 Server and Advanced Server, SP4 or later

Product and Version Compatibility

Application Connectivity Monitor 2.0 requires the following EMC Smarts products:

- Service Assurance Management Suite: Global Manager, Adapter Platform, and Global Console
- IP Management Suite: Availability Manager

Application Connectivity Monitor is compatible with the versions of these products in Table 1.

Table 1: Compatibility with Other EMC Smarts Products

COMPATIBLE VERSIONS		
APPLICATION CONNECTIVITY MONITOR	SERVICE ASSURANCE MANAGEMENT SUITE	IP MANAGEMENT SUITE
2.0 with the latest Rolling Patch	6.2, SP2 or later SmartPack, with latest Rolling Patch	6.2, SP2 or later

To obtain the latest Rolling Patch for EMC Smarts products, please contact Technical Support.

Enhancements

Application Connectivity Monitor 2.0 offers improved problem analysis, a more flexible discovery and monitoring mechanism, and improved representation of the managed topology.

- Application Signature Configuration Interface — The Application Signature Configuration Interface enables administrators and integrators to access the Application Signature Configuration Interface through which they can select and enable predefined application signatures, or create and configure application signatures. Once selected or created, and configured and enabled, Application Connectivity Monitor uses the signatures to discover and monitor managed applications. Application Connectivity Monitor includes a number of predefined application signatures for discovering and monitoring applications that operate on standard TCP ports.

Enhancements to Other EMC Smarts Products

The following enhancements are applicable to all products:

- Advanced Security – The Global Console supports encryption. The Global Console now supports Level 0 and Level 1 connections. For Level 0 connections, the communication is clear text: the communication is not encrypted. For Level 1 connections, the communication is cipher text: the communication is encrypted using the Diffie-Helman Advanced Encryption Standard. For more information about Level 0 and Level 1 connections, see the *EMC Smarts System Administration Guide*.

- Upgraded License Support – EMC Smarts products based on the 6.3 or later foundation now use the 10.1 FLEXnet License Server. If users have FLEXlm version 9.2, their 9.2 licenses will work with the 10.1 FLEXnet License Server. See the *FLEXnet Licensing End User Guide* for information about FLEXnet version 10.1.

Technical Support

For questions about technical support, call your local sales office or service provider. For service, call one of the following numbers:

United States: 800.782.4362 (SVC.4EMC)

Canada: 800.543.4782 (543.4SVC)

Worldwide: 508.497.7901

EMC Powerlink

EMC Powerlink is the EMC Corporation's secure extranet for customers and partners. Powerlink is an essential tool for obtaining web-based support from the EMC Corporation. Powerlink can be used to submit service or information requests (tickets) and monitor their progress, to review the knowledgebase for known problems and solutions, and to download patches and SmartPacks.

From training on EMC products and technologies, to online support, product announcements, software registration, technical white papers, interoperability information, and a range of configuration tools, Powerlink offers resources unavailable elsewhere.

For quickest access when you do not already have a Powerlink account, ask your EMC representative for the access code for your company and register at the Powerlink site. Visit the EMC Powerlink website at:

http://powerlink.emc.com

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Release Notes for All Products

This chapter describes issues and resolutions pertinent to all EMC Smarts products.

Correction for Supported Operating Systems

Some EMC Smarts documentation may erroneously mention AIX, HP-UX, Solaris 8, Red Hat Linux, Windows 2003 and Windows XP as supported operating systems. This information is incorrect. These operating systems are not supported for this release. Supported operating systems are Solaris 9 and Windows 2000.

Installation Issues

The following issues relate to the installation process.

Broker Might Be Inadvertently Uninstalled

PR 10397

Issue:

For deployments with multiple suites on the same host, the Broker might be automatically uninstalled during the uninstallation of a suite that did not originally install the Broker.

For example, suppose that the Service Assurance Management Suite and the IP Management Suite are installed on the same machine and that the IP Management Suite is running the Broker. After upgrading both suites, the uninstallation code becomes misconfigured and, as a result, both suites assume ownership of the uninstallation of the Broker. If the user uninstalls the suite that did not originally install the Broker, the uninstaller program mistakenly uninstalls the Broker.

Resolution:

Manually re-install the Broker to services on Windows or to the *sm_serviced* database on UNIX. To do so, use the *sm_service install* command as described in the *EMC Smarts System Administration Guide*.

Solaris

The following issue is specific to running EMC Smarts software on the Solaris platform.

sm_logerror Process

Issue:

Previous product versions created a process to run *pstack* each time a stack trace was requested—usually when a process was about to crash. In certain error states, it was sometimes impossible to create a process to print a stack trace; worse, attempting to do so would sometimes cause a deadlock and a hung server.

Resolution:

Starting with version 5.0, every running EMC Smarts program is accompanied by a child process running an EMC Smarts program named *sm_logerror*. This process does nothing except when asked to print a stack trace, at which time it prints the stack trace of its parent process; it exits automatically when its parent exits. Using the *sm_logerror* process avoids the stack trace printing problem for products running on Solaris operating system.

Windows

The following issues are specific to running EMC Smarts software on the Windows platforms.

Recovery Options Prohibited for Failover

Issue/Limit:

For the Windows 2000 platform (Server or Advanced Server), users should not set recovery options for any EMC Smarts services. Recovery options are set in the Recovery Tab under *Administrative Tools > Services*. The options, First Failure, Second Failure, and Subsequent Failure, must not be changed. EMC Smarts services must use the default setting, *Take No Action*, for all these options.

Running Multiple Brokers or Domain Managers

Issue:

On the Windows 2000 platform (Server or Advanced Server), starting several Brokers or Domain Managers that listen on the same port is possible due to an incompatibility between the UNIX and 2000 implementations of the Internet Protocol stacks. Running more than one copy of the Broker or the Domain Manager may cause unpredictable results.

Resolution:

Terminate all Broker and Domain Manager processes that are listening on the same port and start only one process listening on that port.

Directory Naming Convention

Issue:

On the Windows 2000 platform (Server or Advanced Server), EMC Smarts products do not install properly or EMC Smarts services do not start up properly.

Resolution:

The directory names used in **BASEDIR** cannot contain spaces (for example, *Program Files*). Do not install the software in directories that have names containing spaces.

Windows Diagnostic Tool Recommendation

Issue/Limitation:

If you are running EMC Smarts products on the Windows 2000 platform (Server or Advanced Server), EMC Smarts recommends that you use the Dr. Watson diagnostic tool as your debugger. Dr. Watson gathers information about your computer when a problem occurs with a program, and is typically the default tool on computers running Windows operating systems. If Dr. Watson is not currently set as your computer's diagnostic tool, you can set it with the command:

```
c:\>drwtsn32 -i
```

If you are using a different diagnostic tool, Technical Support might not be able to acquire as much diagnostic information when problems occur. For more information about Dr. Watson, refer to your Microsoft documentation.

EMC Smarts Client Program Issues

The following issues are applicable if you are using EMC Smarts client programs from the terminal. For example, these issues apply to the execution of the *dmctl* program from an xterm Window.

Unexpected Exit by Client Disables Terminal Echo (UNIX)

PR 6328

Issue:

When the *clientConnect.conf* file is configured to prompt the user for a password, the terminal echo is disabled so that the typed password is not displayed. If the client program exits during the password prompt, the terminal's echo state remains disabled.

Resolution:

To restore the terminal's echo state, type the following command:

```
% stty echo icanon
```

Because the terminal echo is disabled, you will not be able to see the command as you type it.

Unbalanced Quotes in dmctl Command Causes dmctl To Hang
PR 15249

Issue:

Entering a *dmctl* command containing an unbalanced number of double quotation marks causes the *dmctl* program to hang. The program hangs because it interprets the newline character as ending a quoted string and then continues to wait for a newline character that never comes.

For a similar reason, entering a *dmctl* command having an unbalanced (odd) number of single quotation marks causes the *dmctl* program to hang.

Resolution:

EMC Smarts intents to modify its quotedString and singleQuotedString definitions in a future release to resolve the *dmctl* hanging problem. Until then, ensure that a *dmctl* command contains a balanced number of double or single quotation marks before entering the command. If the *dmctl* program hangs due to an unbalanced number of quotation marks, type an additional newline to complete the *dmctl* command.

The sm_plist Utility

The following pertains to administering services.

Detecting EMC Smarts Programs

The sm_plist utility identifies all EMC Smarts programs that are running for any product suite on your machine.

You can use the sm_plist utility whenever you need to identify EMC Smarts programs that are running (for example, before an installation, an upgrade, an uninstallation, or applying a SmartPack).

To use the utility, issue *sm_plist.sh* for UNIX and *sm_plist.vbs* for Windows from the **BASEDIR**/*smarts/script* directory. The utility displays active programs in a window.

In the following command, **BASEDIR2** represents the location of any product.

UNIX

```
# BASEDIR/smarts/script/sm_plist.sh BASEDIR2
```

Windows

```
cscript BASEDIR\smarts\script\sm_plist.vbs BASEDIR2
```

For example on UNIX, to identify programs running for a SAM Suite, issue:

```
# /opt/InCharge6/IP/smarts/script/sm_plist.sh /opt/InCharge6/SAM
```

For example on Windows, to identify programs running for a SAM Suite, issue:

```
▼ cscript C:\InCharge6\IP\smarts\script\sm_plist.vbs
C:\InCharge6\SAM ▲
```

▼▲	Indicates the command must be typed as one line.

Note:	If you use the sm_plist utility and are stopping services before an uninstallation, do not stop sm_serviced. See the Installation Guide that accompanied your product suite for information about uninstalling software.

Documentation Errata

The following issues describe corrections to EMC Smarts user documents.

Correction for Product Version Numbers

Not all documentation required revision for this release. Therefore, some documents do not display the latest product version number on their cover. However, the information contained in these guides remains valid.

Correction for FLEXnet Licensing

The chapter "Licensing InCharge Software" of the *EMC Smarts System Administration Guide* does not reflect the latest supported version, 10.1, of FLEXnet. References to the product name and version number will be addressed in the next update of the document.

Correction for e-mail Address for Licensing

The chapter "Licensing InCharge Software" of the *EMC Smarts System Administration Guide* does not list the recently updated e-mail address to obtain a permanent EMC Smarts license. The correct e-mail address is: *smartslicensing@emc.com*. This will be addressed in the next update of the document.

Documentation Changes

Some EMC Smarts documentation may erroneously mention the *EMC Smarts Documentation Roadmap, EMC Smarts MODEL Reference Guide, EMC Smarts Dynamic Modeling Tutorial, EMC Smarts ICIM Reference* and the *InCharge Common Information Model*[TM] (ICIM) Wall Chart. This information is incorrect. These documents are not shipped for this release.

Syntax for the --pattern Option

PR 12220

Issue:

Table 11, on page 41 of the *EMC Smarts System Administration Guide*, describes the `--pattern` option of the *sm_service* start action. It is incorrect.

Resolution:

The correct description should read:

OPTIONS	DESCRIPTION
`--pattern=`	Start all processes with absolute paths that match the wildcard pattern.

Issue:

Table 12, on page 41 of the *EMC Smarts System Administration Guide*, describes the `--pattern` option of the *sm_service* stop action. It is incorrect.

Resolution:

The correct description should read:

OPTIONS	DESCRIPTION
`--pattern=`	Stop all processes with absolute paths that match the wildcard pattern.

Issue:

Table 13, on page 42 of the *EMC Smarts System Administration Guide*, describes the `--pattern` option of the *sm_service* isstop action. It is incorrect.

Resolution:

The correct description should read:

OPTIONS	DESCRIPTION
`--pattern=`	Return the status of all processes with absolute paths that match the wildcard pattern.

Issue:

Page 42 of the *EMC Smarts System Administration Guide,* describes examples of the *sm_service* isstopped action. The examples are incorrect.

Resolution:

The examples should read:

This checks to see whether all of the services started from the */opt/InCharge6* directory are stopped:

UNIX

```
sm_service isstopped --pattern='/opt/InCharge6/*'
```

Windows

```
sm_service isstopped "--pattern=c:\InCharge6\*"
```

This example checks whether all EMC Smarts servers are stopped:

UNIX

```
sm_service isstopped --pattern='*sm_server*'
```

Windows

```
sm_service isstopped "--pattern=*sm_server*"
```

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Release Notes for Application Connectivity Monitor

This chapter describes issues and resolutions for Application Connectivity Monitor.

Application Signatures

The following issue relates to application signatures.

Microsoft TCP/IP on Windows 2000

PR 13758

Issue:

When Application Connectivity Monitor is started on Windows 2000 systems, the Microsoft TCP/IP stack ignores the rejected packets sent from the server, and reports success in establishing a connection. Later, it reports that the connection was dropped. Due to this defect in Microsoft TCP/IP, the TCP discovery and monitoring in Application Connectivity Monitor will report incorrect results.

Resolution:

A standard tcpAction is associated with the application signatures included with Application Connectivity Monitor. When you select, enable, and update a signature in the Application Signature tab, make sure that you enter appropriate Request and Response strings for the tcpAction parameter dialog of the signature in order to support the needed interaction. Values for the Request and Response strings should not be blank (empty).

See the *EMC Smarts Application Connectivity Monitor Configuration Guide* for additional information about Request and Response strings used with application signatures.

ACM Monitoring

The following issues relate to Application Connectivity Monitor monitoring.

ACM Monitoring Port 426

PR 15478 and PR 15635

Issue/Resolution:

When ACM monitors the EMC Smarts Broker on port 426, the ACM standard tcpAction tries to open a connection to the port and, if it succeeds, it immediately closes the connection. The tcpAction does not send anything to the port. Because it does not send anything, repeated error messages (CI-EFLOWCLOSED-Flow has been closed) are written to the broker's log file.

The messages can be ignored.

ACM Discovery

PR 15734

Issue/Limit:

Application Connectivity Monitor currently supports the discovery of applications for Host, Router, Switch, TerminalServer, Probe, Node, and their sub-classes. Only these classes, their child classes, and the events for them are imported from Availability Manager into Application Connectivity Monitor. Other classes derived directly from the UnitaryComputerSystem class will not be imported into Application Connectivity Monitor.

ICIM Model Differences for ACM and SAM

Administrators and integrators who configure the ACM Domain Managers should be aware that Application Connectivity Manager 2.0 uses a newer version of the ICIM model than Service Assurance Manager 6.2 SP2.

Table 2 lists class mappings for ACM and SAM. For many common types of elements, such as HTTPService, the same classification exists under both models. However, if an element is discovered and classified by ACM and that class does not exist in Service Assurance Manager, when Service Assurance Manager imports that element, SAM classifies the element according to its model.

Table 2: Class Mappings Between ACM and SAM

ACM CLASS	SAM CLASS
ApplicationServer	Application
DatabaseServer	DatabaseServer
DataView	Application
DirectoryServer	Application
DNSService	Application
FirewallService	Application
FTPService	FTPService
HTTPService	HTTPService
IMAPService	Application
InChargeBeacon	MgmtService

Table 2: Class Mappings Between ACM and SAM *(continued)*

ACM CLASS	SAM CLASS
InChargeService	InChargeService
InChargeSession	Session
J2EEApplicationServer	J2EEApplicationServer
J2EEDataSource	Application
J2EEWebApplication	WebApplication
JCADataSource	Application
JDBCDataSource	Application
LDAPService	Application
MailServer	Application
MessageQueueService	MessageQueueService
MgmtAgent	MgmtAgent
MgmtService	MgmtService
NameServer	Application
NNTPService	NNTPService
OracleDatabase	Application
OracleService	Application
POPService	Application
SecureShellService	Application
SMTPService	SMTPService
SNMPAgent	SNMPAgent
SoftwareService	Application
SQLService	SQLService
TelnetService	Application
TerminalService	Application
VirtualSoftwareService	Application
WebApplication	WebApplication
WebServer	WebServer
WebSite	Application

Table 2: Class Mappings Between ACM and SAM *(continued)*

ACM CLASS	SAM CLASS
WebSphereApplicationServer	Application
WebSphereDeploymentManager	WebSphereDeploymentManager

ACM and the Browse Detail Operation

PR 15890

Issue:

In the Global Console when you are attached to a SAM Global Manager, invoking the Browse Detail operation for some elements from Application Connectivity Monitor results in an error dialog that states "Could not load relation for detailed browse."

Resolution:

There is no resolution to this issue. Browse Detail is not available for elements that are classified differently by Application Connectivity Monitor and Service Assurance Manager 6.2.

This error occurs because Application Connectivity Manager 2.0 uses a newer version of the ICIM model than Service Assurance Manager 6.2 SP2. For many common types of elements, such as HTTPService, the same classification exists under both models. However, if an element is discovered and classified by ACM and that class does not exist in Service Assurance Manager, when Service Assurance Manager imports that element, SAM classifies the element according to its model. For class mappings, see *ICIM Model Differences for ACM and SAM* on page 15.

For example, when ACM classifies an element as IMAPService, Service Assurance Manager lists the element under the Application class in the Topology Browser. In the Notification Log, however, the Class attribute will list IMAPService, enabling you to sort and filter notifications by class.

Firewalls and Virus Detection

PR 15556 and PR 15563

Issue/Resolution:

Application Connectivity Monitor does periodic scans for selected TCP ports on all devices (hosts, routers, etc.) in its topology. Therefore, firewalls should be configured to allow the ACM Domain Manager's host IP access through them on the ports that it is scanning (or you want to allow). Once a device enters the ACM topology, periodically it will be polled on the TCP ports of the Application Signatures enabled in the ACM Domain Manager. This may trigger anti-Virus software on the device to block the ACM Domain Manager host IP from performing its function. This will keep ACM from discovering active Applications on the device. Furthermore, if the ACM Domain Manager detects and configures its topology for an application, it may report false Down notifications because the anti-Virus or firewall has decided to block the ACM Domain Manager host IP.

Installation Issues

The following issues pertain to installation and uninstallation issues.

JRE Version 1.5.x and Installation

Issue:

The ACM installation program requires that Java Runtime Environment of Java 2 Platform Standard Edition (J2SE JRE) version 1.4.2_06 or later must be installed on the system. If you have a 1.5.x JRE installed, but not a 1.4.x JRE, you will be prompted for JRE location when you run the ACM installation program.

Resolution:

Installing with JRE version 1.5.x is not a recommended operation. Users should normally install a JRE version 1.4.x. However, when you are prompted for a JRE location during the ACM installation and if you select a 1.5.x JRE, the ACM installation should complete normally.

Uninstallation Fails When Invoked on Solaris 9

PR 15720

Issue:

The uninstaller for ACM 2.0 may fail to launch when it is invoked. This problem may occur for all three methods of uninstallation (Wizard-mode, CLI mode, Unattended mode).

Resolution:

Change to the **BASEDIR**/_uninst directory and issue the following Java command:

1   Change to the **BASEDIR**/_uninst directory:

```
# cd /opt/InCharge6/ACM/_uninst
```

2   Type the Java command either with no prefixed path or with a local Java directory path for your system. For example, type:

```
# java -jar uninstall.jar
```

or

```
# /<local_java_dir>/java -jar uninstall.jar
```