



# **Avaya Call Management System**

## **Change Description**

Release 16.x  
June 2011

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# Preface

This section contains the following topics:

- [Audience](#) on page 5
- [Documentation Web sites](#) on page 5
- [Support](#) on page 6

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## Audience

This guide is intended primarily for existing call center customers who are upgrading to Avaya Call Management System (CMS) Release (R16.x) and want to know about the new features of the release.

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## Documentation Web sites

All CMS documentation can be found at <http://www.avaya.com/support>. New issues of CMS documentation will be placed on this Web site when available.

Use the following Web sites to view related support documentation:

- Information about Avaya products and service  
<http://www.avaya.com>
- Sun hardware documentation  
<http://docs.sun.com>

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## Support

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### **Escalating a technical support issue**

Avaya Global Services Escalation Management provides the means to escalate urgent service issues.

# New features for CMS R16

CMS R16 supports several new features.

- [Duplicated Processor Ethernet support](#) on page 7
- [Capacity increases](#) on page 7
- [Full Expanded Dial Plan \(EDP\) support](#) on page 8
- [Improved time zone reporting](#) on page 8
- [Internal Call History \(ICH\) and Extended Call History \(ECH\)](#) on page 9
- [Backup changes](#) on page 9

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## Duplicated Processor Ethernet support

CMS R16.x, when used with Communication Manager 5.2.1 or later, now supports duplicated Processor Ethernet switch port connections.

The connection to the Processor Ethernet (PE) applies to High Availability, Survivable CMS and Dual Role CMS. These are all offers that are supported by Avaya Professional Services. To configure a solution using the PE interface and any of these offers, contact Avaya Professional Services.

---

## Capacity increases

The following are the updated capacities for R16.

| Capacities        | CMS R15                    | CMS R16                                                            |
|-------------------|----------------------------|--------------------------------------------------------------------|
| Supervisor logins | 400                        | 800                                                                |
| Agent Skill Pair  | 100,000 system wide limits | 150,000 system wide limit (per ACD limit of 100,000 still applies) |
| VDN System limit  | 20,000 system wide limit   | 30,000 system wide limit (per ACD limit of 20,000 still applies)   |

| Capacities                     | CMS R15                                                                                | CMS R16                                                                                                                                                                          |
|--------------------------------|----------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Expanded AUX                   | 2 versions orderable:<br>Standard CMS (0-9 Aux codes)<br>Expanded AUX (0-99 AUX codes) | 100 AUX codes are standard for all customers. Previous limits for the Expanded AUX load are now removed (that is 15 min intervals are supported and there are no storage limits) |
| Agent login/logout data record | 1 million                                                                              | 1.5 million                                                                                                                                                                      |
| Agent trace                    | 400 simultaneous traces                                                                | 600 simultaneous traces                                                                                                                                                          |
| ICH data rows                  | 5000                                                                                   | 100,000                                                                                                                                                                          |
| Rate of writing to ICH         | 4000 in 20 minutes                                                                     | 4000 in 20 minutes                                                                                                                                                               |

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## Full Expanded Dial Plan (EDP) support

CMS R16 and later supports up to 15 digits with the Expanded Dial Plan feature, including EAS Agent IDs and VDNs without truncation. Communication Manager 5.2.1 is required for full EDP support. With Communication Manager 4.0 through 5.2, a special application is required to allow CMS to use full EDP support.

**Note:**

Communication Manager 5.2 currently only supports 13 digits.

---

## Improved time zone reporting

Beginning with CMS R16, for historical interval reports, CMS Supervisor has a menu choice to specify a time zone to display the report. CMS displays the data according to a time zone specified while generating a report. The default time zone is the time zone of the Communication Manager when the report is generated.

The data is stored in the CMS database based on Communication Manager system. New database items to support the UTC time zone reporting have been added to the database.

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## Internal Call History (ICH) and Extended Call History (ECH)

ICH and ECH are the two available Call History Interface formats. Beginning with CMS R16, both ICH and ECH will use the same call record format, which was known as the Enhanced Format previous to CMS R16.

ECH stores data in a file format that can be exported, in real time, from the CMS by use of an Avaya Professional Services offer. In addition, ICH and ECH will have expanded fields to support EDP and UTC time stamp.

You cannot use both ICH recording and ECH recording at the same time. ICH stores data in a table in the CMS Informix database; which can be accessed via ODBC or JDBC interfaces.

**Note:**

The number of simultaneous ODBC and/or JDBC queries is limited to 10 for the Sun Enterprise T5220 and 5 for the Sun Enterprise T5120.

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## Backup changes

Due to the higher capacity limits and fewer database restrictions the maintenance backup time can take longer with CMS R16 than previous releases. In some cases the extended amount of time can be unacceptable to customers. In rare extreme cases, maintenance backups can take more than 24 hours.

As a workaround to the amount of time it takes for a maintenance backup, you can use the following backup options:

- Schedule each ACD to back up at a different time

For further information, refer to Avaya Call Management System Administration guide and Avaya Call Management System Software Installation, Maintenance, and Troubleshooting.

- Use the new binary backup that is provided with CMS R16

The CMS R16 binary backup procedure can write data to a tape drive or over the network. Similar to the LAN backup and restore processes, the binary backup does not support table level restore and data migration. For further information, refer to Avaya Call Management System Administration and Avaya Call Management System Software Installation, Maintenance, and Troubleshooting.

**Note:**

A binary backup is a good alternative for disaster recovery. In general, a binary backup to a tape device, of a fully loaded CMS system takes approximately 30 minutes. A binary backup over a network will vary depending upon the network bandwidth.



# New features for CMS R16.1

CMS R16.1 supports several new features.

- [Capacity increases](#) on page 11
- [Support for new tape drive](#) on page 12
- [Backup changes](#) on page 12
- [Support for IPv6](#) on page 12
- [Support for Communication Manager 5.2 and 6.0 features](#) on page 13
- [Security updates](#) on page 13
- [New upgrade process from CMS R16 to CMS R16.1](#) on page 13
- [Database Schema changes](#) on page 14

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## Capacity increases

The following are the updated capacities for R16.1:

| Capacities               | CMS R16                          | CMS R16.1                                   |
|--------------------------|----------------------------------|---------------------------------------------|
| Skills per agent         | 60                               | 120                                         |
| Per ACD VDN extensions   | 20,000                           | 30,000 (system limit is the same at 30,000) |
| Skills per ACD           | 2,000 (16,000 system-wide limit) | 8,000 (32,000 system-wide limit)            |
| Vectors                  | 2,000 (16,000 system-wide limit) | 8,000 (32,000 system-wide limit)            |
| Maximum agents logged in | 7,000                            | 10,000                                      |

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## Support for new tape drive

With CMS R16.1, support for LTO-4 (SAS & SCSI) tape drive is now available. The SAS version will be included with new R16.1 T5220 systems only. The SCSI version will be available for upgrading existing T5120 or T5220 systems, or new T5120 systems. The LTO-4 has a much greater capacity than the DAT 36/72 drive. LTO-4 capacity is rated at 800GB compared to the DAT 36/72 at 36GB.

---

## Backup changes

As mentioned in [Backup changes](#) on page 9, the time for maintenance backups was degraded in the R16 release. With R16.1, the maintenance backup time has been improved and is now comparable to what customers experienced on earlier releases of CMS.

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## Support for IPv6

CMS R16.1 now supports IPv6 connectivity. There is a seamless integration between CMS and Communication Manager over IPv6. Configuration of IPv6 Communication Manager (ACD) sources is done via `cmsadm/acd_create` in the same way as IPv4 except for the use of IPv6 addresses instead of IPv4 addresses. CMS also integrates with Supervisor, Terminal Emulator and Network Reporting over IPv6. No extra configuration is required to enable the IPv6 capabilities of CMS reporting client applications. IPv6 protocol/name resolution and connectivity is automatic.

Use of IPv6 is transparent to CMS users. All features of CMS work exactly the same with IPv6 as they do over IPv4.

The customer will have to enable IPv6 on Solaris by creating a persistent IPv6 enabled interface. The procedure is documented in *Avaya CMS Software Installation, Maintenance and Troubleshooting*.

IPv6 is enabled "out of the box" on Windows 7 and Windows Vista. Thus, for using IPv6 with CMS Supervisor with these versions of Windows, there are no changes required on the desktop PC. Windows XP supports IPv6 "out of the box" but it needs to be manually enabled.

## Caveats to IPv6 use with AOM and Visual Vectors

AOM requires a system local IPv4 address to be available for the tool to work properly. The IPv4 address does not need to be visible outside of the CMS system.

Visual Vectors Server requires an IPv4 network address be available and used as the connection point for Visual Vectors client. The network can be hybrid IPv4/IPv6, but cannot be IPv6 exclusively.

---

## Support for Communication Manager 5.2 and 6.0 features

CMS R16.1 now supports Communication Manager 6.0. Capacity increases in the form of skills per agent, per ACD VDN extension, skills per ACD, vectors and agents logged in have been introduced. Communication Manager 5.2 features interruptible AUX and percent allocation routing are now supported. Vector administration continues to be available on CMS and new vector capabilities are available through CMS R16.1. The new vector capabilities are support for higher numbers in the holiday tables, service hour tables and vector routing tables.

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## Security updates

CMS R16.1 has enhanced security features in the form of password policies, auditing and enabling TCP connection tracing. Some other security features include more restrictive permissions for log files and home directories and files, the ability to provide a SSH port number, and setting up BART auditing.

See the *CMS Security* document for details on security improvements and features.

---

## New upgrade process from CMS R16 to CMS R16.1

Base load upgrades are usually used for in-version CMS upgrades because the database schema does not typically change within CMS versions. However, CMS R16.1 has introduced changes to the database schema compared with CMS R16. When database schema changes occur, you usually have to use the CUE process to upgrade from one release to another release. For upgrades from CMS R16 to CMS R16.1, a new upgrade process has been developed that is more involved than a base load upgrade, but is less involved than a CUE upgrade because you do not have to replace the disk hardware. Use the *Avaya CMS Database Upgrade and Data Migration* document to do an upgrade from CMS R16 to CMS R16.1.

---

## Database Schema changes

- Twenty new data items have been added to various tables in the CMS R16.1 database.
- Four internal/external call record items that were added in R16, have been activated in R16.1.
- Six new calculations and two new synonyms have been added.

For more information on these changes, refer Appendix A in document *Avaya CMS Database Items and Calculations*.

# New features for CMS R16.2

CMS R16.2 supports several new features.

- [Backup changes](#) on page 15
- [Better management of report execution](#) on page 15
- [Support for 64-bit Windows 7 and Vista](#) on page 16
- [Upgrade paths](#) on page 16

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## Backup changes

CMS R16.2 now supports more options for backup/restore than just tape or Tivoli Storage Manager (TSM) LAN backup. It supports backup/restore/migration to/from the following:

- Symantec Netbackup 7.0 Server (LAN backup)
- Tivoli Storage Manager 5.5 and 6.2.1 (LAN backup)
- USB storage device (non-tape backup)
- NFS mounted file system (non-tape backup)

The NFS and USB storage devices can be used to perform both CMS Maintenance and CMSADM backups. For full description about NFS mounted directories and USB storage device, see the *Avaya CMS Administration* document.

**Note:**

The DAT 72 tape drives will not be available for purchase anymore.

---

## Better management of report execution

CMS R16.2 has two new features that will help customers manage report execution by users:

- the ability to kill any report taking longer than an administered amount of time
- the ability to kill any report that is designed to report on more than 30 agents in a single agent group

There are two new query log files that allow the customer to view data about reports prior to enabling the above limits for all report users. In addition, the above limits can be implemented in time tables. For a full description of how to administer the new limits and monitor logs, see the *Avaya CMS Administration* and *Avaya CMS Software Installation, Maintenance and Troubleshooting* documents.

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## Support for 64-bit Windows 7 and Vista

With CMS R16.2, Supervisor will be supported on 64-bit editions of Windows 7 and Vista.

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## Upgrade paths

The following table shows the different upgrade paths in order to upgrade from older CMS versions to CMS R16.2:

| From Release                                                                                                                                                                                                                  | Process          | Document                        |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|---------------------------------|
| R14.x and earlier                                                                                                                                                                                                             | Platform Upgrade | Avaya CMS Platform Upgrade      |
| R15.x on T5120 and T5220                                                                                                                                                                                                      | CUE              | Avaya CMS CUE for Sun computers |
| R15.x on Netra210 and V890                                                                                                                                                                                                    | Platform Upgrade | Avaya CMS Platform Upgrade      |
| R16.0 and R16.1 (if using LAN Backup)<br>LAN Backup allows you to back up CMS data and system information over a local area network (LAN) to a Network Backup server, which manages the number of backups and their location. | CUE              | Avaya CMS CUE for Sun computers |

| From Release                                                                                                                      | Process                             | Document                                      |
|-----------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|-----------------------------------------------|
| R16.0 (if using a backup procedure other than LAN)<br>Other backup procedures include NFS mount, tape drive, Tivoli or Netbackup  | Database Upgrade and Data Migration | Avaya CMS Database Upgrade and Data Migration |
| R16.1 (if using a backup procedure other than LAN )<br>Other backup procedures include NFS mount, tape drive, Tivoli or Netbackup | Base Load Upgrade                   | Avaya CMS Base Load Upgrade                   |



# CMS support information

This section describes related support information for Avaya CMS R16.x.

This section includes the following topics:

- [Hardware platform support](#) on page 19
- [Serial connectivity](#) on page 19
- [Supported CMS software](#) on page 20
- [CMS Supervisor and other desktop software](#) on page 20
- [Supported communication servers](#) on page 22
- [Cross product interactions](#) on page 23

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## Hardware platform support

CMS R16.x supports the following platforms:

- Sun Enterprise T5120
- Sun Enterprise T5220

**Note:**

Oracle Corporation now owns Sun Microsystems. Instead of rebranding references to Sun Microsystems with the Oracle name, all occurrences of Sun and Sun Microsystems will remain as is in this document.

---

## Serial connectivity

For general release, Avaya CMS R16.x does not support serial connections using a Network Terminal Server (NTS). Customers who previously used an NTS for serial connections must convert to network connections.

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## Supported CMS software

Avaya CMS R16.x uses the following software packages (optional packages are noted):

- Solaris 10 U6 SPARC (r16.2da.h and earlier)
- Solaris 10 U9 SPARC (r16.2da.i and later)
- Informix SQL
- Informix IDS
- Informix ESQL SDK
- Informix ILS
- Avaya CMS Supplemental Services
- Avaya Call Management System
- ODBC and JDBC
- Avaya Visual Vectors Server (optional)

**Note:**

For specific software version information, see the CMS software installation, maintenance, and troubleshooting document for this release.

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## CMS Supervisor and other desktop software

This section includes the following topics:

- [Maintenance release](#) on page 20
- [Service packs and patches](#) on page 21
- [Supported software](#) on page 21
- [Nonsupported software](#) on page 21
- [Third-party royalty-free license agreements](#) on page 22

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## Maintenance release

Avaya CMS Supervisor R16.2 is a maintenance release for:

- Avaya CMS Supervisor R12
- Avaya CMS Supervisor R13

- Avaya CMS Supervisor R14
- Avaya CMS Supervisor R15
- Avaya CMS Supervisor R16

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## Service packs and patches

To ensure compatibility and security, you must install the latest service packs and security patches for your supported Microsoft operating system prior to installing Avaya CMS R16.x Supervisor and Network Reporting.

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## Supported software

The following software is supported by CMS Supervisor, Network Reporting, and Terminal Emulator:

- Windows XP Professional
- Windows Vista
- Windows 7.
- Citrix XenApp 5 Enterprise running on Windows 2003 R2 Enterprise SP2 32-bit and Windows 2008.

**Note:**

A new silent installer will support "push type" installation to the desktop on CMS Supervisor only. This is documented in *Avaya CMS Supervisor Installation and Getting Started*.

---

## Nonsupported software

The following software is not supported by CMS Supervisor, Network Reporting or Terminal Emulator:

- Windows XP Tablet PC Edition
- Windows Vista Tablet PC
- Windows 98
- Windows 2000

**Note:**

In certain permissive-use cases, Windows 98 can be used for CMS Supervisor and Network Reporting. Contact Avaya support for information about using Windows 98.

- Windows 95
- Windows NT
- Windows ME

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## Supported communication servers

The following communication server releases are supported for Avaya CMS R16.1 and R16.2:

- Communication Manager 2.x
- Communication Manager 3.x
- Communication Manager 4.x
- Communication Manager 5.x
- Communication Manager 6.0

**Note:**

Avaya CMS R16.0 supports all the above Communication Manager releases up to 5.x.

---

## Cross product interactions

CMS R16.x can be supported or connected to the following Avaya products.

### NICE Analyzer

NICE Analyzer was discontinued in late 2007, thus any current use of NICE Analyzer is considered "Permissive Use" by Avaya.

### Operational Analyst

Currently available versions of OA will not support the expanded field data on CMS R16.x due to the implementation of EDP support. A future release of OA will be provided to operate fully with CMS R16.x.

### Avaya IQ

CMS R16.x will continue to support parallel implementations with Avaya IQ.



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