

## TECHNICAL WHITE PAPER

### CS1000 Linux Base for AMS 7.6

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**Author: Maxim Kostyukevich**

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#### Objective and Overview

This document is intended to clarify some points on installation, configuration and use of Avaya Media Server (AMS) 7.6 in the CS1000 environment. This document does not provide exact procedures, since they are explained in the appropriate documents for AMS and CS1000 in great detail.

#### Terminologies

AMS – Avaya Media Server

MAS – Media Application Server

#### Abstract

AMS 7.6 is the currently supported version of Avaya Media Server for CS1000 R7.6 Service Pack 5 and later. The earlier AMS (MAS) 7.0 version is now end of software support; similar lifecycle status as for CS1000 R7.5. All customers are recommended to upgrade to CS1000 R7.6 with AMS 7.6 to ensure software support.

CS1000 Linux Base for AMS 7.6 is an updated CS1000 Linux Base with AMS 7.6 embedded. AMS 7.6 is installed along with CS1000 Linux Base for AMS 7.6.

#### Supported platforms

The following hardware platforms are supported by AMS 7.6 for CS1000:

- CPDC
- COTS servers (IBM x3350, Dell R300)
- Common Server 1 (HP DL360 G7) and Common Server 2 (HP DL360 G8)

If it is required to setup an AMS cluster, it will be required to use servers of the same type as members for the clusters. Mixed setups are not recommended and not supported.

## Installation

AMS 7.6 for CS1000 and the updated CS1000 Linux Base are included into the same installation image: ISO file for installation on COTS server and Common Servers and a zip archive with files for installation on a CPDC server from an USB flash drive.

The AMS 7.6 installation program and CS1000 Linux Base are actually bundled into one ISO image, and AMS is automatically installed during the first system startup. So it is not required to install AMS separately after CS1000 Linux Base installation as it was done in previous releases.

There are two means by which to proceed with installation of the load: an upgrade and a fresh install – both are reviewed below.

### **A. Fresh installation**

This is a common case when it is required to deploy AMS to new servers. The procedure is for the installation of the standard CS1000 Linux Base.

### **B. CS1000 Linux Base upgrade**

If a target server already contains some older version of the Linux Base, it will be possible to re-use the network and other settings during the installation. It is only required to skip formatting of the admin partition and re-use the available configuration data.

Use of the **upgrade** command at the CLI is not supported.

## Migration from AMS 7.0 to AMS 7.6

AMS (MAS) 7.0 was supported with CS1000 R7.0, R7.5 and R7.6; AMS 7.0 is now end of software support. Support of AMS 7.6 was added with CS1000 R7.6 Service Pack 5. Other AMS versions (e.g. AMS 7.5) are not supported in the CS1000 environment. Customers who upgrade CS1000 to rls 7.6 are advised to migrate from AMS 7.0 to AMS 7.6.

It is possible to re-use the same server as the one that was used for AMS 7.0 if it is supported by AMS 7.6 for CS1000. Please check the list of supported platforms.

There are three options available for the migration procedure.

***A. AMS 7.0 backup files are stored on a remote SFTP server***

1. Prepare a full backup of data and configuration from Element Manager on AMS 7.0 server.
2. Store the backup files on a remote SFTP server.
3. Start installation of CS1000 Linux Base with AMS 7.6 on the target server.
4. When it is suggested to migrate AMS 7.0 backups, agree and provide required network settings, select the right files on the remote server.
5. Finish installation.
6. Access AMS EM and correct parameters that were not migrated properly. If required, update the license.

***B. AMS 7.0 backup files are stored on a USB flash drive***

1. Prepare a full backup of data and configuration from Element Manager on AMS 7.0 server.
2. Store the backup files on an USB drive into `/amsinfo` directory.
3. Start installation of CS1000 Linux Base with AMS 7.6 on the target server.
4. When it is suggested to migrate AMS 7.0 backups, agree, plug in the USB flash drive, select the right files from the USB drive.
5. Finish installation.
6. Access AMS EM and correct parameters that were not migrated properly. If required, update the license.

***C. AMS 7.0 backup files are migrated after the installation***

1. Prepare a full backup of data and configuration from Element Manager on AMS 7.0 server.
2. Store the backup files to a PC.
3. Install CS1000 Linux Base with AMS 7.6 on the target server. When it is suggested migrating AMS 7.0 backups, decline the request.
4. Install the latest available SP.
5. Copy the AMS 7.0 backup files to `admin2` home directory on the target server. Stop the media server and license services with use **appstart stop**. This is an important step.

6. Migrate the data with use of **amsupgrade** tool under admin2 user. Please do not use this command under root. Please refer to [2,3] for more info regarding the command syntax.

**amsupgrade** /backup/CONFIG\_DATA.zip

**amsupgrade** /backup/SERVICE\_DATA.zip

6. Start the media server and license services with use **appstart start**.

Key points regarding the migration process.

1. It is possible to migrate a database from AMS 7.0.0.623 only. So you need to ensure that prior you prepared backups the servers are already running the recommended AMS 7.0 build.

2. The following data will be migrated from AMS 7.0 to AMS 7.6:

- CStore data (i.e. provisioned media prompts)
- SIP Configuration (domains, accounts, nodes, routes, and route specific configuration)
- License Server key configuration
- Cluster configuration (server role and replication account username/password)

The following items are not migrated:

- Provisioned certificates
- Codec configuration
- Media security
- UCM users/roles and passwords

3. AMS 7.6 does not have integration with UCM, but you can configure RBAC with SMGR and add appropriate links in the SMGR manually.

## Basic administration of the Base System

CS1000 Linux Base for AMS 7.6 does not have a base manager. So an administrator should use the standard command line tools for some activities that can be done via the web interface on the usual CS1000 Linux Base.

### A. Change of IP address

If it is required to change an IP address for ELAN or TLAN interface on a server the following procedure can be used. Please check [1, 2, 3] for more info.

1. Stop the media server and license services using **appstart stop** at the CLI or from Element Manager.

2. Change the IP address or a hostname using **baseparamsconfig** command. This command will initiate a server reboot.
3. When the server is up, access Element Manager using the new IP address.
4. Go to EM -> System Configuration -> Network Settings -> IP Interface Assignment.
5. Select an appropriate IP address from the drop-down menus for each field showing Invalid, save the changes and confirm them if requested.
6. If the server is a part of an AMS cluster, it will be required to introduce appropriate changes on other affected servers/clusters.

### **B. SNMP configuration**

Servers with CS1000 Linux Base for AMS 7.6 cannot be registered in the security domain, therefore it is no longer possible to configure SNMP profiles and configure a list of destinations for SNMP traps in the SNMP Profile Manager.

Instead of SNMP Profile Manager, AMS Element Manager should be used for configuration of SNMP traps and SNMP agent. Appropriate settings can be changed on the following AMS EM page:

*System Configuration -> Network Settings -> General Settings*

If it is required to change system profile data such as "System Name", "System Contact" or "System Location", which are used for identification of a system by network management systems, use the **basesnmpconfig** command at the CLI.

If it is required to change "Navigation System Name" or "Navigation Site Name" identification strings that are included in SNMP traps from CS1000 Linux Base use **basesnmpconfig** command at the CLI as well.

Please note, any changes in AMS Element Manager related to SNMP traps or to SNMP agent should be followed by a reboot of the system. This is required for restart of SNMP related services and synchronization of SNMP settings between AMS and the Linux Base. Services can also be restarted using the **basesnmpconfig --restart** command and the settings can be synchronized using the **basesnmpconfig --sync** command. In this case the reboot can be avoided.

For more information on use of AMS Element Manager for configuration of SNMP, please refer to [1].

### **C. Graceful shutdown procedure**

If a server is required to be powered down, it is strongly recommended to perform a graceful shutdown, otherwise file systems can potentially be corrupted which in turn can result in unexpected server behavior upon power-up.

The latest cs1000-linuxbase-amsx64 SUs introduce a **shutdown** command that is accessible for the admin2 user. Please use this command whenever a power down of the server is required.

If this command is not available, you should login as root user and execute **shutdown -h now** at the CLI to shut down the server.

**Warning:** it will not be possible to reboot the server without physical access, if it is shut down. Please use the above commands with caution.

#### **D. System backups**

System backups can be performed using the **sysbackup** command. This command was not changed and functions in the same manner as CS1000 Linux Base. Backup of system data can be stored to an external USB flash drive or to an external SFTP server.

Please note that **sysbackup** tool does not prepare backups for the system's current configuration of AMS, it only stores already available backups from the `/admin/nortel/backup/mas` directory that were previously prepared using AMS EM or the **backuprestore** command.

## **Patching**

The web based patch managers are not supported on the new load. Patching can be performed at CLI in the same manner as the CS1000 Linux Base system. Appropriate patches and Service Packs can be downloaded from ESPL. The **spload** and **spins** commands can be used to load and install a Service Pack. The **pload** and **pins** commands can be used to load a patch or a serviceability update and put it in-service. The **poos** and **pout** commands can be used to remove the patch or an SU from the system. Please check [4] for more information regarding the use of patching commands on CS1000 Linux Base.

Please note that patches for the standard CS1000 Linux Base systems are not applicable to CS1000 Linux Base for AMS 7.6 load.

It is also important to underline that installation of some patches can only be done properly when the latest cs1000-linuxbase-amsx64 SU is in use. It is recommended to install this SU prior to any patching exercise.

As noted just above, the latest CS1000 Linux Base for AMS 7.6 with the latest cs1000-linuxbase-amsx64 SU installed supports updates of the AMS 7.6 component. It is important to prepare backups of AMS data and configuration prior any AMS 7.6 upgrade. This can simplify the recovery process in case of any issues with the database after the upgrade.

## **Licensing**

The license model has not changed between AMS 7.0 and 7.6 – the same licenses can be used on migration to AMS 7.6, using the existing hardware. As the AMS licenses do include a reference to the server MAC address, it is not possible to move licenses to new servers.

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## Known common issues

**A.** When the RBAC with SMGR is configured and in use, the task tree is not displayed in AMS EM.

### **Details**

The task tree is not displayed in AMS EM, when the RBAC with SMGR is configured and in use. When the Operating System credentials are used instead, there is no issue, i.e. the task tree is displayed when the EM is accessed with use of the following link <https://<FQDN>:8443/emlogin> and a local OS account is used for that.

### **Solution**

SOLN266435

The Single Sign On (SSO) logic does not work properly when there is too large a time difference between system time on an AMS server and an SMGR server. It is needed to check and if required, correct system time on both servers.

**B.** When an USB flash drive is plugged in during the system installation on Common Servers 1/2, the GRUB boot loader is installed improperly. Common Servers 1 and 2 refer to the HP G7 and G8 servers.

### **Details**

If a USB drive is plugged in during the installation, a part of the GRUB bootloader is installed on the USB drive instead of the hard disk drive (HDD). This creates a condition where it is only possible to boot the system with the particular USB drive plugged in.

### **Solution**

SOLN272536

If it is suspected that a R7.6 server may have this issue, the following steps can be followed to resolve the issue:

1. Install the latest version of cs1000-linuxbase-amsx64 SU.
2. Execute **dl360\_fix\_boot --only-verify** command under admin2 or a different maintenance account. If the issue is detected, execute **dl360\_fix\_boot --verify-and-fix** command.
3. Ensure that no USB flash drive is plugged in.

4. Reboot the server and ensure that there are no issues

If a server already has the issue and cannot boot up, the following steps can be used to reinstall GRUB using the recovery console.

1. Ensure no USB flash drive is plugged in for the server.
2. Boot from a proper installation DVD.
3. At the 'Welcome to the CS 1000 Linux Base System Installer' screen enter **recovery-com1** for a serial connection or **recovery-kvm** for KVM.
4. After some time a menu is presented. Select option 1 'Boot loader recovery.'
5. At the Boot loader recovery menu. First check the configuration files (option 1.) After that repair the configuration files in case of any errors (option 2.) Finally reinstall Grub (option 3.)
6. Once the above recovery operations are completed go back to the previous menu. Select option 7 to reboot the server.

It is recommended not to leave a USB flash drive with the boot code plugged in to the server, as this can potentially cause the server to hang during a reboot.

**C.** When RBAC with SMGR is configured and a new identity certificate is used for AMS EM, it can be impossible to access the EM at all: a blank page is shown in some web browsers.

### **Solution**

It is required to import the p12 certificate from SMGR in the certificate manager of the browser.

## **Docs**

For more information on deployment of CS1000 Linux Base for AMS 7.6 and configuration / administering of AMS 7.6 please refer to the following documents.

In case of questions related to the AMS configuration, required info can be found in [1]. AMS installation and patching in case of CS1000 Linux Base for AMS 7.6 can be found in [3,4].

1. Implementing and Administering Avaya Media Server 7.6, January 2015

<https://downloads.avaya.com/css/P8/documents/100178657>

2. Installing, Upgrading, and Patching Avaya Media Server 7.6, September 2014



<https://downloads.avaya.com/css/P8/documents/100178653>

3. Avaya Communication Server 1000 Linux Platform Base and Applications Installation and Commissioning, Release 7.6, NN43001-315 Issue 06.06

<https://downloads.avaya.com/css/P8/documents/100170972>

4. Avaya Communication Server 1000 Patching Fundamentals, Release 7.6, NN43001-406 Issue 04.02

<https://downloads.avaya.com/css/P8/documents/100170376>