Avaya Aura™ Communication Manager Branch G450 Media Gateway
Installation Quick Start

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Introduction

This document contains the information that you require to start using your Communication Manager Branch G450 Media Gateway in the shortest possible time.

1. Check before you install your Communication Manager Branch.
2. Mount your Communication Manager Branch.
3. Install Media Modules.
4. Ground your Communication Manager Branch.
5. Connect your Communication Manager Branch to your telephones, computers, and network.
6. Turn on your Communication Manager Branch G450 Media Gateway.
7. Configure Point your Web browser to https://192.11.13.6.

Congratulations! You are now ready to use your Communication Manager Branch G450 Media Gateway.

Check

Safety

Before you start the installation, see the following safety information

- Grounding. See General grounding requirements on page 12.
- Rack mounting. See "Mounting your Communication Manager Branch G450 Media Gateway in a rack" on page 5.

Installation Location

When deciding where to position the Communication Manager Branch G450 Media Gateway, ensure that:

- It is accessible and you can connect cables easily.
- Cables are away from sources of electrical noise such as radio transmitters, broadcast amplifiers, power lines, fluorescent light fixtures.

- Water or moisture cannot enter the case of the chassis.
- There is a free flow of air around the Communication Manager Branch G450 Media Gateway and the vents in the sides of the case are not blocked.
- No more than 25 feet (7.6 m) from an approved ground or close enough for use with the supplied secondary grounding conductor.

  Note:

  If the supplied secondary grounding conductor does not reach the approved ground, you must contact a licensed electrician to install a supplementary ground conductor.
- The environmental conditions match the following requirements:
  - Ambient temperature - 32^{o} to 104^{o}F (0^{o} to 40^{o}C).
  - Relative humidity - 10 to 90% relative humidity.
  - Minimum clearance for ventilation - 18 inches (45 cm).
  - Weight support - to 35 lbs (10-16 kg).

Required equipment and computer hardware

Prepare the tools you require to mount the CMBE G450 Media Gateway according to the following table:

To mount on...	Prepare these tools
Rack or wall	Phillips-head screwdriver.
Wall	• Plywood board: ¾ in (1.2 cm) thick and at least 4 x 4 ft (1.2 x 1.2 m) in size (customer-supplied). • Wood screws (4 minimum). • Pan head at least ¾ in., # 10-12 screw to fasten the Communication Manager Branch G450 Media Gateway to the wall.

- You might also need wire cutters to attach the grounding conductors, if your site uses a ground block.
- To configure your Communication Manager Branch G450 Media Gateway, you need a computer with a minimum screen resolution of 1024x768 pixels and either Internet Explorer 6.0 or Mozilla Firefox 2.0 or later.

Unpack

CAUTION:

Wear an anti-static wrist ground strap when you handle components of a Communication Manager Branch G450 Media Gateway. Connect the strap to an approved ground, such as an unpainted metal surface.

The Communication Manager Branch G450 Media Gateway comes with the following items. If any items are missing or damaged, contact your supplier. Keep the packaging if you want to ship the Communication Manager Branch G450 Media Gateway.

Table 1: Items shipped with the Communication Manager Branch G450 Media Gateway

Four rubber feet	
One Grounding Cable Assembly	
Power Cord (drawing shows U.S. power cord) Note: Outside the U.S., the cord must be VDE Certified or Harmonized (HAR), rated 250V, 3-conductor (3rd wire ground), 1.0 mm^2 minimum conductor size	
15 3/8" (9.5 mm) Flat-Head Screws	

Two 19 in. rack mounting brackets	
One cable management assembly	
Jumper for NVRAM init.	
Two 5/16 in. Round-Head Screws	
Two Serrated Lock Washers	
One Ground Screw	

Mount

Using your Communication Manager Branch G450 Media Gateway on a table

To use the Communication Manager Branch G450 Media Gateway on a tabletop, you must attach the provided rubber feet to the underside of the Communication Manager Branch G450 Media Gateway.

1. Remove the four rubber feet from the package.
2. Turn the Communication Manager Branch G450 Media Gateway upside down.

Note:

Ensure the base of the Communication Manager Branch G450 Media Gateway is clean.

3. Peel the feet off the backing sheet.
4. Position each foot into one of the mounting sites, near each corner of the Communication Manager Branch G450 Media Gateway.
5. Press each foot firmly so that it adheres to the Communication Manager Branch G450 Media Gateway.

Mounting your Communication Manager Branch G450 Media Gateway in a rack

You can mount the Communication Manager Branch G450 Media Gateway in a standard 19-inch rack.

CAUTION:

The Communication Manager Branch G450 Media Gateway weighs at least 31 pounds (14 kg). Two people might be needed to mount the Communication Manager Branch G450 Media Gateway in the rack.

You must attach the supplied mounting brackets to the front or the middle of the Communication Manager Branch G450 Media Gateway.

Before you start

- Ensure that the rack is bolted to the floor and is earthquake-protected, if required. If the rack is not securely fixed in place, do not continue with the installation.

- If you are mounting your Communication Manager Branch G450 Media Gateway is in a rack with other equipment already installed, position the Communication Manager Branch G450 Media Gateway to avoid imbalance.

Brackets without cable guides

You can attach mounting brackets without cable guides to:

- Each side of the front of the Communication Manager Branch G450 Media Gateway, so that the front of the Communication Manager Branch G450 Media Gateway is flush with the rack.
- The middle of each side panel of the Communication Manager Branch G450 Media Gateway, so it projects forward from the rack.

Brackets with cable guides

The Communication Manager Branch G450 Media Gateway comes with a third mounting bracket with cable guides to route and support the cables you connect.

- When you front-mount the Communication Manager Branch G450 Media Gateway in a rack, replace one of the standard brackets with the bracket with cable guides.
- When you mid-mount the Communication Manager Branch G450 Media Gateway in a rack, attach the bracket with cable guides to the front of the Communication Manager Branch G450 Media Gateway.

You can attach the bracket to the left or right side of the Communication Manager Branch G450 Media Gateway.

Figure 1: Attaching a mounting bracket with cable guides

- To rack-mount the Communication Manager Branch G450 Media Gateway at the front, attach one regular bracket and the bracket with cable guides.
- To rack-mount the Communication Manager Branch G450 Media Gateway at the middle:
  1. Attach two regular mounting brackets on the sides of the chassis in the mid-mount position.

2. Attach the mounting bracket with the cable guides to the front of the chassis.

Rack mounting

1. Attach the mounting brackets to the Communication Manager Branch G450 Media Gateway. Use five of the supplied screws for each bracket.

Figure 2: Front mounting bracket placement

Figure 3: Middle mounting bracket placement

2. Insert two mounting screws, one on either side of the rack. These screws are be the bottom screws of the mounting brackets.
3. Turn the screws only 3 to four times so you can rest the brackets on the screws.
4. Position the Communication Manager Branch G450 Media Gateway in the rack so that the bottoms of the brackets are resting on the protruding screws.
5. Verify that the screw holes are aligned with the positions of the holes in the rack.
6. Insert two additional mounting screws on each side.
7. Verify that the Communication Manager Branch G450 Media Gateway is level and horizontal.
8. Tighten the mounting screws. Avoid overtightening.

9. Either tighten the two bottom-most screws inserted in step 2, or remove the screws completely.
10. Verify that ventilation slots are unobstructed.

Mounting your Communication Manager Branch G450 Media Gateway on a wall

To mount the CMBE G450 Media Gateway on a wall, use the two mounting brackets without cable guides. You can also add a mounting bracket with cable guides if you want (see Figure 1: Attaching a mounting bracket with cable guides on page 6).

CAUTION:

If you are in the installing the Communication Manager Branch G450 Media Gateway in the United States of America:

- The AC power supply cord must not be attached to the building wall, for example with wire staples, clamps, and so on.
- You must install the Communication Manager Branch G450 Media Gateway near the AC receptacle (socket outlet) that services the Communication Manager Branch G450 Media Gateway.
- You must install the AC power supply cord in a way that minimizes the risk of physical damage to the cord. The cord must not be hanging on the floor, or routed in any way that can subject it to physical abuse.

1. If the wall does not have a portion of plywood available, mount a plywood sheet at least ¾ in (1.9 cm) thick and at least 4 x 4 ft (1.2 x 1.2 m) in size, horizontally onto the wall. Make sure the plywood is sufficiently anchored in the wall. Use a minimum of four wood screws and ensure the screws are driven into wall studs, or use four wall anchors rated not less than 50 pounds (22.5 kg) shear strength each.

Note:

The customer must provide and install the plywood backboard.

2. Mark the plywood with the location of the Communication Manager Branch G450 Media Gateway bracket screw holes before fastening the plywood to the wall.
3. Position the Communication Manager Branch G450 Media Gateway so that the front panel is facing up, and secure it to the plywood using a minimum of four screws (pan head at least ¾ in, # 10-12 screw).

Figure 4: Attaching the bracket for wall mounting

Install

The required media modules might be pre-installed in the Communication Manager Branch G450 Media Gateway. In this case, skip this section.

If the Media Modules are not pre-installed, or if you want to replace modules or add new media modules, install the necessary Media Modules and related components to support the configuration required for your site.

Note:

For a list of Media Modules that are compatible with the G450, see Table 2.

- Insert the Media Modules needed for your configuration

Figure 5: The CMBE G450 Media Gateway front panel: ports and slots

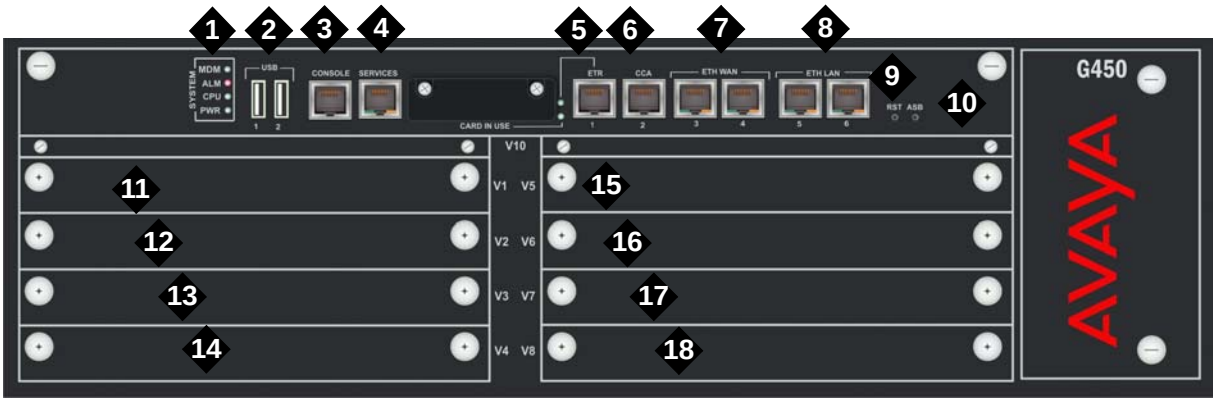


Figure notes:

1. System LEDs
2. USB ports
3. Console port
4. Services port
5. ETR (Emergency Transfer Relay) port
6. CCA (Contact Closure) port
7. ETH WAN ports
8. ETH LAN ports
9. RST button
10. ASB button
11. V1 standard media module slot
12. V2 standard media module slot
13. V3 standard media module slot
14. V4 standard media module slot
15. V5 standard media module slot
16. V6 standard media module slot
17. V7 standard media module slot
18. V8 standard media module slot

Table 2: Permitted slots for media modules

Media module	Permitted slots	Description
MM710B	V1 – V8	One E1/T1 trunk port for connecting an E1/T1 telephone trunk.
MM711	V1 – V8	Eight universal analog ports for connecting analog telephones or trunks.
MM712	V1 – V8	Eight ports for connecting DCP telephones.
MM714	V1 – V8	Four analog ports for analog telephones and four analog ports for analog trunks.
MM716	V1 – V8	One amphenol connector that connects to a punch down block to provide 24 analog line ports.
MM717	V1 – V8	One amphenol connector that connects to a punch down block to provide 24 ports for connecting DCP telephones.
MM720	V1 – V8	Eight ports for connecting up to eight ISDN trunks or 16 ISDN BRI stations.
MM722	V1 – V8	Two ports for connecting ISDN trunks.

Ground

To assure safe installation and operation, carefully read all requirements, recommendations, and instructions. Pay special attention to all WARNING, and DANGER statements.

WARNING:

System grounding must comply with the general rules for grounding provided in Article 250 of the National Electrical Code (NEC), National Fire Protection Agency (NFPA) 70, or the applicable electrical code in the country of installation.

General grounding requirements

Two safety grounds are required to ensure safe operation of the Communication Manager Branch G450 Media Gateway Media Gateway: the ground conductor that is part of the AC power cord and the field-installed green/yellow conductor referred to as the Supplementary Ground Conductor. Both safety grounds must be connected to an approved ground. If a power cord accompanies the Communication Manager Branch G450 Media Gateway, use that cord whenever possible.

Installation location

The customer must select a location for the Communication Manager Branch G450 Media Gateway installation that is no more than 25 feet (7.6 m) from an approved ground or close enough for use with the supplied secondary grounding conductor. If this location requirement is not met, the customer must contact a licensed electrician to install a Supplementary Ground Conductor per Article 250 of the National Electrical Code (NEC).

WARNING:

If the installation location is greater than the length of the supplied secondary grounding conductor from an approved ground, do not install the Communication Manager Branch G450 Media Gateway until a licensed electrician is present to install a Supplementary Ground Conductor.

Ground conductor

A Supplementary Ground Conductor is provided with the equipment, and is constructed of 10 AWG (4.0 mm^2) wire, with an insulated ring terminal crimped to one end that is suitable for the #8 (M4) stud/screw on the rear of the Communication Manager Branch G450 Media Gateway chassis.

The customer needs to provide a means of connecting this Supplementary Ground Conductor to an approved ground according to Article 250 of the National Electrical Code (NEC).

Ground block

A ground block must be provided if multiple Communication Manager Branch G450 Media Gateway Media Gateways are being installed. The ground block, intended for rack mounting, has terminals available for terminating Supplementary Ground Conductors. Up to 10 CMBE G450 Media Gateway Media Gateways can be grounded at the block installed close to the equipment (on a rack) and then a single ground conductor can be routed from the same block to an approved ground.If the ground block is to be used, you must supply it and have it installed by an electrician.

DANGER:

Failure to install both grounds will void the Product Safety certifications (UL and the CE Mark) on the product, as well as allow a hazard to be present that could result in death or severe personal injury.

Restricted access location

In Finland, Norway, and Sweden, the Communication Manager Branch G450 Media Gateway Media Gateway must be installed in a Restricted Access Location, due to concerns with regional earthing. A Restricted Access Location is defined as access that can be gained by only Service Personnel or Customers who have been instructed about the reasons for the restricted access and any safety precautions that must be taken. In these cases, access to the Communication Manager Branch G450 Media Gateway is gained by the use of a tool (such as a lock and key) or other means of security.

WARNING:

For installations in Finland, Norway, and Sweden, the Communication Manager Branch G450 Media Gateway relies on two ground connections (mains plug with an earth contact and a Supplementary Ground Conductor).

Approved grounds

An approved ground is the closest acceptable medium for grounding the building entrance protector, entrance cable shield, or a single-point ground of electronic telephony equipment. If more than one type of approved ground is available on the premises, the grounds must be bonded together as required in Section 250-81 of the NEC for the U.S. or per the local electrical code regulations in the country of installation.

- Grounded Building Steel. The metal frame of the building where it is effectively grounded by one of the following grounds: acceptable metallic water pipe, concrete encased ground, or a ground ring.
- Acceptable Water Pipe. A metal underground water pipe, at least ½ in. (1.3 cm) in diameter, in direct contact with the earth for at least 10 ft (3m). The pipe must be electrically continuous (or made electrically continuous by bonding around insulated joints, plastic pipe, or plastic water meters) to the point where the protector ground wire connects. A metallic underground water pipe must be supplemented by the metal frame of the building, a concrete-encased ground, or a ground ring. If these grounds are not available, the water pipe ground can be supplemented by one of the following types of grounds:
  - Other local metal underground systems or structures, such as tanks and piping systems.
  - Rod and pipe electrodes. A 5/8 in (1.6 cm) solid rod or ¾ in. (2 cm) conduit or pipe electrode driven to a minimum depth of 8 ft (2.4 m).
  - Plate electrodes. Must have a minimum of 2 sq. ft (0.185 sq. m) of metallic surface exposed to the exterior soil.
- Concrete Encased Ground. An electrode encased by at least 2 in (5.1 cm) of concrete and located within and near the bottom of a concrete foundation or footing in direct contact with the earth. The electrode must be at least 20 ft (6.1 m) of one or more steel reinforcing bars or rods, 1/2 in (1.3 cm) in diameter, or at least 20 ft (6.1 m) of bare solid copper, 4 AWG (26 mm^2) wire.
- Ground Ring. A buried ground that encircles a building or structure at a depth of at least 2.5 ft (0.76 m) below the earth's surface. The ground ring must be at least 20 ft (6.1 m) of 2 AWG (35 mm^2), bare copper wire.
- Approved Floor Grounds. Floor grounds are those grounds on each floor of a high-rise building that are suitable for connection to the ground terminal in the riser closet and to the cabinet single-point ground terminal. Approved floor grounds may include the following:
  - Building steel.
  - The grounding conductor for the secondary side of the power transformer feeding the floor.
  - Metallic water pipes.
  - Power-feed metallic conduit supplying panel boards on the floor.
  - A grounding point specifically provided in the building for that purpose.

WARNING:

If the approved ground or approved floor ground can only be accessed inside a dedicated power equipment room, then connections to this ground must be made by a licensed electrician.

Connecting the safety ground

Proper grounding of the Communication Manager Branch G450 Media Gateway Media Gateway installation safeguards the system, users, and service personnel by providing protection from lightning, power surges, AC mains faults, power crosses on central office trunks, and electrostatic discharge (ESD).

Local electrical installation codes must be followed when installing the Communication Manager Branch G450 Media Gateway.

DANGER:

Connection of both grounds (through the AC Power Cord and the Supplementary Ground Conductor) is required for safe operation of the Communication Manager Branch G450 Media Gateway Media Gateway.

WARNING:

An improper ground can cause electrical shock as well as equipment failures and service outages.

Attaching the ground wires

1. Remove the ground screw on the rear of the Communication Manager Branch G450 Media Gateway adjacent to the ground symbol.
2. Place the ring terminal of the 10 AWG (4.0 mm^2) Supplementary Ground Conductor on the ground screw that was provided in the accessories box.
3. Insert the ground screw on the rear of the chassis adjacent to the ground symbol and securely tighten the screw such that it cannot be loosened without the use of a tool.
4. Connect the Supplementary Ground Conductor:
   - If the ground block has been provided
     1. Cut the Supplementary Ground Conductor (which has one end attached to the grounding screw on the Communication Manager Branch G450 Media Gateway) to the length needed to terminate it into one of the terminals of the ground block. Do not coil the Supplementary Ground Conductor.
     2. Attach one end of the remaining 10 AWG (4 mm^2) ground wire to one of the terminals in the ground block and the other end to an approved ground.
     3. Cut this ground wire to the length needed to reach the approved ground. Do not coil this wire.

Note:

The ground block is for use with more than one Communication Manager Branch G450 Media Gateway in the rack. If the ground block is to be used, you must supply it and have it installed by an electrician.

- If the ground block is not being used, attach the Supplementary Ground Conductor to an approved ground.

Connect

- Connect your Communication Manager Branch to your telephone, computers, and network. See the enclosed Installation Poster for information.
- Connect your computer to the Services port on the Communication Manager Branch G450 Media Gateway, using a cross-over Ethernet cable.

Turn on

1. If you received a USB flash disk, insert it into one of the USB ports on the front of the Communication Manager Branch G450 Media Gateway.
2. Connect the AC power cable to the inlet receptacle on the rear of the chassis.
3. Connect the other end of the power cable into a mains socket.

Configure

Note:

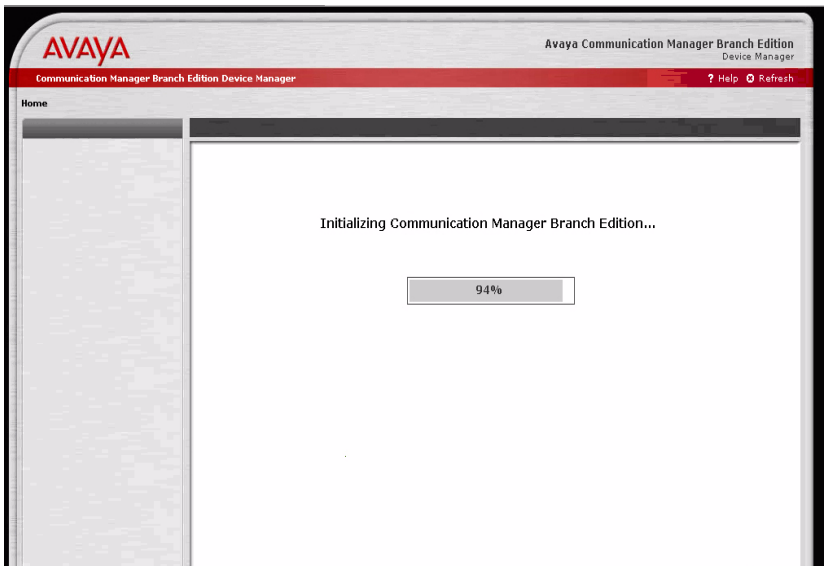
The Communication Manager Branch provides the address of 192.11.13.5/30 by DHCP to the local setup computer. Configure your local setup computer to get the IP address automatically or manually set it to 192.11.13.5/30. After the upgrade is complete you can set your computer to an address on the same subnetwork as the Communication Manager Branch.

Note:

Disable any proxy settings in your browser.

- Point your Web browser to https://192.11.13.6.
  - The Branch Device Manager application starts. The startup might take several minutes.

Figure 6: Device Manager opening screen



- The default user name is *administrator*
- The default password is *password*

When Device Manager loads, you see one of three screens, according to the level of configuration you must do.

If this screen opens...	Level of configuration to do
Branch Device Manager main screen.	*None* (the Communication Manager Branch G450 Media Gateway is already fully configured).
Branch Device Manager Profile-Based Setup Assistant.	*Partial* (the Communication Manager Branch G450 Media Gateway is already partially configured).
Branch Device Manager Initial Setup Assistant.	*Complete* (the Communication Manager Branch G450 Media Gateway is unconfigured).

Device Manager Main screen.

If your Communication Manager Branch G450 Media Gateway arrives fully configured, the Device Manager main screen opens.

Figure 7: Device Manager Main screen

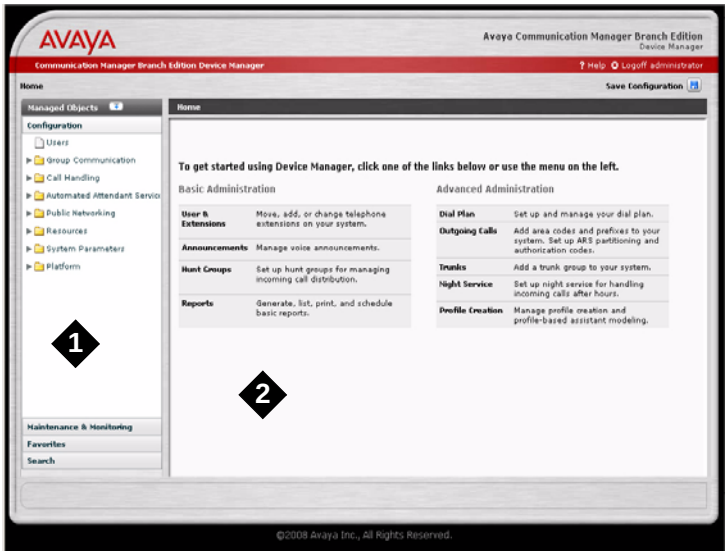


Figure notes:

1. Navigation Pane
2. Main Menu

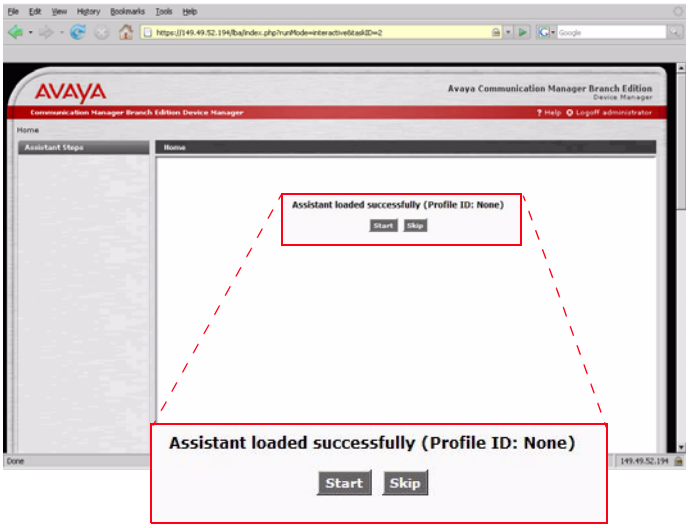
- The Navigation Pane on the left side of all screens contains a list of links to the screens for managed objects.
- The main menu is in the working pane on the right side of the main screen. The entries on the main menu are shortcuts for the most frequently used functions.

The Profile-Based Setup Assistant

A profile contains the main parameters required to configure the Communication Manager Branch G450 Media Gateway. Follow the steps in the assistant to complete the configuration. Have the data available before installation to provide the remaining parameters. See your I.T. contact if you do not have the information available.

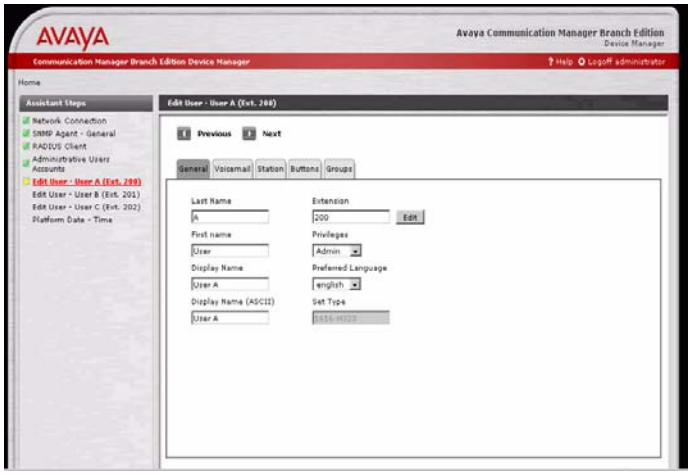
The first screen that appears is the Profile-Based Setup Assistant home screen.

Figure 8: Profile-Based Setup Assistant home screen



1. Click **Start** to run the Profile-based Setup Assistant.
   - The *Profile-Based Setup Assistant* opens (the actual screen might differ from this one).

Figure 9: Profile-Based Setup Assistant

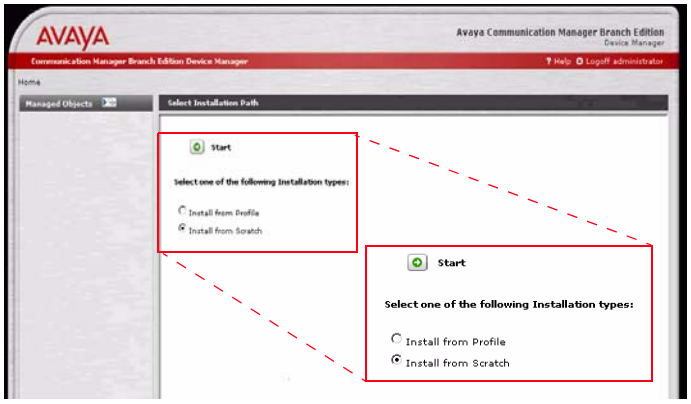


2. Follow the steps shown in the navigation pane.
3. Save the changes and reboot the Communication Manager Branch G450 Media Gateway when prompted.

Initial Setup Assistant Home Screen.

The Initial Setup Assistant applies to Communication Manager Branch G450 Media Gateway solutions that require complete configuration. You only reach this Assistant if the platform was re-initialized. Check your network plan or see your IT professional for help if necessary.

Figure 10: Initial Setup Assistant Home Screen

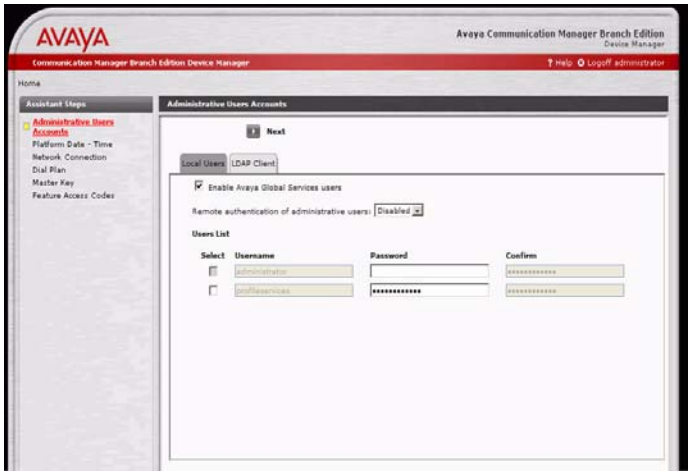


Select either Install from Scratch: or Install from Profile:.

Install from Scratch:

- Click **Start**.
  - The *Install from Scratch Assistant* opens.

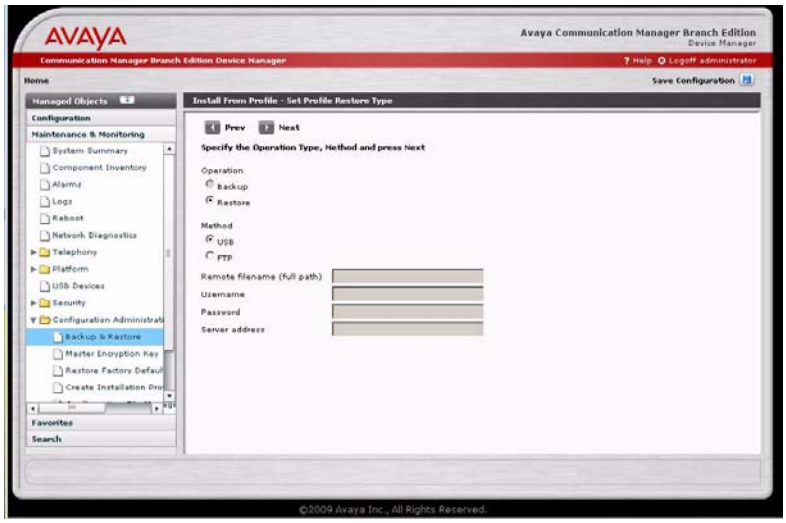
Figure 11: Install from Scratch Assistant



Install from Profile:

1. Click **Start**.
2. The Install from Profile Assistant - Set Profile Restore Type screen opens.

Figure 12: Install from Profile Set Profile Restore Type



3. Select the USB option or download a profile from an ftp site.
   - If you select the ftp option, enter the following parameters:
     - Remote filename.
     - User name and password for the ftp server.
     - The IP address of the ftp server.
4. Click **Next** and follow the on-screen instructions.