



# **Installing AC Power Supplies in Avaya Virtual Services Platform 9000**

Release 4.0  
NN46250-303  
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# Chapter 1: Introduction

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## Purpose

This document provides information about the AC power supplies, and provides instructions about how to install an AC power supply in the Avaya Virtual Services Platform 9000 chassis.

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## Related resources

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## Documentation

See *Documentation Reference for Avaya Virtual Services Platform 9000*, NN46250-100 for a list of the documentation for this product.

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## Training

Ongoing product training is available. For more information or to register, you can access the website at <http://avaya-learning.com/>.

Course code	Course title
4D00010E	Knowledge Access: ACIS - Avaya ERS 8000 and VSP 9000 Implementation
5D00040E	Knowledge Access: ACSS - Avaya VSP 9000 Support

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## Viewing Avaya Mentor videos

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### About this task

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## Procedure

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  - In **Search**, type `Avaya Mentor Videos` to see a list of the available videos.
  - In **Search**, type the product name. On the Search Results page, select **Video** in the **Content Type** column on the left.
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  - Enter a key word or key words in the Search Channel to search for a specific product or topic.
  - Scroll down Playlists, and click the name of a topic to see the available list of videos posted on the website.

### Note:

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## Searching a documentation collection

On the Avaya Support website, you can download the documentation library for a specific product and software release to perform searches across an entire document collection. For example, you can perform a single, simultaneous search across the collection to quickly find all occurrences of a particular feature. Use this procedure to perform an index search of your documentation collection.

### Before you begin

- Download the documentation collection zip file to your local computer.
- You must have Adobe Acrobat or Adobe Reader installed on your computer.

### Procedure

1. Extract the document collection zip file into a folder.
2. Navigate to the folder that contains the extracted files and open the file named `<product_name_release>.pdx`.

3. In the Search dialog box, select the option **In the index named <product\_name\_release>.pdx**.
4. Enter a search word or phrase.
5. Select any of the following to narrow your search:
  - Whole Words Only
  - Case-Sensitive
  - Include Bookmarks
  - Include Comments
6. Click **Search**.

The search results show the number of documents and instances found. You can sort the search results by Relevance Ranking, Date Modified, Filename, or Location. The default is Relevance Ranking.

# Chapter 2: New in this release

The following sections describe what is new in *Installing AC Power Supplies in Avaya Virtual Services Platform 9000*, NN46250-303, for Release 4.0.

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## Features

There are no feature-related changes in Release 4.0.

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## Other changes

See the following section for information about changes that are not feature-related.

### Document title change

In Release 4.0, the title of this document changed from *Avaya Virtual Services Platform 9000 Installation — AC Power Supply*, NN46250-303 to *Installing AC Power Supplies in Avaya Virtual Services Platform 9000*, NN46250-303.

### Regulatory information

Regulatory information is removed from this document because the content exists in a separate regulatory document. For more information, see *Regulatory Reference for Avaya Virtual Services Platform 9000*, NN46250-112 (700509061).

# Chapter 3: AC power supply fundamentals

This chapter provides basic information about the Avaya Virtual Services Platform 9000 AC power supplies. Each power supply contains its own fans and independently draws cooling air in from the front of the power supply and exhausts air out the back of the power supply. Unpopulated slots do not affect cooling of populated slots.

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## 9006AC power supply

The input voltage range for the 9006AC power supply is 90–140 VAC for a 120 VAC nominal connection, and 185–275 VAC for a 240 VAC nominal connection.

The output power for the 9006AC is limited to 1,200 W maximum at 90–140 VAC input voltage conditions. To obtain full output power of 2,000 W, you must connect the 9006AC power supply to a 185–275 VAC input voltage source.

### **Important:**

For proper load balancing, Avaya recommends that you power all supplies in a chassis from different circuits with the same voltage source, and that you use power supplies of the same model.

This power supply is hot swappable; you can remove the power supply from the Virtual Services Platform 9000 without powering off the system.

The AC power supply is keyed so that you can insert it only into an AC-compatible chassis.

The 9006AC power supply measures 1.625 inches (in.) x 4 in. x 13.875 in. (41.3 millimeter [mm] x 101.6 mm x 352.4 mm) and weighs 5 pounds (2.27 kilograms).

See [Electrical specifications](#) on page 26 for AC input power specifications.

The total input power consumption of the components (modules and cooling modules) must not exceed the output power rating of the 9006AC power supply.

### **9006AC power supply features**

The 9006 power supply contains the following features:

- AC input under-voltage and over-voltage protection
- DC output over-voltage and over-current protection
- over-temperature warning and protection
- power factor correction (meets EN/IEC 61000-3-2 and EN60555-2 requirements)

- redundant, parallel operation with active load sharing
- internal front-to-back cooling with variable-speed fan control

### Redundant power configuration

If a chassis has a redundant power supply configuration and one power supply fails, the chassis continues to operate with no interruption of service. The chassis continues to supply the same output power with the remaining power supplies.

If a chassis has the minimum power supply configuration (nonredundant configuration) and one power supply fails, the system loses power and network connectivity. A trap and syslog message indicates that the configuration is nonredundant.

With a minimum configuration and a power supply failure, the software powers down lower priority interface modules until it establishes the positive power margin. For more information about how to configure the slot priority, see *Administering Avaya Virtual Services Platform 9000*, NN46250-600.

#### Important:

Avaya recommends that you operate the Virtual Services Platform 9000 system in a redundant configuration at all times to ensure a maximum network up time.

The following figure shows a redundant power supply configuration using six 9006AC power supplies in a Virtual Services Platform 9012 chassis.

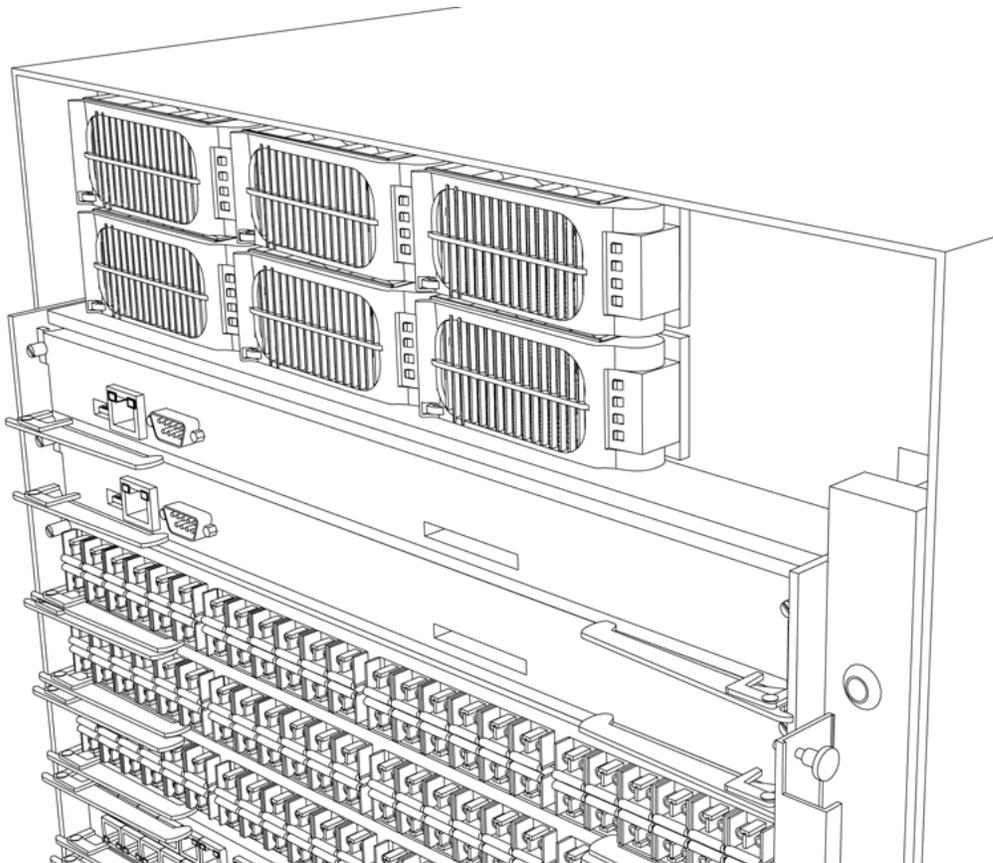


Figure 1: Redundant power supplies in the VSP 9012 chassis

You can operate the 9006AC power supplies separately, or in parallel, or parallel redundant configurations.

**Important:**

Avaya recommends that you install each power supply on its own dedicated branch circuit for electrical installation reasons.

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## Minimum number of power supplies required

To configure a Virtual Services Platform 9000 system, consider the total power consumption to ensure proper system performance. For more information about the number of power supplies required for your configuration, see *Installing the Avaya Virtual Services Platform 9000*, NN46250-304.

To determine how many power supplies you need, you can also download *ERS 8000 / VSP 9000 Power Supply Calculator*, NN48500–519 from the **System Management & Planning** section of the Virtual Services Platform 9000 product documentation at <https://support.avaya.com>.

If the total power provided by the power supplies falls below the switch requirement, the polling software displays the following message on the console: `chCheckPowerUsage: One or more cards running low on power.`

You can view the total amount of power the switch uses, and the total amount of power the power supplies provide by using the following commands:

- Shows power information – `show sys-info power`
- Shows power management information – `show sys power`

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## Power supply LEDs

The following table describes the LED operation for the AC power supplies.

**Table 1: Power supply LEDs**

AC OK (green)	DC OK (green)	Service (amber)	Fault (red)	Condition
On	On	Off	Off	OK
On	On	On	Off	Thermal alarm (5C before shutdown)
On	Off	On	On	Thermal shutdown
On	Off	Off	On	Defective fan
On	Off	Off	On	Blown AC fuse in unit

AC OK (green)	DC OK (green)	Service (amber)	Fault (red)	Condition
Off	On	Off	Off	No AC for less than 15 ms on a single unit
blinks	Off	Off	Off	AC present but not within limits
Off	Off	Off	Off	AC not present
On	Off	Off	On	Boost stage failure
On	Off	Off	On	Over voltage latched shutdown
On	On	Off	On	Non-catastrophic internal failure
On	Off	Off	Off	Standby

The 9080CP module also provides LEDs for the power supplies. Software on the 9080CP module automatically determines whether you have installed the 9080CP module in the Virtual Services Platform 9010 chassis or the Virtual Services Platform 9012 chassis. You do not have to update the configuration.

The 9080CP module provides six LEDs for power supplies. The Virtual Services Platform 9010 chassis can use a maximum of eight power supplies. On the 9080CP module installed in a Virtual Services Platform 9010 chassis, the LED for Auxiliary module 1 corresponds to power supply 7, and the LED for Auxiliary module 2 corresponds to power supply 8.

For more information about the LEDs on the 9080CP module, see *Installing Modules in Avaya Virtual Services Platform 9000*, NN46250-301.

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## Chassis and power supply compatibility

The following table indicates the compatibility between chassis and AC power supply models.

**Table 2: Chassis and AC power supply compatibility**

Power supply	VSP 9010AC chassis	VSP 9012 chassis
9006AC	Supported	Supported

# Chapter 4: AC power supply installation for the VSP 9010 AC chassis

This chapter describes the procedures to install AC power supplies in the Avaya Virtual Services Platform 9010 AC chassis. The Virtual Services Platform 9010 AC chassis provides eight slots for power supplies.

You need qualified service personnel to install and replace Virtual Services Platform 9000 components.

## Before you begin

### Voltage:

### Risk of injury by electric shock

Before working on this equipment, be aware of proper safety practices and the hazards involved with electrical circuits. Use only power cords that have a grounding path. Ensure the switch is properly grounded before powering on the unit.

## About this task

For information about the minimum software version required to support the hardware, see *Release Notes for Avaya Virtual Services Platform 9000*, NN46250-401.

### Important:

Avaya recommends that you install each power supply on its own dedicated branch circuit for electrical installation reasons.

The following table lists the estimated time to install an AC power supply for the Virtual Services Platform 9010 AC. The installation time depends on the number of power supplies you are installing.

**Table 3: Estimated time**

Task	Estimated Time
Removing the air inlet cover	Less than 1 minute
Installing the AC power supply	1 minute

The Virtual Services Platform 9010 chassis ships with no installed power supplies. In the front of the chassis, power supply slots are numbered increasing from left to right, with 1, 2, 3, and 4 on the first row, and then 5, 6, 7, and 8 on the second row. Install the first power supply in the top-left slot.

The individual on and off power switches and inlet connectors at the back of the Virtual Services Platform 9010 AC chassis are numbered decreasing from left to right, with 4, 3, 2, and 1 on the first row, and then 8, 7, 6, and 5 on the second row.

### Related Links

[Removing the air inlet cover](#) on page 14

[Installing the power supply](#) on page 15

[Removing the power supply](#) on page 18

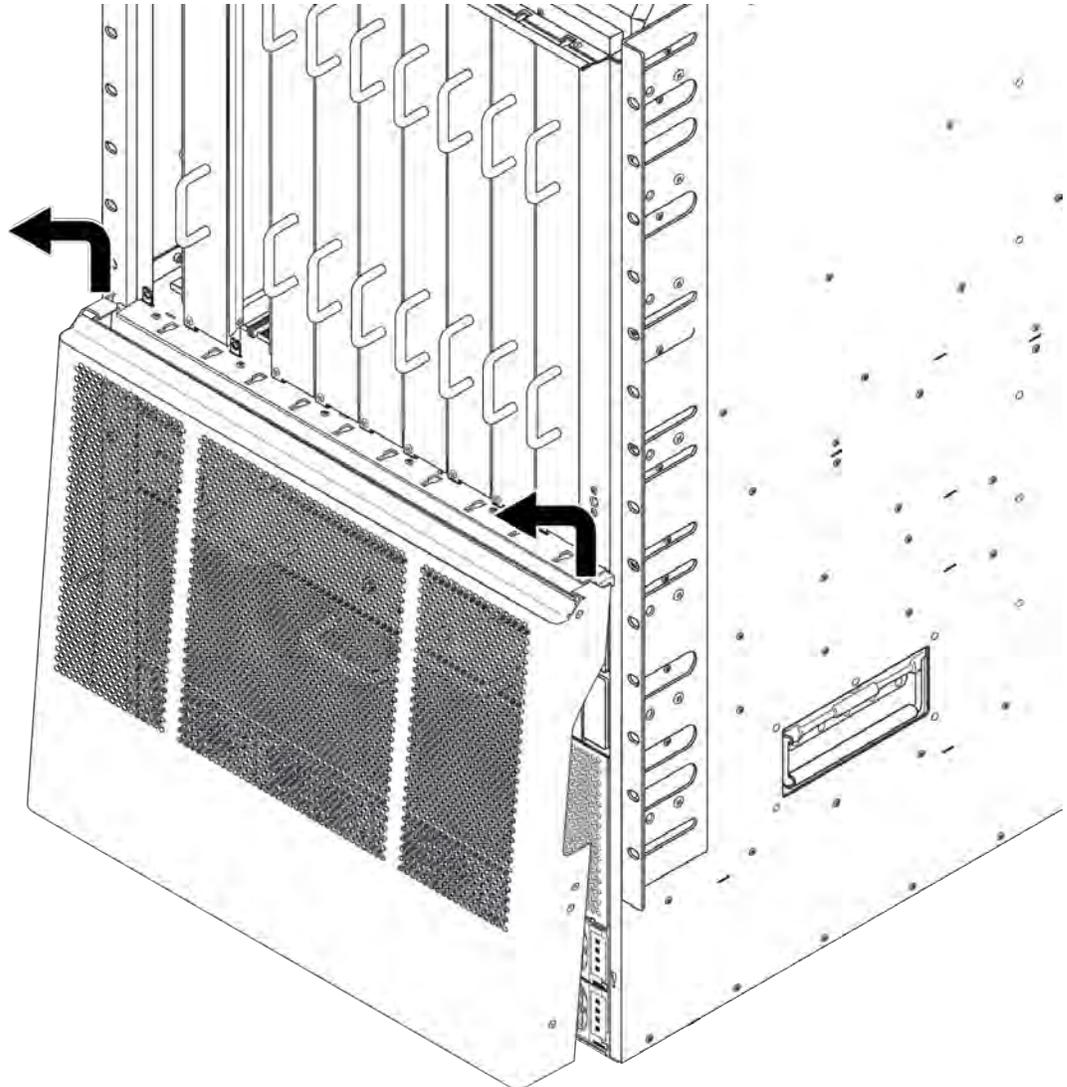
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## Removing the air inlet cover

Before you can install or remove a power supply or cooling module, you must remove the air inlet cover from the chassis.

### Procedure

1. Grasp the cover on each side.
2. Lift the cover up and away from the chassis.



#### Related Links

[AC power supply installation for the VSP 9010 AC chassis](#) on page 13

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## Installing the power supply

Install the power supply to provide a power source to the system and components.

#### Before you begin

- Remove the air inlet cover.
- Remove the existing power supply or power supply filler panel.

**Voltage:**

**Risk of injury from electric shock**

Before working on this equipment, be aware of proper safety practices and the hazards involved with electrical circuits. Use only power cords that have a grounding path. Ensure the switch is properly grounded before powering on the unit.

**Caution:**

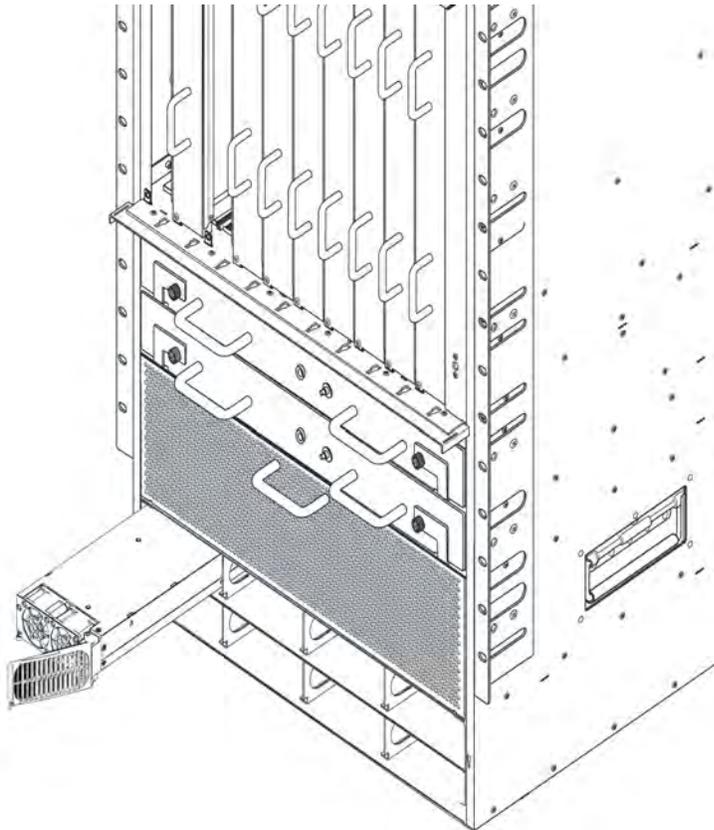
If you must reinsert a power supply, ensure that the power supply fans stop spinning. When the fans stop spinning, the power supply is discharged and ready to be reinserted.

**About this task**

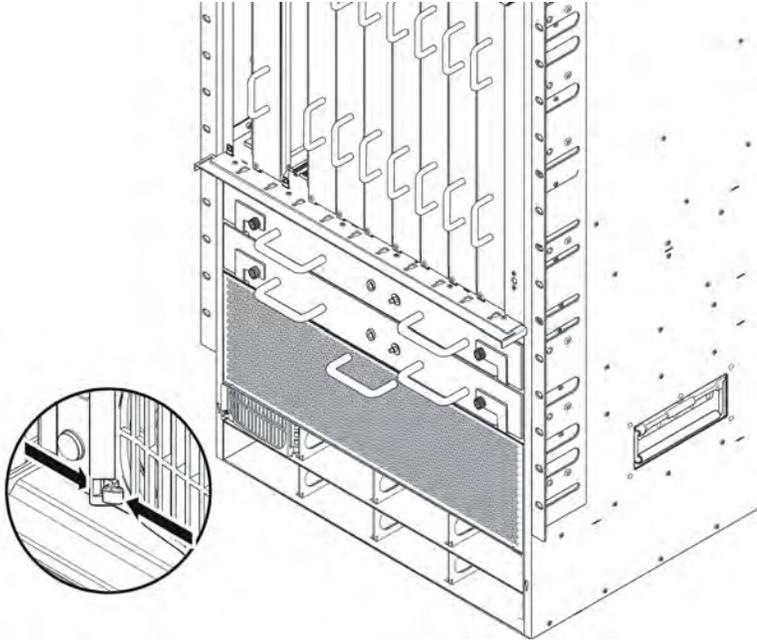
You can only install the power supply one way. The power supplies are blocked to prevent accidental upsidedown installation. If you meet resistance, you may have the module upsidedown.

**Procedure**

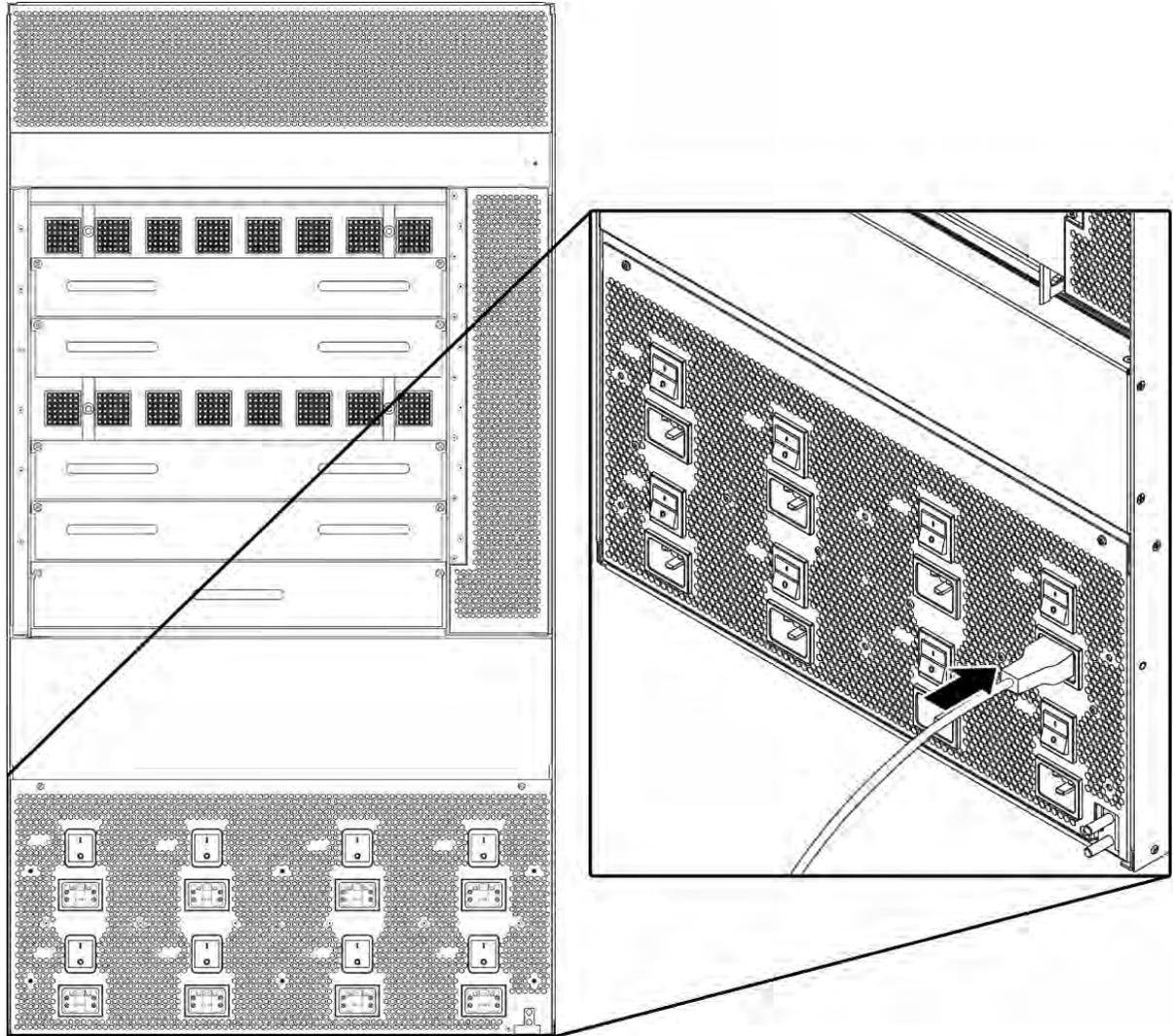
1. Use two hands to slide the power supply into the slot until the action lever clicks.



2. Rotate the action lever closed to seat the power supply and engage the retaining clip.



3. At the back of the chassis, connect an AC power cord from the AC power inlet to a power outlet.



4. Replace the air inlet cover.

#### Related Links

[AC power supply installation for the VSP 9010 AC chassis](#) on page 13

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## Removing the power supply

Remove a power supply to replace it with a new power supply. After you remove a power supply, the LED on the power supply turns off, and the chassis automatically redistributes the load to the remaining power supplies.

#### Before you begin

- Remove the air inlet cover.

**Voltage:****Risk of injury from electric shock**

Before working on this equipment, be aware of proper safety practices and the hazards involved with electrical circuits. Use only power cords that have a grounding path. Ensure the switch is properly grounded before powering on the unit.

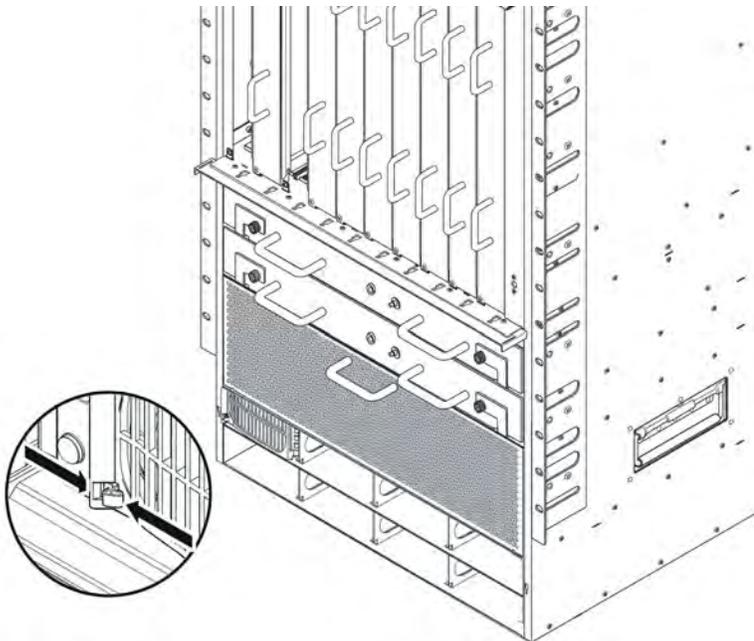
**About this task**

When you remove a power supply, turn off power to a power supply, or remove the power cord that connects to a power supply, you must wait 15 seconds before you return power to that power supply. The power supply must fully power down before it can initialize again.

If you remove a power supply and do not have a replacement power supply, you must install a filler panel in the empty power supply slot. If you do not have a replacement power supply or filler panel, leave the original supply in place. Do not operate the Virtual Services Platform 9010 chassis with empty power supply slots.

**Procedure**

1. Turn off the power supply switch at the back of the chassis.
2. Press the retaining clip to release the action lever.



3. Rotate the action lever open to unseat the power supply, moving it slightly forward.
4. Use both hands to pull the power supply from the chassis.
5. Install a new power supply or power supply filler panel in the empty slot.
6. Replace the air inlet cover.

**Related Links**

[AC power supply installation for the VSP 9010 AC chassis](#) on page 13

# Chapter 5: AC power supply installation for the VSP 9012 chassis

This chapter describes the procedures to install AC power supplies in the Avaya Virtual Services Platform 9012 chassis. The Virtual Services Platform 9012 chassis provides six slots for power supplies.

## About this task

- You need qualified service personnel to install and replace Virtual Services Platform 9000 components.

### Voltage:

### Risk of injury by electric shock

Before working on this equipment, be aware of proper safety practices and the hazards involved with electrical circuits. Use only power cords that have a grounding path. Ensure the switch is properly grounded before powering on the unit.

For information about the minimum software version required to support the hardware, see *Release Notes for Avaya Virtual Services Platform 9000*, NN46250-401.

### Important:

Avaya recommends that you install each power supply on its own dedicated branch circuit for electrical installation reasons.

The following table lists the estimated time to install an AC power supply for the Virtual Services Platform 9012 chassis. The installation time depends on the number of power supplies you install.

**Table 4: Estimated time**

Task	Estimated Time
Removing the logo plate	1 minute
Installing the AC power supply	1 minute

The Virtual Services Platform 9012 chassis ships with no installed power supplies. In the front of the chassis, power supply slots are numbered increasing from left to right, with 1, 2, and 3 on the first row, and then 4, 5, and 6 on the second row. Install the first power supply in the top-left slot.

The individual on and off AC power switches and AC IEC60320 inlet connectors at the back of the Virtual Services Platform 9012 chassis are numbered decreasing from left to right, with 3, 2, and 1 on the first row, and then 6, 5, and 4, on the second row.

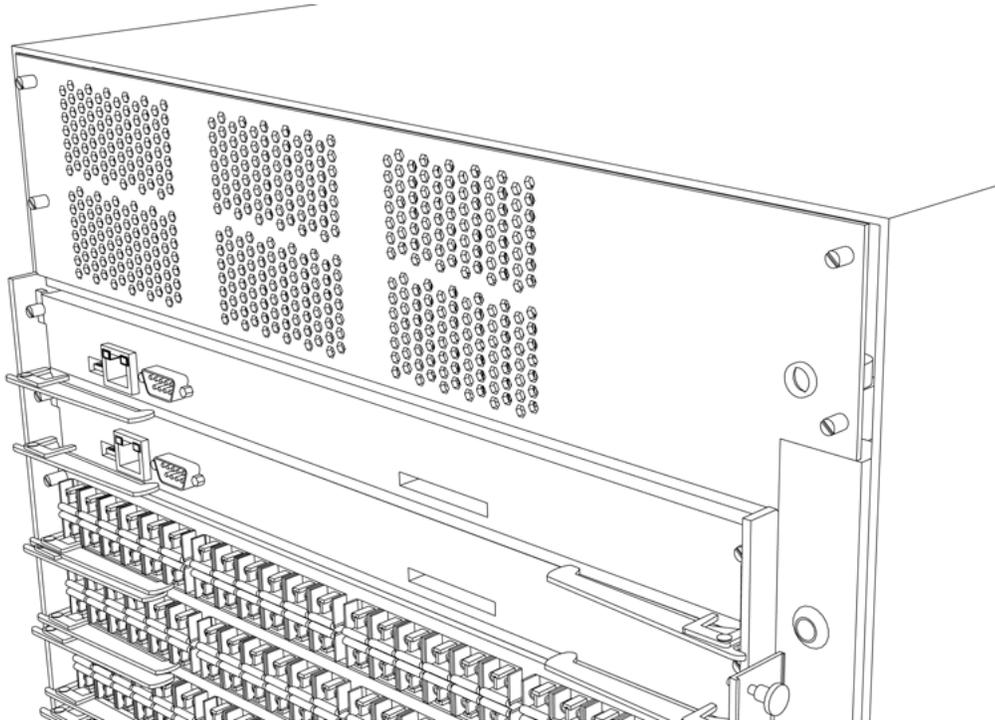
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## Removing the logo plate

Remove the logo plate to access the power supply in a slot.

### Procedure

1. Use a Phillips screwdriver to loosen the four captive screws, which secure the plate to the chassis, until the plate disengages.



2. Pull the plate from the chassis.

---

## Installing the AC power supply

Install the AC power supply to provide a power source to the system and components.

### Before you begin

- Remove the logo plate, if required. Save the logo plate in case you need to operate the Virtual Services Platform 9012 chassis with a power supply removed.

#### **Voltage:**

#### **Risk of injury from electric shock**

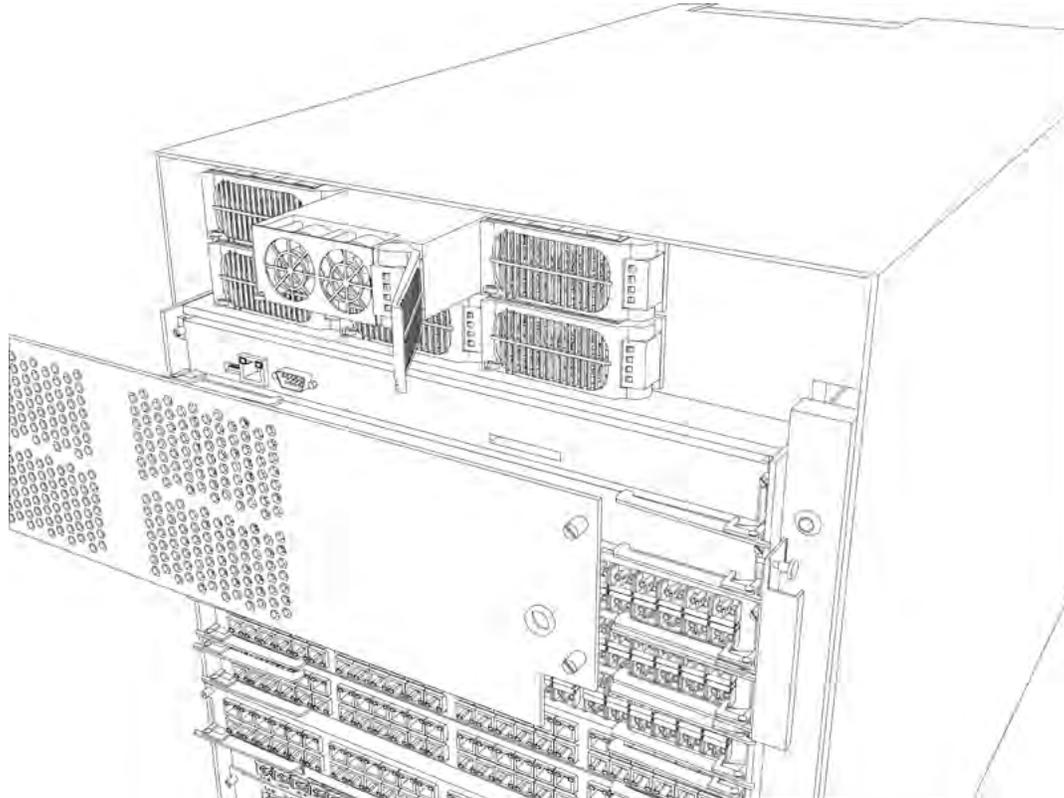
Before working on this equipment, be aware of proper safety practices and the hazards involved with electrical circuits. Use only power cords that have a grounding path. Ensure the switch is properly grounded before powering on the unit.

**Caution:**

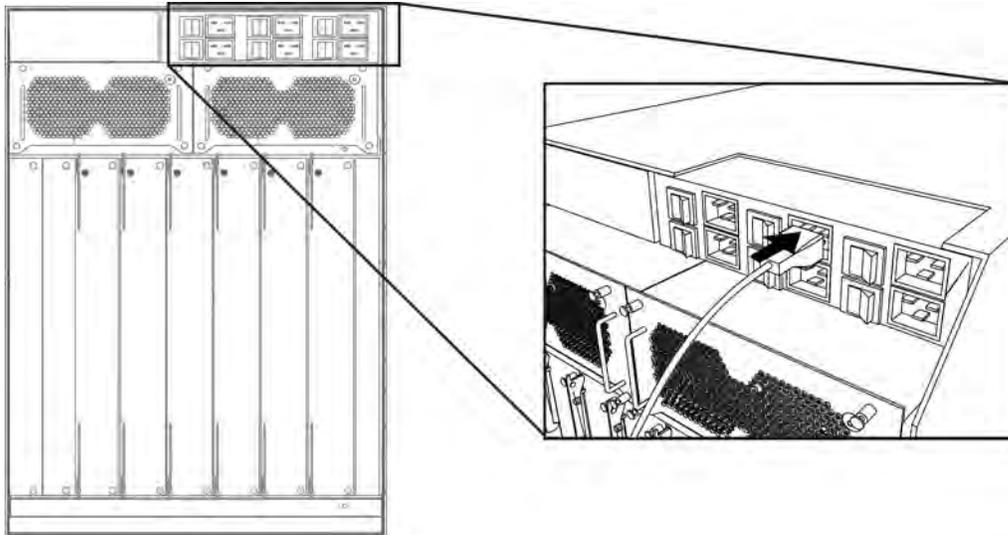
If you must reinsert a power supply, ensure that the power supply fans stop spinning. When the fans stop spinning, the AC power supply is discharged and ready to be reinserted.

**Procedure**

1. Loosen the 4 captive screws to remove the logo plate.



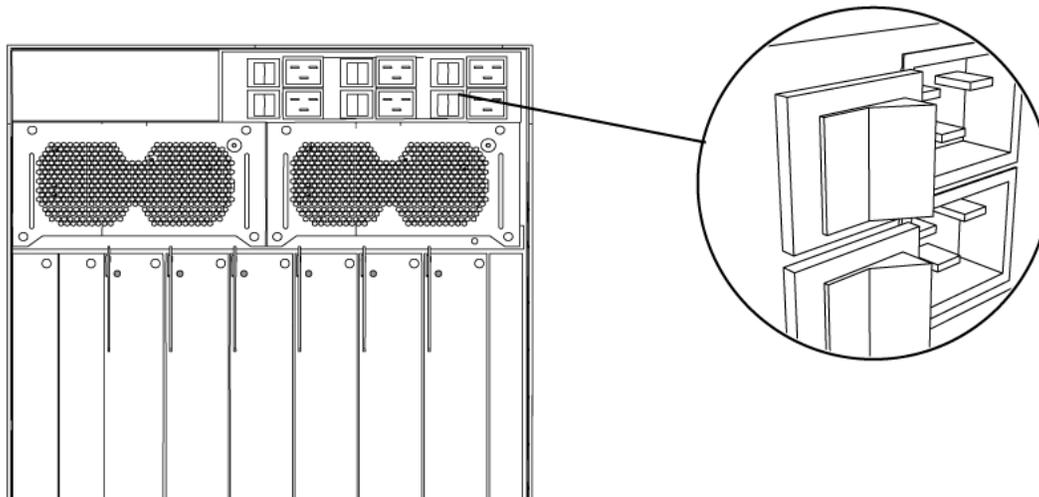
2. Push the power supply firmly into the slot until the action lever clicks.
3. Close the action lever on the power supply grill to lock the power supply in place.
4. Replace the logo plate and tighten the 4 captive screws.
5. Connect a power cord from the power inlet to an AC power outlet.



**Important:**

Avaya recommends that you install each power supply on its own dedicated branch circuit for electrical installation reasons.

6. Turn on the power switch on the back of the chassis.




---

## Removing the AC power supply

Remove a power supply to replace it with a new power supply. After you remove a power supply, the LED on the power supply turns off, and the Virtual Service Platform 9012 chassis automatically redistributes the load to the remaining power supplies.

## Before you begin

- Remove the logo plate.

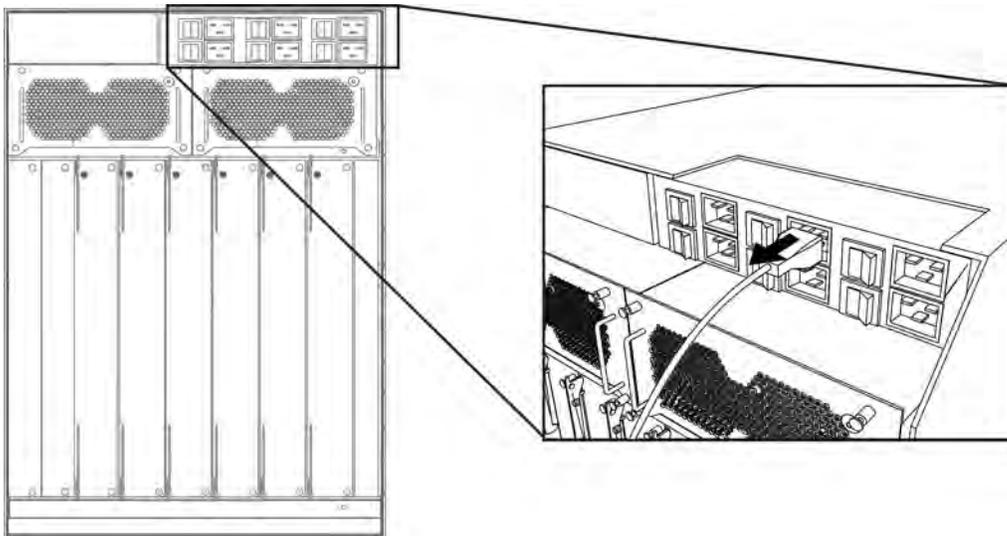
### Voltage:

### Risk of injury from electric shock

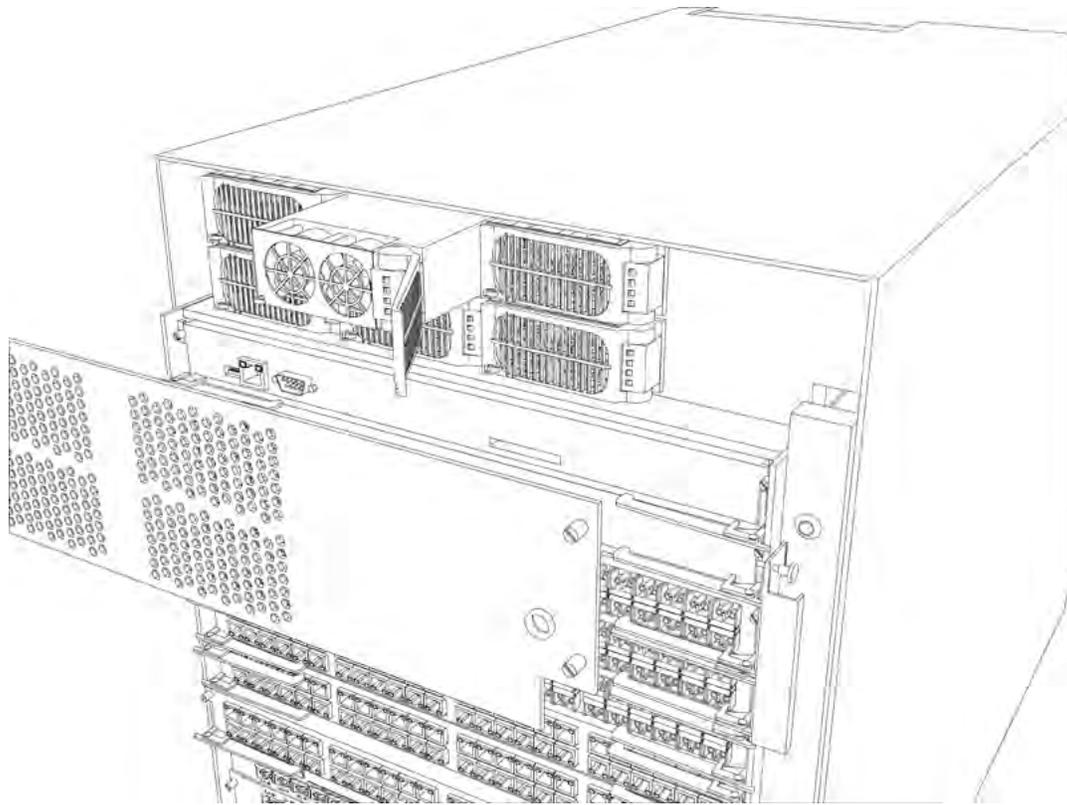
Before working on this equipment, be aware of proper safety practices and the hazards involved with electrical circuits. Use only power cords that have a grounding path. Ensure the switch is properly grounded before powering on the unit.

## Procedure

1. Turn off the power supply switch on the back of the chassis.
2. Disconnect the power cord from the power outlet and from the power supply.



3. Press the retaining clip to release the action lever.
4. Rotate the action lever open to unseat the power supply, moving it slightly forward.
5. Use both hands to pull the power supply from the chassis.



# Chapter 6: Electrical specifications

This chapter lists the electrical specifications and provides power ratings for the AC power supplies.

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## 9006AC specifications

This section provides the input and output power specifications for the 9006AC power supply.

### AC input power specifications

The following table describes the technical specifications for AC input power for the 9006AC power supply.

**Table 5: Input power specifications**

Parameter	Specification at input voltage 90-140 VAC	Specification at input voltage 185-275 VAC
Input current	13.3 A (100 VAC) - 11.2 A (120 VAC)	11.8 A (200 VAC) – 9.9 A (240 VAC)
Operating frequency range	47–63 Hz	47–63 Hz
Input volt-ampere (VA)	1445 VA	2325 VA
Efficiency	85% minimum, 90% typical	88% minimum, 93% typical
Input power consumption	1,416 W	2,277 W
Heat dissipation (thermal output)	724 British Thermal Unit (BTU)/hour	933 BTU/hour
Hold-up time (See note 1.)	25 ms	20 ms

Note 1: Measurement starts at zero crossing of the AC voltage. Measurement made at full load and voltage is allowed to decay to 44 VDC.

### DC output power specifications

The following table describes the technical specifications for the DC output power for the 9006AC power supply.

**Table 6: Output power specifications**

<b>Parameter</b>	<b>Specification at input voltage 90–140 VAC</b>	<b>Specification at input voltage 185–275 VAC</b>
Maximum main output power	1,200 W	2,000 W
Maximum main output current	22 A	37 A
Auxiliary output voltage / power	5 VDC / 3.75 W	5 VDC / 3.75 W
Output voltage set-point	54 VDC	54 VDC
Mean time between failures (See note 1.)	400,000 hours	400,000 hours
Note 1: Per telcordia SR-332, 25 C, full load, method 1, case III		

# Chapter 7: Power cord specifications

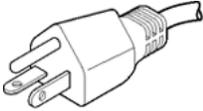
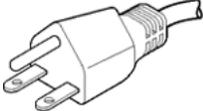
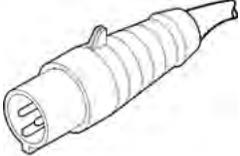
Power cords are included with the AC power supplies.

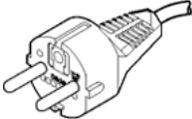
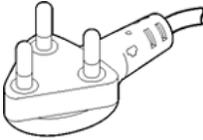
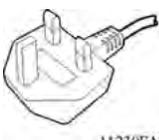
The following table lists specifications for international power cords for the AC power supply.

**Important:**

If you use the NEMA5-20 male plug power cord AA0020076-E6, which is rated for lower input voltage conditions, the power supply output power is limited to 1140 watts (W).

**Table 7: International power cord specifications for the AC power supplies**

Avaya order number	Country Plug/Receptacle description	Specifications	Typical plug
AA0020076-E6	North America: • NEMA5-20 male plug	125 VAC/20 A 12 AWG length: 2.5 m	 11093FA
AA0020077-E6	North America: • NEMA6-15 male plug	250 VAC/15 A 14 AWG length: 2.5 m	 11094FA
AA0020083-E6	North America: • NEMA6-20 twist-lock male plug	250 VAC/20 A 12 AWG length: 8.2 ft	 11191FA
AA0020087-E6	North America: • NEMAL6-15 twist-lock male plug	250 VAC/15 A 14 AWG length: 8.2 ft.	 11191FA
AA0020082-E6	International: • IEC60309 male plug	230 VAC/16 A 1.5 mm <sup>2</sup> length: 2.5 m	 11098FA

Avaya order number	Country Plug/Receptacle description	Specifications	Typical plug
AA0020078-E6	Continental Europe: • CEE7/7 male plug	250 VAC/16 A 1.5 mm <sup>2</sup> length: 2.5 m	 228FA
AA0020079-E6	Italy: • CEI 23-50 S17 male plug	250 VAC/16 A 1.5 mm <sup>2</sup> length: 2.5 m	 11095FA
AA0020080-E6	Israel: • SI-32 male plug	250 VAC/16 A 1.5 mm <sup>2</sup> length: 2.5 m	 11096FA
AA0020081-E6	India/South Africa: • BS-546 male plug	250 VAC/15 A 1.5 mm <sup>2</sup> length: 2.5 m	 11097FA
AA0020084-E6	Australia: • AS/NZ5 3112 male plug	250 VAC/15 A 1.5 mm <sup>2</sup> length: 2.5 m	 11229FA
AA0020085-E6	United Kingdom and Ireland: • BS 1362	250 VAC/13 A 1.5 mm <sup>2</sup> length: 2.5 m	 11230FA
AA0020086-E6	Greater China: • GB 11918-89	250 VAC/16 A 1.5 mm <sup>2</sup> length: 2.5 m	 11229FAnew

# Chapter 8: Translations of safety messages

This chapter describes the translations of safety messages which you need to be aware of while executing the installation of AC power supply.

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## Class A electromagnetic interference warning statement

**Warning:**

**Risk of electromagnetic interference**

This device is a Class A product. Operation of this equipment in a residential area is likely to cause harmful interference, in which case users are required to take appropriate measures necessary to correct the interference at their own expense.

**Warning:**

**AVERTISSEMENT**

Le périphérique est un produit de Classe A. Le fonctionnement de cet équipement dans une zone résidentielle risque de causer des interférences nuisibles, auquel cas l'utilisateur devra y remédier à ses propres frais.

**Warning:**

**WARNUNG**

Dies ist ein Gerät der Klasse A. Bei Einsatz des Geräts in Wohngebieten kann es Störungen des Radio- und Fernsehempfangs verursachen. In diesem Fall muss der Benutzer alle notwendigen Maßnahmen ergreifen, die möglicherweise nötig sind, um die Störungen auf eigene Rechnung zu beheben.

**Warning:**

**ADVERTENCIA**

Este es un producto clase A. El uso de este equipo en áreas residenciales puede causar interferencias nocivas, en cuyo caso, se requerirá que los usuarios tomen cualquier medida necesaria para corregir la interferencia por cuenta propia.

**Warning:**

**AVISO**

Este dispositivo é um produto Classe A. Operar este equipamento em uma área residencial provavelmente causará interferência prejudicial; neste caso, espera-se que os usuários tomem as medidas necessárias para corrigir a interferência por sua própria conta.

**Warning:**

**AVVISO**

Questo dispositivo è un prodotto di Classe A. Il funzionamento di questo apparecchio in aree residenziali potrebbe causare interferenze dannose, nel cui caso agli utenti verrà richiesto di adottare tutte le misure necessarie per porre rimedio alle interferenze a proprie spese.

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## Electrostatic discharge caution statement

**Electrostatic alert:**

**ELECTROSTATIC ALERT**

ESD can damage electronic circuits. Do not touch electronic hardware unless you wear a grounding wrist strap or other static-dissipating device.

**Electrostatic alert:**

**ELEKTROSTATIKWARNUNG**

Elektronische Schaltkreise können durch elektrostatische Entladung beschädigt werden. Berühren Sie elektronische Hardware nur, wenn Sie ein Erdungsarmband oder ein anderes Statik ableitendes Medium tragen.

**Electrostatic alert:**

**ALERTA DE ELECTROESTÁTICA**

Una descarga electroestática puede dañar los circuitos electrónicos. No toque el hardware electrónico a no ser que utilice una muñequera antiestática u otro dispositivo disipador de estática.

**Electrostatic alert:**

**ALERTA CONCERNANT LES DÉCHARGES ÉLECTROSTATIQUES**

Une décharge électrostatique (DES) peut endommager les circuits électroniques. Ne touchez pas le matériel électronique, à moins de mettre à votre poignet une bande de mise à la masse ou autre dispositif dissipant l'électricité statique.

**Electrostatic alert:**

**ALERTA DE ELETROSTÁTICA**

ESD pode danificar circuitos eletrônicos. Não toque em equipamentos eletrônicos a menos que esteja utilizando pulseira de aterramento ou outro dispositivo para dissipação de energia estática.

**Electrostatic alert:**

**AVVISO ELETTROSTATICO**

Le scariche elettrostatiche (ESD) possono danneggiare i circuiti elettronici. Non toccare i componenti elettronici senza aver prima indossato un braccialetto antistatico o un altro dispositivo in grado di dissipare l'energia statica.

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## Electric shock danger statement

**Voltage:**

**Risk of injury by electric shock**

Before working on this equipment, be aware of proper safety practices and the hazards involved with electrical circuits. Use only power cords that have a grounding path. Ensure the switch is properly grounded before powering on the unit.

**Voltage:**

**DANGER**

Risques de blessure par choc électrique

Avant de manipuler cet équipement, vous devez prendre connaissance des pratiques de sécurité appropriées et des risques associés aux circuits électriques. Utilisez uniquement des cordons d'alimentation possédant un conducteur de terre. Assurez-vous que le commutateur est correctement relié à la terre avant de mettre l'unité sous tension.

**Voltage:**

**GEFAHR**

Verletzungsrisiko durch Stromschlag

Informieren Sie sich über entsprechende Sicherheitsmaßnahmen und die mit Stromkreisen verbundenen Gefahren, bevor Sie mit diesem Gerät arbeiten. Verwenden Sie nur Netzkabel mit Erdungspfad. Stellen Sie sicher, dass der Schalter ordnungsgemäß geerdet ist, bevor Sie das Gerät einschalten.

**Voltage:**

**PELIGRO**

Riesgo de lesión por electrocución

Antes de trabajar con este equipo, infórmese acerca de las medidas de seguridad adecuadas y de los peligros relacionados con los circuitos eléctricos. Utilice sólo cables de corriente que tengan puesta a tierra. Asegúrese de que el interruptor tenga puesta a tierra antes de encender la unidad.

**Voltage:**

**PERIGO**

Risco de ferimentos por choque eléctrico

Antes de começar a trabalhar com o equipamento, esteja ciente das práticas de segurança adequadas e dos perigos inerentes a circuitos eléctricos. Use apenas cabos de alimentação que tenham ligação à terra. Certifique-se de que o switch esteja devidamente aterrado antes de ligar o aparelho.

**Voltage:**

**PERICOLO**

Rischio di scosse elettriche

Prima di utilizzare questa apparecchiatura, considerare le appropriate pratiche di sicurezza e i pericoli correlati ai circuiti elettrici. Utilizzare esclusivamente cavi di alimentazione dotati di un percorso per il collegamento a terra. Prima di attivare l'alimentazione dell'unità, accertarsi che l'interruttore sia adeguatamente collegato alla messa a terra.

# Glossary

**cooling module  
(9010CM)**

The cooling module is a hot swappable fan tray used to cool the Control Processor, I/O, and Switch Fabric modules in the Virtual Services Platform 9010. Two cooling modules are installed horizontally in the front of the chassis.

**Electromagnetic  
Interference (EMI)**

Electromagnetic radiation released from an electronic device that disrupts the operation or performance of another device.

**Electrostatic  
Discharge (ESD)**

The discharge of stored static electricity that can damage electronic equipment and impair electrical circuitry that results in complete or intermittent failures.

**I/O cooling module  
(9012FC)**

The I/O cooling module is a hot swappable fan tray used to cool the I/O and CP modules in the Virtual Services Platform 9012.

**light emitting diode  
(LED)**

A semiconductor diode that emits light when a current passes through it.

**Switch Fabric (SF)  
cooling module  
(9012RC)**

The SF cooling module is a hot swappable fan tray used to cool the Switch Fabric (SF) modules in the Virtual Services Platform 9012.