



Installation Note for the Catalyst 4500 Series NetFlow Services Card

Product number: WS-F4531(=)

This publication contains the procedure for installing the Catalyst 4500 series NetFlow Services Card on the Supervisor Engine IV (WS-X4515).



Note

You install the NetFlow Services Card only on Supervisor Engine IV modules. See the “[Hardware and Software Requirements](#)” section on [page 4](#) for more information.



Note

For translations of the warnings in this publication, see the *Regulatory Compliance and Safety Information for the Catalyst 4000 Family Switches* document.

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Overview

The NetFlow Services Card adds NetFlow accounting to the Catalyst 4500 series. NetFlow accounting collects statistics on a per-flow basis. A flow is defined as a source IP address, destination IP address, IP protocol type, source Layer 4 port, and destination Layer 4 port. Without the NetFlow Services Card, the Supervisor Engine IV on the Catalyst 4500 does not support NetFlow accounting.

The NetFlow Services Card is a configurable option on the Supervisor Engine IV for the Catalyst 4500 platform and is supported in a redundant supervisor configuration if both supervisors have a NetFlow Services Card.

For information on configuring NetFlow accounting, refer to Chapter 27, "Configuring NetFlow Statistics Collection," in the *Catalyst 4000 Family IOS Software Configuration Guide*.

Safety Overview

Safety warnings appear throughout this publication in procedures that, if performed incorrectly, may harm you. A warning symbol precedes each warning statement.



Warning

This warning symbol means *danger*. You are in a situation that could cause bodily injury. Before you work on any equipment, be aware of the hazards involved with electrical circuitry and be familiar with standard practices for preventing accidents. To see translations of the warnings that appear in this publication, refer to the *Regulatory Compliance and Safety Information* document that accompanied this device.

Waarschuwing

Dit waarschuwingssymbool betekent gevaar. U verkeert in een situatie die lichamelijk letsel kan veroorzaken. Voordat u aan enige apparatuur gaat werken, dient u zich bewust te zijn van de bij elektrische schakelingen betrokken risico's en dient u op de hoogte te zijn van standaard maatregelen om ongelukken te voorkomen. Voor vertalingen van de waarschuwingen die in deze publicatie verschijnen, kunt u het document *Regulatory Compliance and Safety Information* (Informatie over naleving van veiligheids- en andere voorschriften) raadplegen dat bij dit toestel is ingesloten.

Varoitus

Tämä varoitusmerkki merkitsee vaaraa. Olet tilanteessa, joka voi johtaa ruumiinvammaan. Ennen kuin työskentelet minkään laitteiston parissa, ota selvää sähkökytkentöihin liittyvistä vaaroista ja tavanomaisista onnettomuuksien ehkäisykeinoista. Tässä julkaisussa esiintyvien varoitusten käännökset löydät laitteen mukana olevasta *Regulatory Compliance and Safety Information* -kirjasesta (määräysten noudattaminen ja tietoa turvallisuudesta).

Attention

Ce symbole d'avertissement indique un danger. Vous vous trouvez dans une situation pouvant causer des blessures ou des dommages corporels. Avant de travailler sur un équipement, soyez conscient des dangers posés par les circuits électriques et familiarisez-vous avec les procédures couramment utilisées pour éviter les accidents. Pour prendre connaissance des traductions d'avertissements figurant dans cette publication, consultez le document *Regulatory Compliance and Safety Information* (Conformité aux règlements et consignes de sécurité) qui accompagne cet appareil.

- Warnung** Dieses Warnsymbol bedeutet Gefahr. Sie befinden sich in einer Situation, die zu einer Körperverletzung führen könnte. Bevor Sie mit der Arbeit an irgendeinem Gerät beginnen, seien Sie sich der mit elektrischen Stromkreisen verbundenen Gefahren und der Standardpraktiken zur Vermeidung von Unfällen bewusst. Übersetzungen der in dieser Veröffentlichung enthaltenen Warnhinweise finden Sie im Dokument *Regulatory Compliance and Safety Information* (Informationen zu behördlichen Vorschriften und Sicherheit), das zusammen mit diesem Gerät geliefert wurde.
- Avvertenza** Questo simbolo di avvertenza indica un pericolo. La situazione potrebbe causare infortuni alle persone. Prima di lavorare su qualsiasi apparecchiatura, occorre conoscere i pericoli relativi ai circuiti elettrici ed essere al corrente delle pratiche standard per la prevenzione di incidenti. La traduzione delle avvertenze riportate in questa pubblicazione si trova nel documento *Regulatory Compliance and Safety Information* (Conformità alle norme e informazioni sulla sicurezza) che accompagna questo dispositivo.
- Advarsel** Dette varselsymbolet betyr fare. Du befinner deg i en situasjon som kan føre til personskade. Før du utfører arbeid på utstyr, må du være oppmerksom på de faremomentene som elektriske kretser innebærer, samt gjøre deg kjent med vanlig praksis når det gjelder å unngå ulykker. Hvis du vil se oversettelser av de advarslene som finnes i denne publikasjonen, kan du se i dokumentet *Regulatory Compliance and Safety Information* (Overholdelse av forskrifter og sikkerhetsinformasjon) som ble levert med denne enheten.
- Aviso** Este símbolo de aviso indica perigo. Encontra-se numa situação que lhe poderá causar danos físicos. Antes de começar a trabalhar com qualquer equipamento, familiarize-se com os perigos relacionados com circuitos eléctricos, e com quaisquer práticas comuns que possam prevenir possíveis acidentes. Para ver as traduções dos avisos que constam desta publicação, consulte o documento *Regulatory Compliance and Safety Information* (Informação de Segurança e Disposições Reguladoras) que acompanha este dispositivo.
- ¡Advertencia!** Este símbolo de aviso significa peligro. Existe riesgo para su integridad física. Antes de manipular cualquier equipo, considerar los riesgos que entraña la corriente eléctrica y familiarizarse con los procedimientos estándar de prevención de accidentes. Para ver una traducción de las advertencias que aparecen en esta publicación, consultar el documento titulado *Regulatory Compliance and Safety Information* (Información sobre seguridad y conformidad con las disposiciones reglamentarias) que se acompaña con este dispositivo.
- Varning!** Denna varningssymbol signalerar fara. Du befinner dig i en situation som kan leda till personskada. Innan du utför arbete på någon utrustning måste du vara medveten om farorna med elkretsar och känna till vanligt förfarande för att förebygga skador. Se förklaringar av de varningar som förekommer i denna publikation i dokumentet *Regulatory Compliance and Safety Information* (Efterrättelse av föreskrifter och säkerhetsinformation), vilket medföljer denna anordning.



Warning

Before you install, operate, or service the system, read the *Site Preparation and Safety Guide*. This guide contains important safety information you should know before working with the system.



Warning

Only trained and qualified personnel should be allowed to install or replace this equipment.

Hardware and Software Requirements

To install and use the NetFlow Services Card, you need the following:

- Catalyst 4500 series switch (Catalyst 4503, 4506, 4507R, or Catalyst 4006)
- Supervisor Engine IV or Supervisor Engine V running Cisco IOS Version 12.1(13)EW or greater

Required Tools

You will need these tools to install the Catalyst 4500 series NetFlow Services Card:

- Antistatic mat or foam pad to support the removed module
- Number 1 Phillips screwdriver for the screws and cap nuts that fasten the NetFlow Services Card to the supervisor engine
- Your own electrostatic discharge (ESD)-prevention equipment or the disposable grounding wrist strap included with all upgrade kits, field-replaceable units (FRUs), and spares

Whenever you handle any FRU, always use a wrist strap or other grounding device to prevent ESD. For information on preventing ESD, refer to the “Preventing ESD” section of the *Site Preparation and Safety Guide*.

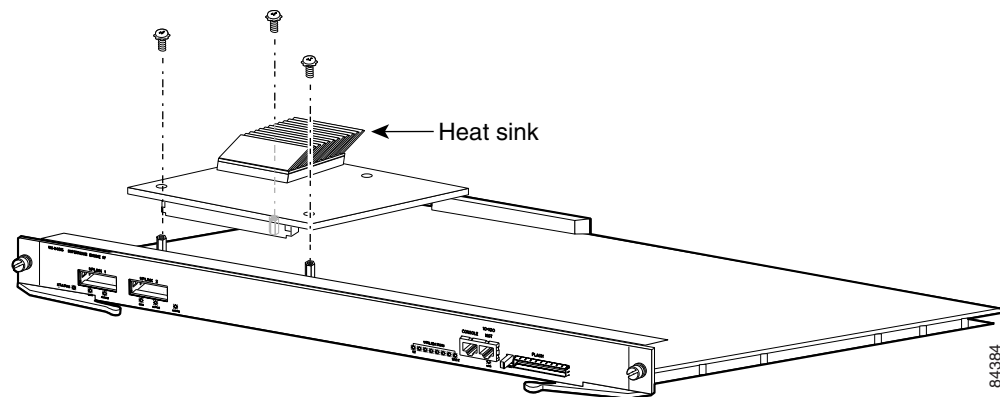
Installing the NetFlow Services Card

To install the NetFlow Services Card on a Supervisor Engine IV, follow these steps:

**Warning**

During this procedure, wear grounding wrist straps to avoid ESD damage to the card. Do not directly touch the backplane with your hand or any metal tool, or you could shock yourself.

- Step 1** Remove the supervisor engine from the Catalyst 4500 series switch. (Refer to Chapter 3, Installing the Modules, in the *Catalyst 4500 Series Module Installation Guide* for removal and installation instructions.)
- Step 2** Place the supervisor engine on an antistatic mat or foam, with the front of the supervisor engine facing toward you.
- Step 3** Remove the NetFlow Services Card from its antistatic bag.
- Step 4** Align the three mounting holes on the NetFlow Services Card with the three male standoff insulators on the supervisor engine. (See [Figure 1](#).)

Figure 1 Aligning the NetFlow Services Card

Step 5 Ensure that the connectors on the NetFlow Services Card are aligned with the connectors on the supervisor engine, which should happen automatically when the mounting holes are correctly aligned.

Step 6 Apply pressure to the NetFlow Services Card to seat the connectors.

**Caution**

Use care not to damage the connectors on the supervisor engine. If you damage a connector, you will have to return the supervisor engine to Cisco for repair.

**Caution**

Using the screws to seat the NetFlow Services Card could warp the card. *Before* you install and tighten the securing screws, ensure that the NetFlow Services Card is fully seated by visually verifying that there is no gap between the male and female keys on the connectors and that the bottom of the NetFlow Services Card is in contact with the tops of the standoffs.

Step 7 Using a Phillips screwdriver, install two screws at the front of the NetFlow Services Card and one screw at the power heat sink as shown in [Figure 1](#).

**Note**

Before installing the securing screws, visually verify that there are standoffs beneath the mounting holes.

**Caution**

You *must* install all the screws. The screws provide grounding between the NetFlow Services Card and the module. Failure to install all screws will invalidate the safety approvals and pose a risk of fire and electrical hazard.

Step 8 Install the supervisor engine in the Catalyst 4500 series switch. (Refer to the *Catalyst 4500 Series Module Installation Guide* for installation instructions.)

Step 9 Power up the switch. If the switch comes online normally, the system has acknowledged the supervisor engine and the NetFlow Services Card and has brought them online.

Related Documentation

For additional information on Catalyst 4500 series switches and command-line interface (CLI) commands, refer to the following publications:

- *Cisco IOS Software Configuration Guide for the Catalyst 4000 Family Switch*
- *Cisco IOS Command Reference for the Catalyst 4000 Family Switch*
- *Cisco IOS System Message Guide for the Catalyst 4000 Family Switch*
- *Catalyst 4500 Series Installation Guide*
- *Catalyst 4000 Family Module Installation Guide*

Obtaining Documentation

These sections explain how to obtain documentation from Cisco Systems.

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You can access the most current Cisco documentation on the World Wide Web at this URL:

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- Priority level 2 (P2)—Your production network is severely degraded, affecting significant aspects of business operations. No workaround is available.
- Priority level 1 (P1)—Your production network is down, and a critical impact to business operations will occur if service is not restored quickly. No workaround is available.

The Cisco TAC resource that you choose is based on the priority of the problem and the conditions of service contracts, when applicable.

This document is to be used in conjunction with the documents listed in the [“Related Documentation”](#) section.



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