



# Introduction to the Cisco 3200 Series Routers

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The Cisco 3200 Series routers provides industry-standard network software features that run on ruggedized hardware, suitable for harsh environments. A router includes a combination of mobile interface cards and a Cisco 3200 Rugged Enclosure. The following major components are available from Cisco:

- Cisco 3200 Rugged Enclosures
- Cisco 3270 Rugged Router card
- Mobile Access Router Card (MARC)
- Fast Ethernet Switch Mobile Interface Cards (FESMICs)
- Serial Mobile Interface Cards (SMICs)
- Wireless Mobile Interface Cards (WMICs)

This document describes the Cisco cards and the enclosure solutions that are used to assemble Cisco 3200 Series routers. A router can be purchased as a complete unit or purchased in part from Cisco and assembled by a qualified system integrator (SI) as a custom solution. For example, a qualified SI might assemble cards into a custom enclosure to suit a particular environment. Custom solutions based on Cisco cards must include a power source, cables, and an enclosure. For information about the specific hardware configuration of your router, contact your SI.

The following chapters provide information that you need for understanding the physical components of a completed Cisco 3200 Series router. This document is not intended to cover assembly or repair instructions.

[Chapter 1, “Cisco 3270 Rugged Enclosure,”](#) describes the enclosures that house the Cisco 3200 Series routers.

[Chapter 2, “Cisco 3270 Rugged Router Card,”](#) describes the Cisco 3270 Rugged Router card layout.

[Chapter 3, “Mobile Access Router Card,”](#) describes the MARC layout.

[Chapter 4, “Fast Ethernet Switch Mobile Interface Card,”](#) describes the FESMIC layout, ports, and buses.

[Chapter 5, “Serial Mobile Interface Card,”](#) describes the SMIC layout, ports, and buses.

[Chapter 6, “Wireless Mobile Interface Cards,”](#) describes the WMIC layout, ports, and buses.

[Appendix A, “Smart Serial Port External Seal,”](#) describes how to seal the Smart Serial port.

[Appendix B, “SFP Module Replacement,”](#) describes how to install and remove small form-factor pluggable (SFP) modules on the Cisco 3270 Rugged Router card.

## Audience and Scope

The audience for this document is the system administrator (SA), the SI, and the system engineer (SE). They are experts with networking industry training and experience. We assume that users are familiar with the terminology and concepts of the PC-104, Cisco IOS software, and Mobile IP networking.

The SA, SI, or SE refers to this document to understand how the router hardware is connected to peripheral devices and to perform minor troubleshooting on the cards in an existing router. Although they might not be specifically identified as SAs, SIs, or SEs, all users of this documentation are assumed to have comparable skills and knowledge.

## Related Documentation

You can access these documents on the Documentation page on Cisco Connection Online (CCO) at [www.cisco.com](http://www.cisco.com). The following documentation is available at the [http://www.cisco.com/en/US/products/hw/routers/ps272/tsd\\_products\\_support\\_series\\_home.html](http://www.cisco.com/en/US/products/hw/routers/ps272/tsd_products_support_series_home.html):

- *Release Notes for the Cisco 3200 Series Mobile Access Routers (78-13975)*—Provides information about accessing documentation and technical assistance for the Cisco 3200 Series router.
- *Radio Channels and Transmit Frequencies(OL-11491-03)*—Description of how to determine the radio type and how to configure radio channel spacing, radio channel or frequency, and Dynamic Frequency Selection (DFS).
- *Roles and the Associations of Wireless Devices(OL-11494-03)*—Description of the roles Cisco wireless devices can be assigned and how the role of a device affects its ability to associate or not associate with other wireless devices.
- *Cisco 3200 Series Wireless MIC Software Configuration Guide (OL-6415-05)*—Provides sample procedures for using the IOS commands to configure Wireless Mobile Interface Cards (WMICs).
- *Cisco 3200 Series Mobile Access Router Software Configuration Guide (OL-1926-06)*—Provides sample procedures for using the Cisco IOS commands to configure the Cisco 3270 Rugged Router card or the Mobile Access Router Card (MARC) in Cisco 3200 Series routers.
- *Cisco 3200 Series Mobile Access Router Hardware Reference (OL-5816)*—(This book) Provides descriptions of the Cisco MIC I/O cards in the Cisco 3200 Series routers.
- *Cisco 3200 Series Mobile Access Router Reference Sell Document (OL-3880)*—Presents an overview of the reference sell program and components for the Cisco 3200 Series router.
- *Regulatory Compliance and Safety Information for the Cisco 3200 Mobile Access Router (78-16930)*—Provides regulatory compliance and safety information.

The release notes that list the enhancements to and caveats for Cisco IOS releases that pertain to the Cisco 3200 Series router are available at:

[http://www.cisco.com/en/US/products/sw/iosswrel/products\\_ios\\_cisco\\_ios\\_software\\_releases.html](http://www.cisco.com/en/US/products/sw/iosswrel/products_ios_cisco_ios_software_releases.html)

or

<http://www.cisco.com/en/US/products/sw/iosswrel/ps5012/ps4629/index.html>

For information about using Cisco IOS software to configure SNMP, see to the following documents:

- The “Configuring SNMP Support” chapter of the *Cisco IOS Configuration Fundamentals Configuration Guide*, Release 12.2
- The “SNMP Commands” chapter of the *Cisco IOS Configuration Fundamentals Command Reference*, Release 12.2

For information about using Cisco IOS software to configure Simple Network Management Protocol (SNMP) Management Information Base (MIB) features, see to the appropriate documentation for your network management system.

For information on configuring Mobile IP using Cisco IOS software, see to the following documents:

- The “Configuring Mobile IP” chapter of the *Cisco IOS IP Configuration Guide*, Release 12.2
- The “Mobile IP Commands” chapter of the *Cisco IOS IP Command Reference, Volume 1 of 3: Addressing and Services*, Release 12.2

Related documents from the Cisco TAC Web pages include:

- Antenna Cabling  
<http://www.cisco.com/warp/public/102/wlan/antcable.html>

## Obtaining Documentation and Submitting a Service Request

For information on obtaining documentation, submitting a service request, and gathering additional information, see the monthly *What’s New in Cisco Product Documentation*, which also lists all new and revised Cisco technical documentation, at:

<http://www.cisco.com/en/US/docs/general/whatsnew/whatsnew.html>

Subscribe to the *What’s New in Cisco Product Documentation* as a Really Simple Syndication (RSS) feed and set content to be delivered directly to your desktop using a reader application. The RSS feeds are a free service and Cisco currently supports RSS version 2.0.

## Conventions

This publication uses these conventions to convey instructions and information:

Command descriptions use these conventions:

- Commands and keywords are in boldface text.
- Arguments for which you supply values are in italic.
- Square brackets ( [ ] ) mean optional elements.
- Braces ( { } ) group required choices, and vertical bars ( | ) separate the alternative elements.
- Braces and vertical bars within square brackets ( [ { | } ] ) mean a required choice within an optional element.

Interactive examples use these conventions:

- Terminal sessions and system displays are in screen font.
- Information you enter is in **boldface screen** font.
- Nonprinting characters, such as passwords or tabs, are in angle brackets (< >).

Notes, cautions, and timesavers use these conventions and symbols:



Tip

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Means the following will help you solve a problem. The tips information might not be troubleshooting or even an action, but could be useful information.

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**Note**

Means reader take note. Notes contain helpful suggestions or references to materials not contained in this manual.

**Caution**

Means reader be careful. In this situation, you might do something that could result in equipment damage or loss of data.

**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 appendix "Translated Safety Warnings.")

**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 aanhangsel "Translated Safety Warnings" (Vertalingen van veiligheidsvoorschriften) raadplegen.)

**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 liitteestä "Translated Safety Warnings" (käännetyt turvallisuutta koskevat varoitukset).)

**Attention**

Ce symbole d'avertissement indique un danger. Vous vous trouvez dans une situation pouvant entraîner des blessures. Avant d'accéder à cet équipement, soyez conscient des dangers posés par les circuits électriques et familiarisez-vous avec les procédures courantes de prévention des accidents. Pour obtenir les traductions des mises en garde figurant dans cette publication, veuillez consulter l'annexe intitulée « Translated Safety Warnings » (Traduction des avis de sécurité).

**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 Anhang mit dem Titel "Translated Safety Warnings" (Übersetzung der Warnhinweise).)

Avvertenza	Questo simbolo di avvertenza indica un pericolo. Si è in una situazione che può causare infortuni. 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 nell'appendice, "Translated Safety Warnings" (Traduzione delle avvertenze di sicurezza).
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 vedlegget "Translated Safety Warnings" [Oversatte sikkerhetsadvarsler].)
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 apêndice "Translated Safety Warnings" - "Traduções dos Avisos de Segurança").
¡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 traducciones de las advertencias que aparecen en esta publicación, consultar el apéndice titulado "Translated Safety Warnings.")
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 appendix "Translated Safety Warnings" [Översatta säkerhetsvarningar].)

