



# Installation and Setup Guide for Campus Manager on Solaris

Software Release 3.3  
CiscoWorks

Corporate Headquarters  
Cisco Systems, Inc.  
170 West Tasman Drive  
San Jose, CA 95134-1706  
USA  
<http://www.cisco.com>  
Tel: 408 526-4000  
800 553-NETS (6387)  
Fax: 408 526-4100

Customer Order Number: DOC-7815049=  
Text Part Number: 78-15049-01



THE SPECIFICATIONS AND INFORMATION REGARDING THE PRODUCTS IN THIS MANUAL ARE SUBJECT TO CHANGE WITHOUT NOTICE. ALL STATEMENTS, INFORMATION, AND RECOMMENDATIONS IN THIS MANUAL ARE BELIEVED TO BE ACCURATE BUT ARE PRESENTED WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED. USERS MUST TAKE FULL RESPONSIBILITY FOR THEIR APPLICATION OF ANY PRODUCTS.

THE SOFTWARE LICENSE AND LIMITED WARRANTY FOR THE ACCOMPANYING PRODUCT ARE SET FORTH IN THE INFORMATION PACKET THAT SHIPPED WITH THE PRODUCT AND ARE INCORPORATED HEREIN BY THIS REFERENCE. IF YOU ARE UNABLE TO LOCATE THE SOFTWARE LICENSE OR LIMITED WARRANTY, CONTACT YOUR CISCO REPRESENTATIVE FOR A COPY.

The Cisco implementation of TCP header compression is an adaptation of a program developed by the University of California, Berkeley (UCB) as part of UCB's public domain version of the UNIX operating system. All rights reserved. Copyright © 1981, Regents of the University of California.

NOTWITHSTANDING ANY OTHER WARRANTY HEREIN, ALL DOCUMENT FILES AND SOFTWARE OF THESE SUPPLIERS ARE PROVIDED "AS IS" WITH ALL FAULTS. CISCO AND THE ABOVE-NAMED SUPPLIERS DISCLAIM ALL WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING, WITHOUT LIMITATION, THOSE OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT OR ARISING FROM A COURSE OF DEALING, USAGE, OR TRADE PRACTICE.

IN NO EVENT SHALL CISCO OR ITS SUPPLIERS BE LIABLE FOR ANY INDIRECT, SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES, INCLUDING, WITHOUT LIMITATION, LOST PROFITS OR LOSS OR DAMAGE TO DATA ARISING OUT OF THE USE OR INABILITY TO USE THIS MANUAL, EVEN IF CISCO OR ITS SUPPLIERS HAVE BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

CCSP, CCVP, the Cisco Square Bridge logo, Follow Me Browsing, and StackWise are trademarks of Cisco Systems, Inc.; Changing the Way We Work, Live, Play, and Learn, and iQuick Study are service marks of Cisco Systems, Inc.; and Access Registrar, Aironet, ASIST, BPX, Catalyst, CCDA, CCDP, CCIE, CCIP, CCNA, CCNP, Cisco, the Cisco Certified Internetwork Expert logo, Cisco IOS, Cisco Press, Cisco Systems, Cisco Systems Capital, the Cisco Systems logo, Cisco Unity, Empowering the Internet Generation, Enterprise/Solver, EtherChannel, EtherFast, EtherSwitch, Fast Step, FormShare, GigaDrive, GigaStack, HomeLink, Internet Quotient, IOS, IP/TV, iQ Expertise, the iQ logo, iQ Net Readiness Scorecard, LightStream, Linksys, MeetingPlace, MGX, the Networkers logo, Networking Academy, Network Registrar, *Packet*, PIX, Post-Routing, Pre-Routing, ProConnect, RateMUX, ScriptShare, SlideCast, SMARTnet, StrataView Plus, TeleRouter, The Fastest Way to Increase Your Internet Quotient, and TransPath are registered trademarks of Cisco Systems, Inc. and/or its affiliates in the United States and certain other countries.

All other trademarks mentioned in this document or Website are the property of their respective owners. The use of the word partner does not imply a partnership relationship between Cisco and any other company. (0502R)

*Installation and Setup Guide for Campus Manager on Solaris*

Copyright © 2003, Cisco Systems, Inc.

All rights reserved.



<b>Preface</b>	<b>vii</b>
Audience	<b>vii</b>
Conventions	<b>vii</b>
Product Documentation	<b>ix</b>
Related Documentation	<b>x</b>
Additional Information Online	<b>xi</b>
Obtaining Documentation	<b>xi</b>
Cisco.com	<b>xii</b>
Documentation CD-ROM	<b>xii</b>
Ordering Documentation	<b>xii</b>
Documentation Feedback	<b>xiii</b>
Obtaining Technical Assistance	<b>xiii</b>
Cisco.com	<b>xiv</b>
Technical Assistance Center	<b>xiv</b>
Cisco TAC Website	<b>xv</b>
Cisco TAC Escalation Center	<b>xv</b>
Obtaining Additional Publications and Information	<b>xvi</b>

<b>Prerequisites</b>	<b>1-1</b>
Product Overview	<b>1-2</b>
Campus Upgrade Paths	<b>1-3</b>
Server Requirements	<b>1-4</b>
Checking Required Disk Space	<b>1-5</b>
Maximum Recommended Load	<b>1-5</b>

Server Recommendations 1-5  
 Client Requirements 1-6  
 Supported Devices 1-7

CHAPTER 2

**Installing Campus Manager 2-1**  
 Installation Overview 2-2  
 Performing a New Installation 2-3  
     Installation Notes 2-3  
     Running the Installation Program—New Installation 2-4  
 Performing an Upgrade Installation 2-6  
     Installation Notes 2-6  
     Running the Installation Program—Upgrade or Reinstallation 2-7  
     Upgrading Saved Views From Topology Services 2-10  
 Importing Data After Installation 2-10  
     Understanding the Data Conversion 2-11  
         Converting Campus Data 2-11  
         Converting Campus 3.1 or Campus 3.2 Data 2-11  
     Importing Data Manually from Campus Manager 3.1 or 3.2 2-12  
 Uninstalling Campus Manager 2-14

CHAPTER 3

**Preparing to Use Campus Manager 3-1**  
 Overview of Campus Setup Tasks 3-2  
 Accessing the CiscoWorks Server 3-3  
 Performing Administrator Tasks 3-4  
     Logging In as Administrator 3-4  
     Backing Up the ANI Database 3-4  
 Setting Up Campus Manager Applications 3-5  
     Setting Up Your Network 3-6  
     Configuring the ANI Server 3-7

Setting Up Topology Services	3-7
Configuring Network Discrepancies	3-8
Verifying Topology Services	3-8
Setting Up User Tracking	3-8
Supporting User Name Collection	3-9
Verifying User Tracking	3-9
Setting Up Path Analysis	3-9
Verifying Path Analysis	3-10
Setting Up VLAN Port Assignment	3-10
Displaying Topology Views and Attribute Summaries	3-11
Verifying VLAN Port Assignment	3-11
Setting Up Discrepancy Reports	3-11
Verifying Discrepancy Reports	3-11
Logging Out as Administrator	3-12

---

**APPENDIX A****Troubleshooting the Installation** A-1

Logging In After Upgrading	A-2
Understanding Installation Error Messages	A-3
Failing to Delete a Package During Uninstallation	A-5
Accessing the CiscoWorks Server	A-6
FAQs about IDU	A-7

---

**APPENDIX B****Mounting and Unmounting the CD-ROM** B-1

Mounting a Local CD-ROM Drive	B-2
Mounting a Remote CD-ROM Drive	B-3
Unmounting a Local CD-ROM Drive	B-6
Unmounting a Remote CD-ROM Drive	B-6

---

**INDEX**





# Preface

---

This manual describes Campus Manager 3.3 and provides instructions for installing and configuring it.

## Audience

This document is for anyone who installs, configures, verifies, and uses Campus Manager (Campus) software. Network administrators or operators should have the following skills:

- Basic Solaris system administrator skills
- Basic network management skills
- Basic Internet browser skill

## Conventions

This document uses the following conventions:

Item	Convention
Commands and keywords	<b>boldface</b> font
Variables for which you supply values	<i>italic</i> font
Displayed session and system information	screen font

Item	Convention
Information you enter	<b>boldface screen</b> font
Variables you enter	<i>italic screen</i> font
Menu items and button names	<b>boldface</b> font
Selecting a menu item in paragraphs	<b>Option&gt;Network Preferences</b>
Selecting a menu item in tables	Option>Network Preferences

**Note**

Means *reader take note*. Notes contain helpful suggestions or references to material not covered in the publication.

**Caution**

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

**Warning**

**This symbol means danger. You are in a situation that could cause bodily injury.**

# Product Documentation

**Note**

---

Although every effort has been made to validate the accuracy of the information in the printed and electronic documentation, you should also review the Campus Manager 3.3 documentation on Cisco.com for any updates.

---

The following product documentation is available:

- Release Notes for Campus Manager 3.3 on Solaris
- User Guide for Campus Manager
- Context-sensitive online help

**Release Notes for Campus Manager 3.3 on Solaris**

This document describes the known problems for the Campus Manager 3.3 software on Solaris. This document is available in the following formats:

- On Cisco.com at  
[http://www.cisco.com/univercd/cc/td/doc/product/rtrmgmt/cw2000/camp\\_mgr/camp\\_3x/cmgr\\_3\\_3/rel\\_note/index.htm](http://www.cisco.com/univercd/cc/td/doc/product/rtrmgmt/cw2000/camp_mgr/camp_3x/cmgr_3_3/rel_note/index.htm)
- Printed document available bundled with the product.

**User Guide for Campus Manager**

This document describes the use and operation of Campus Manager, including application descriptions, scenarios, and troubleshooting. This document is available in the following formats:

- PDF on the Campus Manager 3.3 CD-ROM and from the Campus Manager 3.3 online help.
- On Cisco.com  
[http://www.cisco.com/univercd/cc/td/doc/product/rtrmgmt/cw2000/camp\\_mgr/camp\\_3x/cmgr\\_3\\_3/u\\_guide/index.htm](http://www.cisco.com/univercd/cc/td/doc/product/rtrmgmt/cw2000/camp_mgr/camp_3x/cmgr_3_3/u_guide/index.htm)
- Printed document available by order.

### Context-Sensitive Online Help

You can access the help in two ways:

- Select an option from the navigation tree, then click **Help**.
- Click the **Help** button in the dialog box.

### Supported Devices Table for Campus Manager 3.3

This document contains information on the devices supported for the Campus Manager 3.3 release and device support added with the Incremental Device Update (IDU). This document is available on Cisco.com at:

[http://www.cisco.com/univercd/cc/td/doc/product/rtrmgmt/cw2000/camp\\_mgr/up\\_dev/cm\\_3\\_3.htm](http://www.cisco.com/univercd/cc/td/doc/product/rtrmgmt/cw2000/camp_mgr/up_dev/cm_3_3.htm)

## Related Documentation



### Note

---

Although every effort has been made to validate the accuracy of the information in printed and electronic documentation, you should also review Cisco product documentation on Cisco.com for any updates.

---

The following additional documentation is available:

### User Guide for CiscoWorks Common Services

This document describes the use and operation of the CiscoWorks Common Services, including application descriptions, scenarios, and troubleshooting. This document is available in the following formats:

- PDF on the CiscoWorks Common Services 2.2 CD-ROM and from the CiscoWorks Common Services 2.2 online help.
- On Cisco.com at  
[http://www.cisco.com/univercd/cc/td/doc/product/rtrmgmt/cw2000/cw2000\\_d/comser22/usrguide/index.htm](http://www.cisco.com/univercd/cc/td/doc/product/rtrmgmt/cw2000/cw2000_d/comser22/usrguide/index.htm)
- Printed document available by order.

### Installation and Setup Guide for CiscoWorks Common Services on Solaris

This document describes instructions for installing and configuring the CiscoWorks Common Services Application on Solaris. This document is available in the following formats:

- PDF on the Campus Manager 3.3 CD-ROM
- On Cisco.com at  
[http://www.cisco.com/univercd/cc/td/doc/product/rtrmgmt/cw2000/cw2000\\_d/comser22/ig\\_solcv/index.htm](http://www.cisco.com/univercd/cc/td/doc/product/rtrmgmt/cw2000/cw2000_d/comser22/ig_solcv/index.htm)
- Printed document available by order.

### Release Notes for CiscoWorks Common Services 2.2 on Solaris

This document describes the known problems for the Campus Manager 3.3 software on Solaris. This document is available in the following formats:

- On Cisco.com at  
[http://www.cisco.com/univercd/cc/td/doc/product/rtrmgmt/cw2000/cw2000\\_d/comser22/rel\\_note/index.htm](http://www.cisco.com/univercd/cc/td/doc/product/rtrmgmt/cw2000/cw2000_d/comser22/rel_note/index.htm)
- Printed document available bundled with the product.

## Additional Information Online

Incremental Device Update (IDU) contains updated files necessary for the latest device support and fixes to known problems that are not available in Campus Manager 3.3. If you are a registered user, you can download IDU for Campus Manager from:

<http://www.cisco.com/cgi-bin/tablebuild.pl/cw2000-campus>

## Obtaining Documentation

Cisco provides several ways to obtain documentation, technical assistance, and other technical resources. These sections explain how to obtain technical information from Cisco Systems.

## Cisco.com

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

<http://www.cisco.com/univercd/home/home.htm>

You can access the Cisco website at this URL:

<http://www.cisco.com>

International Cisco web sites can be accessed from this URL:

[http://www.cisco.com/public/countries\\_languages.shtml](http://www.cisco.com/public/countries_languages.shtml)

## Documentation CD-ROM

Cisco documentation and additional literature are available in a Cisco Documentation CD-ROM package, which may have shipped with your product. The Documentation CD-ROM is updated monthly and may be more current than printed documentation. The CD-ROM package is available as a single unit or through an annual subscription.

Registered Cisco.com users can order the Documentation CD-ROM (product number DOC-CONDOCCD=) through the online Subscription Store:

<http://www.cisco.com/go/subscription>

## Ordering Documentation

You can find instructions for ordering documentation at this URL:

[http://www.cisco.com/univercd/cc/td/doc/es\\_inpk/pdi.htm](http://www.cisco.com/univercd/cc/td/doc/es_inpk/pdi.htm)

You can order Cisco documentation in these ways:

- Registered Cisco.com users (Cisco direct customers) can order Cisco product documentation from the Networking Products MarketPlace:

<http://www.cisco.com/en/US/partner/ordering/index.shtml>

- Registered Cisco.com users can order the Documentation CD-ROM (Customer Order Number DOC-CONDOCCD=) through the online Subscription Store:  
<http://www.cisco.com/go/subscription>
- Nonregistered Cisco.com users can order documentation through a local account representative by calling Cisco Systems Corporate Headquarters (California, U.S.A.) at 408 526-7208 or, elsewhere in North America, by calling 800 553-NETS (6387).

## Documentation Feedback

You can submit comments electronically on Cisco.com. On the Cisco Documentation home page, click **Feedback** at the top of the page.

You can email your comments to [bug-doc@cisco.com](mailto:bug-doc@cisco.com).

You can submit your comments by mail by using the response card behind the front cover of your document or by writing to the following address:

Cisco Systems  
Attn: Customer Document Ordering  
170 West Tasman Drive  
San Jose, CA 95134-9883

We appreciate your comments.

## Obtaining Technical Assistance

Cisco provides Cisco.com, which includes the Cisco Technical Assistance Center (TAC) Website, as a starting point for all technical assistance. Customers and partners can obtain online documentation, troubleshooting tips, and sample configurations from the Cisco TAC website. Cisco.com registered users have complete access to the technical support resources on the Cisco TAC website, including TAC tools and utilities.

## Cisco.com

Cisco.com offers a suite of interactive, networked services that let you access Cisco information, networking solutions, services, programs, and resources at any time, from anywhere in the world.

Cisco.com provides a broad range of features and services to help you with these tasks:

- Streamline business processes and improve productivity
- Resolve technical issues with online support
- Download and test software packages
- Order Cisco learning materials and merchandise
- Register for online skill assessment, training, and certification programs

To obtain customized information and service, you can self-register on Cisco.com at this URL:

<http://www.cisco.com>

## Technical Assistance Center

The Cisco TAC is available to all customers who need technical assistance with a Cisco product, technology, or solution. Two levels of support are available: the Cisco TAC website and the Cisco TAC Escalation Center. The avenue of support that you choose depends on the priority of the problem and the conditions stated in service contracts, when applicable.

We categorize Cisco TAC inquiries according to urgency:

- Priority level 4 (P4)—You need information or assistance concerning Cisco product capabilities, product installation, or basic product configuration.
- Priority level 3 (P3)—Your network performance is degraded. Network functionality is noticeably impaired, but most business operations continue.

- 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.

## Cisco TAC Website

You can use the Cisco TAC website to resolve P3 and P4 issues yourself, saving both cost and time. The site provides around-the-clock access to online tools, knowledge bases, and software. To access the Cisco TAC website, go to this URL:

<http://www.cisco.com/tac>

All customers, partners, and resellers who have a valid Cisco service contract have complete access to the technical support resources on the Cisco TAC website. Some services on the Cisco TAC website require a Cisco.com login ID and password. If you have a valid service contract but do not have a login ID or password, go to this URL to register:

<http://tools.cisco.com/RPF/register/register.do>

If you are a Cisco.com registered user, and you cannot resolve your technical issues by using the Cisco TAC website, you can open a case online at this URL:

<http://www.cisco.com/en/US/support/index.html>

If you have Internet access, we recommend that you open P3 and P4 cases through the Cisco TAC website so that you can describe the situation in your own words and attach any necessary files.

## Cisco TAC Escalation Center

The Cisco TAC Escalation Center addresses priority level 1 or priority level 2 issues. These classifications are assigned when severe network degradation significantly impacts business operations. When you contact the TAC Escalation Center with a P1 or P2 problem, a Cisco TAC engineer automatically opens a case.

To obtain a directory of toll-free Cisco TAC telephone numbers for your country, go to this URL:

<http://www.cisco.com/warp/public/687/Directory/DirTAC.shtml>

Before calling, please check with your network operations center to determine the level of Cisco support services to which your company is entitled: for example, SMARTnet, SMARTnet Onsite, or Network Supported Accounts (NSA). When you call the center, please have available your service agreement number and your product serial number.

## Obtaining Additional Publications and Information

Information about Cisco products, technologies, and network solutions is available from various online and printed sources.

- The *Cisco Product Catalog* describes the networking products offered by Cisco Systems as well as ordering and customer support services. Access the *Cisco Product Catalog* at this URL:

[http://www.cisco.com/en/US/products/products\\_catalog\\_links\\_launch.html](http://www.cisco.com/en/US/products/products_catalog_links_launch.html)

- Cisco Press publishes a wide range of networking publications. Cisco suggests these titles for new and experienced users: *Internetworking Terms and Acronyms Dictionary*, *Internetworking Technology Handbook*, *Internetworking Troubleshooting Guide*, and the *Internetworking Design Guide*. For current Cisco Press titles and other information, go to Cisco Press online at this URL:

<http://www.ciscopress.com>

- *Packet* magazine is the Cisco monthly periodical that provides industry professionals with the latest information about the field of networking. You can access *Packet* magazine at this URL:

[http://www.cisco.com/en/US/about/ac123/ac114/about\\_cisco\\_packet\\_magazine.html](http://www.cisco.com/en/US/about/ac123/ac114/about_cisco_packet_magazine.html)

- *iQ Magazine* is the Cisco monthly periodical that provides business leaders and decision makers with the latest information about the networking industry. You can access *iQ Magazine* at this URL:

[http://business.cisco.com/prod/tree.taf%3fasset\\_id=44699&public\\_view=true&kbns=1.html](http://business.cisco.com/prod/tree.taf%3fasset_id=44699&public_view=true&kbns=1.html)

- *Internet Protocol Journal* is a quarterly journal published by Cisco Systems for engineering professionals involved in the design, development, and operation of public and private internets and intranets. You can access the *Internet Protocol Journal* at this URL:

[http://www.cisco.com/en/US/about/ac123/ac147/about\\_cisco\\_the\\_internet\\_protocol\\_journal.html](http://www.cisco.com/en/US/about/ac123/ac147/about_cisco_the_internet_protocol_journal.html)

- Training—Cisco offers world-class networking training, with current offerings in network training listed at this URL:

[http://www.cisco.com/en/US/learning/le31/learning\\_recommended\\_training\\_list.html](http://www.cisco.com/en/US/learning/le31/learning_recommended_training_list.html)





# Prerequisites

---

This chapter describes the factors that you should consider before installing Campus Manager (Campus) on a Solaris system.

This chapter contains:

- [Product Overview](#)
- [Campus Upgrade Paths](#)
- [Server Requirements](#)
- [Client Requirements](#)
- [Supported Devices](#)

# Product Overview

Campus, a member of the CiscoWorks family of products, is a suite of web-based network management tools that enables administrators to obtain various types of graphical views of their network topology and end-user information. Campus Manager is based on a client/server architecture that connects multiple web-based clients to a server on the network.

The CiscoWorks Server supplies tools and services to the Campus Manager applications, including the Asynchronous Networks Interface (ANI) Server. The ANI Server discovers information about network devices and saves it in the ANI database for Campus applications, to access. For more information, see *User Guide for Campus Manager*, *User Guide for CiscoWorks Server*, online help for the CiscoWorks Server and online help for the ANI Server.

The Campus Manager applications are:

- Path Analysis—View the actual path that packets take between end nodes/ devices on your network.
- User Tracking—Locate and display data about users and hosts in your network.
- Topology Services—Discover, view, and monitor the physical and logical services on your network.
- VLAN Port Assignment—View port information, configure VLANs on a trunk, and move ports between VLANs on your network.
- Discrepancy Reports—Discover and view physical and logical discrepancies in your network.

# Campus Upgrade Paths

You can upgrade to Campus Manager 3.3 from both Campus Manager 3.1 and Campus Manager 3.2.

Campus Manager 3.3 requires CiscoWorks Common Services 2.2, which is the foundation for the CiscoWorks family of products.

When you install CiscoWorks Common Services, the previous version of Campus Manager is removed and only its database is preserved. When you install Campus Manager 3.3, certain data from the preserved database is converted to Campus Manager 3.3 format. This data includes:

- SNMP community strings
- User Tracking manually entered fields
- Seed devices
- User Tracking preferences
- Path Analysis preferences
- Topology views including Layer 2 View, Unconnected Device View and LAN Edge View

You must upgrade to CiscoWorks Common Services 2.2 before installing or upgrading to Campus 3.3.



---

**Caution**

Uninstalling Campus deletes the ANI database.

---

# Server Requirements

This section describes the system requirements and recommendations for CiscoWorks Common Services 2.2 and Campus Manager 3.3.

The minimum system requirements for CiscoWorks Common Services 2.2 and Campus Manager 3.3 are shown in [Table 1-1](#).

**Table 1-1 Server System Requirements Summary**

Requirement Type	Minimum Requirement <sup>1</sup>
System hardware	<ul style="list-style-type: none"> <li>Sparc Ultra 10</li> <li>CD-ROM drive</li> </ul>
Memory (RAM)	512 MB
Available drive space <sup>2</sup>	<ul style="list-style-type: none"> <li>4 GB on the partition on which you install the product (the default is /opt)</li> <li>Swap space equal to double the amount of memory (RAM). For example, if your system has 512 MB of RAM, you need 1024 MB of swap space.</li> </ul>
/tmp directory	Must be on a swap partition.
System software	Solaris 2.7 or 2.8. <sup>3</sup> Campus Manager supports US-English and Japanese versions of Solaris Operating Systems. It does not support any other language version. Set the default locale to US-English for US-English version and Japanese for Japanese version.
Additional software	You must install CiscoWorks Common Services 2.2 before installing Campus. If you installed a version of CiscoWorks Common Services earlier than 2.2, upgrade to 2.2 before installing Campus Manager 3.3. See <i>Installation and Setup Guide for CiscoWorks Common Services on Solaris</i> .  Netscape Navigator 4.76 (if you are using the desktop on the server system).  <b>Note</b> For Solaris, use Netscape Navigator downloaded only from the Sun site.

1. If other applications are installed, or the number of devices on your network exceeds 500, the requirements might be greater.

2. For information about verifying disk space, see the “[Checking Required Disk Space](#)” section on page 1-5.
3. Patch 106292-05 must not be installed.

## Checking Required Disk Space

To verify the amount of available disk space in each of the specified partitions and directories, enter:

```
# df -k directory
```

where *directory* is the partition or directory for which you want to check the available disk space.

## Maximum Recommended Load

The maximum recommended load on servers configured with the minimum server requirements shown in [Table 1-1](#) is 500 Cisco devices and one client at a time.

If other network management applications are installed on your server, additional resources might be required.

## Server Recommendations

If your network has more than 500 Cisco devices, the following minimum requirements are recommended:

- A Sparc Ultra 60 processor
- 512 Mb of memory (RAM)
- 1 GB of swap space

# Client Requirements

The minimum client system requirements for CiscoWorks Common Services 2.2 and Campus Manager 3.3 are shown in [Table 1-2](#). The maximum recommended load on clients configured with the minimum requirements shown in [Table 1-2](#) is 2000 Cisco devices.



**Note** Before you can access Campus from a client system, you must configure the system properly. For information about configuring clients, see *Installation and Setup Guide for CiscoWorks Common Services on Solaris*.

**Table 1-2 Client System Requirements Summary**

Requirement Type	Minimum Requirement
System Software and Hardware	<ul style="list-style-type: none"> <li>• Client system:               <ul style="list-style-type: none"> <li>– IBM PC-compatible computer with 300 MHz Intel Pentium processor running Windows 2000 (Professional or Server), or Windows XP with Service Pack 1.</li> <li>– Solaris SPARCstation or Sun Ultra 10 running Solaris 2.7 or 2.8.</li> <li>– Color monitor with video card set to 24 bits color depth.</li> </ul> </li> </ul>

*Table 1-2 Client System Requirements Summary (continued)*

Requirement Type	Minimum Requirement
Memory (RAM)	256MB
Browser	<p>One of the following browsers:</p> <p>On Windows 2000 and Windows XP clients:</p> <ul style="list-style-type: none"> <li>• Microsoft Internet Explorer 6.0 (version 6.0.2600.0000) or Internet Explorer 6.0 with Service Pack 1 (version 6.0.2800.1106),</li> <li>• Java Virtual Machine (JVM) 5.0.0.3802 and above, and Java plug-in version 1.3.1.</li> </ul> <p>To verify the JVM, select <b>View &gt; Java Console</b> from Internet Explorer and <b>Tools &gt; Server &gt; Java Console</b> from Netscape Navigator.</p> <ul style="list-style-type: none"> <li>• Netscape Navigator 4.78 and 4.79 for Windows.</li> </ul> <p>On Solaris clients:</p> <ul style="list-style-type: none"> <li>• Netscape Navigator 4.76 for Solaris 2.7 and 2.8.</li> </ul> <p><b>Note</b> For Solaris, use Netscape Navigator downloaded only from the Sun site.</p>

## Supported Devices

For information about supported devices, access the Supported Devices table at the following location:

[http://www.cisco.com/univercd/cc/td/doc/product/rtrmgmt/cw2000/camp\\_mgr/sup\\_dev/cm\\_3\\_3.htm](http://www.cisco.com/univercd/cc/td/doc/product/rtrmgmt/cw2000/camp_mgr/sup_dev/cm_3_3.htm)





# Installing Campus Manager

---

This chapter describes how to install, upgrade, uninstall, and reinstall Campus Manager (Campus). You must install CiscoWorks Common Services before you can install Campus Manager. See *Installation and Setup Guide for CiscoWorks Common Services on Solaris*.

This chapter contains:

- [Installation Overview](#)
- [Performing a New Installation](#)
- [Performing an Upgrade Installation](#)
- [Importing Data After Installation](#)
- [Uninstalling Campus Manager](#)

# Installation Overview

Table 2-1 is an overview of the Campus Manager installation tasks. It contains references to more detailed information about each task.

**Table 2-1** *Installing Campus Manager Overview*

Task	Steps	References
1. Prepare to install Campus Manager.	Verify that server requirements are met.	<a href="#">“Server Requirements” section on page 1-4</a>
2. Install Campus.	a. Mount the Campus Manager CD-ROM.	<a href="#">Appendix B, “Mounting and Unmounting the CD-ROM”</a>
	b. Run the installation program.	<a href="#">“Performing a New Installation” section on page 2-3</a> or <a href="#">“Performing an Upgrade Installation” section on page 2-6</a>
3. Verify and troubleshoot the installation.	a. Verify that correct files and directories are installed.	<a href="#">“Understanding Installation Error Messages” section on page A-3</a>
	b. Analyze installation error messages.	<a href="#">“Understanding Installation Error Messages” section on page A-3</a>
4. Set up Campus Manager.	Prepare the system for Campus applications and set up the applications.	<a href="#">Chapter 3, “Preparing to Use Campus Manager”</a>

# Performing a New Installation

This section describes a new Campus Manager installation. If you are upgrading from Campus Manager 3.1 or 3.2, see the [“Performing an Upgrade Installation” section on page 2-6](#).

## Installation Notes

You must install CiscoWorks Common Services 2.2 before installing Campus. See *Installation and Setup Guide for CiscoWorks Common Services on Solaris*.

Campus Manager is installed in the directory where you installed CiscoWorks Common Services 2.2.

You can press **Ctrl-C** at any time to end the installation. However, any changes to your system (for example, installation of new files or changes to system files) will not be undone.

The Campus Manager 3.3 installer will automatically update Campus 3.2 and 3.1 program files and migrate user-entered data related to Campus. The Campus 3.3 installer will also automatically re-apply some device updates previously released on Cisco's download site as Incremental Device Updates (IDU). IDU 1.0 and IDU 2.0 have been incorporated in Campus 3.3. If you have installed IDU 3.0 or higher for Campus 3.2, you will need to re-apply that IDU after the Campus 3.3 installation is complete.

## Running the Installation Program—New Installation

To install Campus Manager:

- 
- Step 1** As root, mount the Campus Manager CD-ROM, using either of the following methods:
- Mount the CD-ROM on the Campus Manager server system.
  - Mount the CD-ROM on a remote Solaris system, then access the CD-ROM from the Campus Manager server system.

See Appendix B, “[Mounting and Unmounting the CD-ROM](#)” for mounting instructions.

- Step 2** Run the installation program.

For a local installation, enter:

```
# cd /cdrom/cdrom0/
# ./setup.sh
```

For a remote installation, enter:

```
# cd remotedir
# ./setup.sh
```

where *remotedir* is the remote location where the CD-ROM is mounted.

A message appears:

Press Enter to read/browse the following license agreement:

- Step 3** Press Enter to read the license agreement. The following message appears at the end of the license agreement:

```
You must accept this License agreement for the installation to
proceed. If you enter N/n, the installation will exit.
Do you accept all the terms of the preceding License agreement? (y/n)
[y]
```

- Step 4** Enter **y** to accept the license and proceed with the installation or Enter **n** to deny and quit installation.




---

**Note** Campus is installed in the same location as CiscoWorks Common Services. The default is /opt/CSCOpX.

---

The installation program checks for compatible patches, dependencies, and disk space.

**Step 5** Answer any questions that result from the checks.

The installation program prompts you to change the default password for the ANI database.

**Step 6** Enter your ANI password.

The installation program displays many messages about the various packages being installed and the services being started. The packages include application software and device adapter packages for all devices that can be managed with Campus applications. The following message appears:

```
To ensure that you retain the latest device support and bug
fixes, please install the latest Incremental Device Update (IDU)
for Campus Manager 3.3. You can download the latest IDU from
http://www.cisco.com/cgi-bin/tablebuild.pl/cw2000-campus.
```

```
Please refer to the Installation and Setup Guide for details.
```

**Note**

---

For more information about IDU, see [“FAQs about IDU” section on page A-7](#).

---

The installation completes, installing Campus in the same location as CiscoWorks Common Services 2.2 (/opt/CSCOpX by default). The CiscoWorks Server starts

---

If errors occurred during installation, check the installation log file /var/tmp/ciscoininstall.log. For information about troubleshooting, see [Appendix A, “Troubleshooting the Installation.”](#)

After the installation completes, do either of the following:

- If you have data from the earlier version of Campus Manager (3.1 or 3.2) to import into Campus Manager 3.3, see the [“Importing Data After Installation” section on page 2-10](#).
- If you do not have data to import, continue to [Chapter 3, “Preparing to Use Campus Manager.”](#)

For more information about the ANI database, see the [“Understanding the Data Conversion” section on page 2-11](#).

# Performing an Upgrade Installation

You can upgrade to Campus Manager 3.3 from Campus Manager 3.2 and Campus Manager 3.1. For versions earlier than 3.1, upgrade to Campus Manager 3.1 before upgrading to Campus Manager 3.3.

Campus Manger 3.3 requires CiscoWorks Common Services 2.2, which is the foundation for the CiscoWorks Family of Products.

When you install CiscoWorks Common Services, the previous version of Campus Manager is removed and its database is preserved. When you install Campus Manager 3.3, certain data from the previous installation is preserved.

This data includes:

- SNMP community strings
- User Tracking manually entered data fields
- Seed devices
- User preferences
- Topology views including Layer 2 View, Unconnected Device View and LAN Edge View

You must upgrade to CiscoWorks Common Services 2.2 before installing or upgrading to Campus 3.3.



**Caution**

---

Uninstalling Campus deletes the ANI database.

---

For more information about the ANI database, see the [“Understanding the Data Conversion”](#) section on page 2-11.

## Installation Notes

You must install CiscoWorks Common Services 2.2 before installing Campus. See *Installation and Setup Guide for CiscoWorks Common Services on Solaris*.

Campus Manager is installed in the directory where you installed CiscoWorks Common Services 2.2.

You can press **Ctrl-C** at any time to end the installation. However, any changes to your system (for example, installation of new files or changes to system files) will not be undone.

The Campus Manager 3.3 installer will automatically update Campus 3.2 and 3.1 program files and migrate user-entered data related to Campus. The Campus 3.3 installer will also automatically re-apply some device updates previously released on Cisco's download site as Incremental Device Updates (IDU). IDU 1.0 and IDU 2.0 have been incorporated in Campus 3.3. If you have installed IDU 3.0 or higher for Campus 3.2, you will need to re-apply that IDU after the Campus 3.3 installation is complete.

## Running the Installation Program—Upgrade or Reinstallation

Use this installation procedure if you allowed the CiscoWorks Common Services installation program to save the previous data and remove the previous software.

If you installed CiscoWorks Common Services on a clean system, follow the procedure for a new installation in the [“Performing a New Installation”](#) section on page 2-3.

After installing Campus Manager, you can manually import your existing database to the system on which CiscoWorks is installed if it was not automatically imported during installation. See the [“Importing Data After Installation”](#) section on page 2-10.

To run the installation program for an upgrade:

- 
- Step 1** As root, mount the Campus Manager CD-ROM, using either of the following methods:
- Mount the CD-ROM on the CiscoWorks server system.
  - Mount the CD-ROM on a remote Solaris system, then access the CD-ROM from the CiscoWorks server system.

See [Appendix B, “Mounting and Unmounting the CD-ROM,”](#) for detailed mounting instructions.

**Step 2** Run the installation program.

For a local installation, enter:

```
# cd /cdrom/cdrom0/
# ./setup.sh
```

For a remote installation, enter:

```
# cd remotedir
# ./setup.sh
```

where *remotedir* is the remote location where the CD-ROM is mounted.

A message appears:

Press Enter to read/browse the following license agreement:

**Step 3** Press Enter to read the license agreement. The following message appears at the end of the license agreement:

```
You must accept this License agreement for the installation to
proceed. If you enter N/n, the installation will exit.
Do you accept all the terms of the preceding License agreement? (y/n)
[y]
```

Enter **y** to accept the license and proceed with the installation or Enter **n** to deny and quit installation.

If you are reinstalling Campus Manager continue to Step 4. If you are upgrading skip to Step 6.




---

**Note** Campus is installed in the same location as CiscoWorks Common Services. The default is /opt/CSCOpX.

---

**Step 4** A prompt appears:

```
Campus Manager 3.3 has been detected on your system. If you are running
an evaluation version of Campus Manager 3.3 and you choose to reinstall
the product, you will automatically upgrade to a licensed version. Are
you sure you want to reinstall this software and any required
patches. (y/n)? [n]
```

**Step 5** Enter **y** to continue to install or **n** to cancel.

The installation program checks on your system for compatible patches, dependencies, disk space, memory (RAM), and swap space.

**Step 6** Answer any questions that result from the pre-installation checks.  
The installation program prompts you to change the default password for the ANI database.

**Step 7** Enter your ANI password.

The installation program displays many messages about the various packages being installed and the services being started. The packages include application software and device adapter packages. The packages for all devices that can be managed with Campus applications are installed. The database is converted.

The following message appears:

```
To ensure that you retain the latest device support and bug
fixes, please install the latest Incremental Device Update (IDU)
for Campus Manager 3.3. You can download the latest IDU from
http://www.cisco.com/cgi-bin/tablebuild.pl/cw2000-campus.
```

```
Please refer to the Installation and Setup Guide for details.
```

**Note**

---

For more information about IDU, see [“FAQs about IDU” section on page A-7.](#)

---

The installation completes. The CiscoWorks Server is running.

---

If errors occurred during installation, check the installation log file `/var/tmp/ciscoinstall.log`. For troubleshooting information, see [Appendix A, “Troubleshooting the Installation.”](#)

After the installation finishes, choose one of the following:

- If you installed Campus on a different system and have data to import, you can import the database remotely. See the [“Importing Data After Installation” section on page 2-10](#) for more information.
- If your data is already converted or you do not want to import the old data, continue to [Chapter 3, “Preparing to Use Campus Manager.”](#)

After Campus is installed, Topology Services allows you to either convert the saved views in the new Campus Manager 3.3 format or directly use the default views generated by Campus Manager 3.3. See the [“Upgrading Saved Views From Topology Services”](#) section for more information.

## Upgrading Saved Views From Topology Services

Use the following procedure to upgrade saved topology views to the new Campus Manager 3.3 format.

If you do *not* want to upgrade to the new format but want to use the default views generated by the previous version of Campus Manager (3.1 or 3.2), skip the following procedure and select Layer 2 View, LAN Edge View, or Unconnected Devices View from the side panel in Topology Services.

- 
- Step 1** Start Topology Services from the desktop.
  - Step 2** Select **File > Upgrade View Layouts**.
  - Step 3** Select the view you want to upgrade.
  - Step 4** Click **Upgrade** to upgrade the selected view.  
Topology Services upgrades the selected view to the Campus Manager 3.3 format.
  - Step 5** To display this view, select the corresponding view from the side panel in Topology Services.



---

**Note** The upgraded view might not be formatted in exactly the same manner as the previous version of the view. This is because of the new features in Campus Manager 3.3.

---

## Importing Data After Installation

This section describes how to manually import data from previous versions of Campus. You might need to import data manually if you performed a new installation of Campus but have data from previous versions of the software on a different system.

## Understanding the Data Conversion

Data must be converted from Campus Manager 3.1 and Campus Manger 3.2 formats to Campus Manager 3.3 format.

### Converting Campus Data

Campus Manager accesses the ANI database for critical network information. The database from previous versions of Campus Manager (3.1 or 3.2) is saved, and data from the database can be converted to Campus Manager 3.3 format for immediate use.

The CiscoWorks Common Services installation, which is required for the Campus Manager installation, automatically saves your old database. When you install Campus Manager, the saved database is imported into the new file, ani.db. After you import your database into Campus Manager 3.3, the old ANI database, called ani.db, remains in the directory you indicated during the CiscoWorks Common Services install until you remove it.

For more information about the ANI database, see the ANI online help or *User Guide for CiscoWorks Server*.

### Converting Campus 3.1 or Campus 3.2 Data

The community strings are upgraded from the old anisnmp.conf file to the updated anisnmp.conf file. Some critical properties from the old ANIServer.properties file are updated in the new ANIServer.properties file.

The User Tracking data is extracted from the old ani.db file and saved as rigel\_ut.txt. This data is found and processed during the first User Tracking discovery.

Topology Services saves topology views from previous versions of Campus Manager (3.1 or 3.2). The following views are saved:

- Layer 2 View
- Unconnected Device View
- LAN Edge View

After Campus is installed, Topology Services allows you to either convert the saved views into the new Campus Manager 3.3 format or directly use the default views generated by Campus Manager 3.3.

## Importing Data Manually from Campus Manager 3.1 or 3.2

Follow this procedure to remotely import saved data from Campus Manager 3.1 or 3.2.

---

**Step 1** Stop the daemon manager on the local machine on which the previous version of Campus Manager is installed.

For more information on stopping the daemon manager, refer to *Installation and Setup Guide for CiscoWorks Common Services on Solaris*.

**Step 2** Mount CiscoWorks Common Services 2.2, on the local machine.

**Step 3** To save CiscoWorks data, enter:

```
# cd /cdrom/cdrom0/
# ./export_cdone.pl
```

A prompt appears asking you to enter the location where you want to export CiscoWorks Common Services data. The default location is /opt/CSCOpX/riigel or where Campus Manager 3.1 or 3.2 has been installed.

**Step 4** Mount Campus Manager 3.3 on the local system.

**Step 5** To save Campus data, enter:

```
# cd /cdrom/cdrom0/
# ./export_cm.pl
```

A prompt appears asking you to enter the location where you want to export Campus data. The default location is /opt/CSCOpX/riigel or where Campus Manager 3.1 or 3.2 has been installed.



### Note

You must export Campus data to the location where CiscoWorks Common Services data has been exported.

---

- Step 6** Copy all subdirectories except the scripts directory from the location in the local machine to which you have exported the data to \$NMSROOT/rigel on the remote system.
- Step 7** Start the daemon manager on the local machine.  
For more information, see *Installation and Setup Guide for CiscoWorks Common Services on Solaris*.
- Step 8** Stop the daemon manager on the remote machine.  
For more information on stopping the daemon manager, see *Installation and Setup Guide for CiscoWorks Common Services on Solaris*.
- Step 9** To copy CiscoWorks data to corresponding CiscoWorks Common Services directories on the remote machine, enter:
- ```
# cd /$NMSROOT/rigel/scripts
# ./import_cdone.pl
```
- A prompt appears:
- ```
Importing will cause all the export data files to be overwritten.
Are you sure you want to import CiscoWorks data (y/n)? [n]
```
- Step 10** Enter **y** to import or **n** to cancel.
- Step 11** To copy Campus data to corresponding Campus Manager 3.3 directories, enter:
- ```
# cd /$NMSROOT/rigel/scripts
# ./import_cm.pl
```
- A prompt appears:
- ```
Importing will cause all the files to be overwritten. Are you sure you
want to import Campus data (y/n)? [n]
```
- Step 12** Enter **y** to import or **n** to cancel.
- Step 13** Start the daemon manager on the remote machine.
- Step 14** For more information see *Installation and Setup Guide for CiscoWorks Common Services on Solaris*.
- 

After Campus is installed, Topology Services allows you to either convert the saved views into the new Campus Manager 3.3 format or directly use the default views generated by Campus Manager 3.3. See the [“Upgrading Saved Views From Topology Services”](#) section for more information.

# Uninstalling Campus Manager

The uninstallation program removes Campus files and settings. The uninstall option enables you to remove only Campus or remove CiscoWorks Common Services as well.

**Caution**

You must use the Campus Manager uninstallation program to remove the product. If you attempt to remove Campus Manager or its components manually, you could damage your system.

**Caution**

Uninstalling Campus Manager deletes the ANI database. To upgrade and convert the database, see the [“Performing an Upgrade Installation”](#) section on page 2-6.

To remove Campus Manager or other major components:

**Step 1** Enter the following commands as root to start the uninstall program:

```
# cd /  
# /opt/CSCOpX/bin/uninstall.sh
```

where **/opt/CSCOpX** is the default installation directory. If you specified a different directory when you installed Device Manager, substitute the name of the directory.

A prompt similar to the following appears:

- 1) Cisco View
- 2) Integration Utility
- 3) CiscoWorks Common Services
- 4) Campus Manager
- 5) All of the above

- Step 2** Select one or more of the items using its number separated by comma or enter q to quit [q]
- To remove Campus Manager only, enter the number that corresponds to it (in this case, 4).
  - To remove Campus Manager, CiscoWorks Common Services, Cisco View and Integration Utility enter the number that corresponds to all of the above (in this case, 5).

A prompt appears, where the default selection is indicated in brackets:

```
Are you sure you want to uninstall: program name (y/n)? [n]
```

where *program name* is the name of the choice you entered in the last question.

- Step 3** Enter y to continue to uninstall or n to cancel.

A prompt appears that lists the packages that the uninstallation is about to delete:

```
Delete the CiscoWorks packages? (y/n)? [y]
```

- Step 4** Enter y to continue to uninstall or n to cancel.

Other prompts might appear. Answer them appropriately.

The installation program displays a series of messages. Ignore any additional messages that ask if you want to remove packages. You cannot answer these questions.

When you remove Campus, the uninstall script removes changes made to the /etc/services file. The /etc directory *still* contains all system file changes. The uninstall messages are written to the /var/tmp/ciscouninstall.log file.

After the uninstallation script successfully completes, the following message appears:

```
All files were deleted successfully.
```

- Step 5** Check /etc/syslog.conf for syslog changes. See Appendix A, [“Troubleshooting the Installation”](#) for more information.
- 

To reinstall Campus Manager, follow the instructions in the [“Performing an Upgrade Installation”](#) section on page 2-6.





## Preparing to Use Campus Manager

---

This chapter describes the various administrator and application setup tasks that you must perform after installing Campus Manager (Campus).

This chapter contains:

- [Overview of Campus Setup Tasks](#)
- [Accessing the CiscoWorks Server](#)
- [Performing Administrator Tasks](#)
- [Setting Up Campus Manager Applications](#)
- [Logging Out as Administrator](#)

# Overview of Campus Setup Tasks

Table 3-1 provides an overview of the Campus Manager setup tasks and references to more detailed information about each task.

**Table 3-1 Overview of Campus Setup Tasks**

Task	Steps	References
1. Access the server.	Access the CiscoWorks Server.	<a href="#">“Accessing the CiscoWorks Server” section on page 3-3</a>
2. Perform administrator setup tasks.	a. Log in to the server as administrator.	<a href="#">“Logging In as Administrator” section on page 3-4</a>
	b. Back up the ANI database.	<a href="#">“Backing Up the ANI Database” section on page 3-4</a>
3. Set up applications.	Launch and configure applications.	<a href="#">“Setting Up Campus Manager Applications” section on page 3-5</a>
4. Log out.	Log out of the server.	<a href="#">“Logging Out as Administrator” section on page 3-12</a>

# Accessing the CiscoWorks Server

**Note**

You must set up the client before using Campus. See *Installation and Setup Guide for CiscoWorks Common Services on Solaris* for configuring browser and client systems.

To access Campus Manager, enter the URL of the CiscoWorks Server in your web browser:

**http://server\_name:1741**

**https://server\_name:1742** (for SSL mode)

where *server\_name* is the name of the CiscoWorks Server. If you were prompted to supply a port number for the CiscoWorks Server during the installation, use that port number in the URL. The default port number is 1741 (1742 if SSL is enabled).

If you cannot access the CiscoWorks Server or the desktop is not displayed correctly, refer to [Appendix A, “Troubleshooting the Installation.”](#) In addition, see the troubleshooting chapter in *User Guide for Campus Manager*.

After you access the CiscoWorks Server, see the [“Performing Administrator Tasks”](#) section on page 3-4.

# Performing Administrator Tasks

After accessing the CiscoWorks Server, you must log in as the administrator and set up the server for other users.

## Logging In as Administrator

To log in as administrator:

- 
- Step 1** Enter the system administrator username and password in the Login Manager dialog box.
- Step 2** Click **Connect**.
- The Login Manager dialog box is replaced by the navigation tree.
- 

To log out the CiscoWorks Server, see the [“Logging Out as Administrator” section on page 3-12](#) for information.

After you log in as the administrator, continue to the [“Backing Up the ANI Database” section on page 3-4](#).

## Backing Up the ANI Database

You should back up the ANI database immediately after a new or upgrade installation. This creates a backup compatible with the previous version of Campus Manager in case you need to restore your database. This also prevents you from overwriting your database by restoring a backup from the previous version. See the ANI Server online help or *Getting Started With the CiscoWorks Server* for more information.

After you have performed the necessary administrator tasks, continue to the [“Setting Up Campus Manager Applications” section on page 3-5](#).

# Setting Up Campus Manager Applications

This section describes the tasks that you must perform to set up the Campus Manager applications. See the online help for individual applications for troubleshooting information.

This section contains:

- [Setting Up Your Network](#)
- [Configuring the ANI Server](#)
- [Setting Up Topology Services](#)
- [Setting Up User Tracking](#)
- [Setting Up Path Analysis](#)
- [Setting Up VLAN Port Assignment](#)
- [Setting Up Discrepancy Reports](#)



---

**Note**

Many tasks require the administrator login.

---

## Setting Up Your Network

To ensure that the ANI Server successfully discovers the devices in your network, you must set up your network correctly. [Table 3-2](#) lists the required tasks for each application, marked by a check mark (✓).

See the ANI Server online help, *User Guide for Campus Manager* and *User Guide for CiscoWorks Common Services* for more information.

**Table 3-2 Network Setup Tasks**

Topology Services	User Tracking	Path Analysis	VLAN Port Assignment	Discrepancy Reports	Network Setup Requirement
✓	✓	✓	✓	✓	Connect to seed device.
✓	✓	✓	✓	✓	Enable Simple Network Management Protocol (SNMP).
✓	✓	✓	✓	✓	Enable Cisco Discovery Protocol (CDP).
		✓			Enable Call Detail Record (CDR).
✓	✓	✓	✓		Set a unique sysName variable on devices.
✓	✓	✓	✓	✓	Enable Integrated Local Management Interface (ILMI) on ATM devices.
✓	✓	✓	✓	✓	Configure DNS.
✓	✓	✓	✓	✓	Configure VLAN Trunk Protocol (VTP).
✓	✓	✓	✓	✓	Configure VLAN trunks on Fast Ethernet and Gigabit Ethernet.
✓	✓	✓	✓	✓	Create the default configuration server for ATM LAN Emulation (LANE).
		✓			Enable source routing.

After you set up your network, continue to the [“Configuring the ANI Server” section on page 3-7](#).

## Configuring the ANI Server

Before starting a Campus Manager application, the ANI Server must be running and properly set up. You must verify that the correct community strings and a seed device are specified. In SNMP settings, there is a check box option to encrypt and store the community strings in the server.

For security reasons we recommend that you enable this option. If you do not enable this option the community strings will be stored as plain text. You can also check to see that the ANI Server is running. See the ANI Server online help and *User Guide for Campus Manager* for assistance in performing these tasks.

After you configure the ANI Server, see the [“Setting Up Topology Services” section on page 3-7](#).

## Setting Up Topology Services

To set up Topology Services:

- 
- Step 1** Add a seed device to the ANI Server.  
For more information, see the Topology Services online help or the ANI online help.
  - Step 2** Make sure the ANI Server is running.  
See the ANI Server online help for more information.
  - Step 3** Select **Campus Manager > Topology Services** to start the application.
-

## Configuring Network Discrepancies

You can configure the network discrepancies that you would like reported by selecting and deselecting the listed discrepancies. Select **Campus Manager > Administration > Network Discrepancies**. See *User Guide for Campus Manager* for more information.

## Verifying Topology Services

To verify that Topology Services is working properly:

- 
- Step 1** Verify that all devices and interfaces are discovered.  
Properly discovered devices and interfaces appear in green in the Topology Services window.
  - Step 2** Verify that devices displayed in red are reachable and have correct community strings.
  - Step 3** Verify that all VLANs and ELANs are discovered and that their port assignments are correct.

For more information, see the Topology Services online help.

---

## Setting Up User Tracking

To set up User Tracking:

- 
- Step 1** Start User Tracking.
  - Step 2** Confirm that the Ping Sweeps option is enabled.  
If you enable User and Host Acquisition, perform the tasks outlined in the [“Supporting User Name Collection”](#) section on page 3-9.

For more information, see the User Tracking online help.

---

## Supporting User Name Collection

To have the ANI Server automatically retrieve user names for User Tracking, you must enable user and host acquisition and install appropriate scripts. See the ANI Server online help for more information.

## Verifying User Tracking

To verify that User Tracking is working properly, discover with a ping sweep to verify that all end-user stations are discovered.

## Setting Up Path Analysis

To set up Path Analysis:

- 
- Step 1** Install and configure a DNS server on your network.
- A DNS server is required for Campus Manager. For devices with multiple IP addresses, there should be a single DNS entry that includes all IP addresses.
- Step 2** Specify correct read community strings on all devices.
- Step 3** Specify correct write community strings for multi-layer switching shortcut path determination on Catalyst 5000 devices.
- Step 4** Edit the VLAN/ELAN Mapping Table, which provides mapping of VLANs and ELANs to subnets.
- These mappings are auto-discovered based on information discovered by Topology Services and User Tracking.
- In some cases, the information might be incomplete. In these cases, you can edit a VLAN/ELAN mapping table to supplement the Topology Services and User Tracking information. If subnet mappings are not correct, Layer 2 traces on those subnets might fail.
- Step 5** Enable Cisco Discovery Protocol (CDP) on all Cisco devices.
- If CDP is not enabled, these devices will not appear on Layer 2 path traces.

**Step 6** Enable source routing on your network.

This is required if you plan to run path traces outside of the domain known to Topology Services.

For more information, see the Path Analysis online help.

---

## Verifying Path Analysis

To verify that Path Analysis is working properly:

---

**Step 1** Run **Action>Discover All**.

**Step 2** Start Topology Services and make sure that all devices, interfaces, and links are discovered properly.

Properly discovered devices appear in green in the Topology Services window.

**Step 3** Verify that all VLANs and ELANs are discovered with correct port assignments.

**Step 4** Start User Tracking and run Discovery with a ping sweep to verify that all end-user stations are discovered.

**Step 5** Run **nslookup** on several known devices in the command shell.

**Step 6** Verify that DNS lookup works and takes one second or less.

**Step 7** Verify the Subnet Mapping table entries.

Each VLAN and ELAN entry should have any corresponding subnets listed. Any subnets that do not correspond to a VLAN or ELAN should be in a Subnet row.

**Step 8** Run a few traces between endpoints known to User Tracking or Topology Services and verify that the trace completed successfully.

For troubleshooting information, see the Path Analysis online help.

---

## Setting Up VLAN Port Assignment

To set up VLAN Port Assignment, start VLAN Port Assignment.

For more information, see the VLAN Port Assignment online help.

## Displaying Topology Views and Attribute Summaries

To highlight devices, VLANs in a VTP domain, or a VTP domain map, or to display attribute summaries for devices, Topology Services must be running. See the VLAN Port Assignment online help for more information.

## Verifying VLAN Port Assignment

To verify that VLAN Port Assignment is working properly:

- 
- Step 1** Check the status bar to verify that the ANI Server is running properly.
  - Step 2** Perform a Port Summary for a VTP Domain.  
The table should be populated with that domain's port information.
  - Step 3** Select a port, preferably unconnected, and move it to a different VLAN.  
The port information should be updated.  
See the VLAN Port Assignment online help for more information.
- 

## Setting Up Discrepancy Reports

To set up Discrepancy Reports:

- 
- Step 1** Select the Discrepancy Reports folder from the desktop.
  - Step 2** Start Physical Discrepancy Reports or Logical Discrepancy Reports.  
For more information, see the Discrepancy Reports online help.
- 

## Verifying Discrepancy Reports

To verify that Discrepancy Reports is working properly, check the status bar to verify that the ANI Server is running properly.

# Logging Out as Administrator

To end your administrator tasks, you must log out of Campus Manager.

---

**Step 1** Close all secondary browser windows. You should have only one browser window opened displaying the Campus Manager interface.

**Step 2** Click **Logout**.

The Login Manager dialog box replaces the navigation tree.

---



# Troubleshooting the Installation

---

This appendix provides troubleshooting information for Campus Manager (Campus) installation and setup.

This appendix contains:

- [Logging In After Upgrading](#)
- [Understanding Installation Error Messages](#)
- [Failing to Delete a Package During Uninstallation](#)
- [Accessing the CiscoWorks Server](#)
- [FAQs about IDU](#)

# Logging In After Upgrading

If the Login Manager dialog box on the CiscoWorks desktop does not appear correctly when you attempt to log in for the first time after upgrading, clear your browser cache as follows, then re-enter the server URL in your browser.

For Microsoft Internet Explorer:

---

**Step 1** Select **Tools>Internet Options**.

The Internet Options dialog box opens.

**Step 2** Select the **General** tab.

**Step 3** Click **Delete Files**, then click **OK** in the Delete Files dialog box.

---

For Netscape Navigator:

---

**Step 1** Select **Edit>Preferences**.

The Preferences dialog box opens.

**Step 2** Select **Advanced>Cache**.

**Step 3** Click **Clear Memory Cache**, then click **OK** in the Memory Cache dialog box.

**Step 4** Click **Clear Disk Cache**, then click **OK** in the Disk Cache dialog box.

---

# Understanding Installation Error Messages

After verifying that the correct files are installed, check the `/var/tmp/ciscoinstall.log` file for installation errors.

The following types of installation error messages might appear:

- Information messages, give important details.
- Warning messages, which inform you that something might be wrong with a particular process, but the process will complete.
- Error messages, which inform you that a particular process could not complete

[Table A-1](#) shows error messages that might occur during installation and describes the reasons for the errors.

**Table A-1** *Installation Messages*

Message	Reason for Message	User Action
Access problem with <i>directory</i> .	The installation program cannot access the product <i>directory</i> that you specified.	Check the permissions on the directory <i>directory</i> .
Bad installation root dir.	You are trying to install the product in an unusable directory.	Install the product on a different directory.
Base package did not install. Exiting.	The installation program cannot install a package that is required for the product.	Contact your technical support representative.
Cannot backup <code>/etc/services</code> , no change will be made.	The installation program could not make a copy of <code>/etc/services</code> before modifying it.	Make sure that there is enough space in <code>/tmp</code> .
Cannot become owner of file in directory <i>directory</i> .	You cannot become the owner of a file in the directory that you specified as the product root.	Check the permissions on the directory that you specified.
Cannot change ownership of library. Exiting.	The installation program could not write to the product root directory.	Check the permissions on the directory that you specified.

Table A-1 Installation Messages (continued)

Message	Reason for Message	User Action
Cannot create <i>directory</i> .	The installation program could not write to the directory that you specified.	Check the permissions on the directory that you specified.
Cannot create symlink: <code>ln -s root /opt/CSCOpX</code> .	The installation program cannot create a link from <code>/opt/CSCOpX</code> to the product root directory that you specified.	Contact your technical support representative.
Cannot determine the CiscoWorks Common Services version.	The installation disk is corrupted.	Contact your technical support representative.
Cannot determine the version of <i>product</i> .	The installation program was unable to determine the product version.	Contact your technical support representative.
Cannot make list of packages for installation.	The installation has suffered a major failure.	Contact your technical support representative.
Cannot upgrade.	Upgrade failed.	Contact your technical support representative.
Copy <i>setupdir</i> to <i>\$nmsroot</i> failed.	The installation program could not write to product root directory.	Check the permissions on the root.
Installation in progress.	You are already running an installation on this machine.	Run only one installation program at a time.
Missing file <i>file</i> .	The installation program could not find the <i>file</i> file.	Contact your technical support representative.
No syslog facility is available.	There are no available syslog facilities.	Make one of the facilities available.
Not enough disk space: <i>root</i> .	You have picked a product root in a file system with insufficient space to load the product.	Make at least 2 GB of disk space available on the partition on which you install the product.
Package verification failed: <i>pkg</i> aborting.	While attempting to load our packages on the machine, one of the packages loaded incorrectly.	Contact your technical support representative.

**Table A-1** *Installation Messages (continued)*

Message	Reason for Message	User Action
Syslog is not running.	The installation program was unable to start syslogd on this machine.	Restart syslogd.
The components have dependency errors.	The installation program suffered a major failure.	Contact your technical support representative.
User must be root.	You must be logged in as root to install the product.	Log in as root and enter the correct password.
Wrong OS.	This operating system is not Solaris or not a supported version of Solaris.	Make sure that you are running Solaris 2.7 or Solaris 2.8.

## Failing to Delete a Package During Uninstallation

If you try to remove Campus Manager but the uninstallation program fails to delete a package, try running the uninstallation program again. Several circumstances can cause a package not to uninstall successfully. Running the uninstallation program again will usually remove it.

# Accessing the CiscoWorks Server

The CiscoWorks server uses port 1741 by default (1742 if SSL is enabled). This port is normally used by web servers. If you receive an error message informing you that an existing web server is already configured to run on port 1741, and the alternative port 1744 is used instead, verify that you entered the correct URL for the server:

```
http://server_name:1744
```

where *server\_name* is the name of the machine on which CiscoWorks was installed and 1744 is the alternative port on which CiscoWorks is installed if port 1741 is in use.

If you still cannot access the server, enter the following command to make sure your server is running:

```
# ping server_name
```

If you get a message informing you that the server is “alive,” and get a proxy error when you try to connect to the server, make sure the proxy is set up correctly. If your server is configured to use a proxy server outside the firewall, you will get proxy errors if you configured the proxy to ignore requests to a certain machine, set of machines, or domain.

You specify a proxy server in Netscape Navigator under **Edit>Preferences>Advanced>Proxies** and in Internet Explorer under **Tools>Internet Options>Connections>LAN Settings**.

Your proxy is set up incorrectly if:

- You receive an error message informing you that you are using a proxy outside the firewall.
- The proxy server recognizes www-int as an internal server, so it does not proxy requests to that server.
- You set up a new internal server, www-nms, but when you make a request to the proxy server, it does not recognize www-nms as an internal server and proxies the request.
- The proxy server outside the firewall tries to request data from a server inside the firewall, and the request is blocked.
- You get a `Connection Refused` error from the proxy server.

## FAQs about IDU

- Q. What is an IDU?
- A. IDU (Incremental Device Update) for a CiscoWorks application is a downloadable package containing a collection of updated files to provide you with support for new devices. In addition, the package also contains fixes to certain known problems, as well as fixes to newly discovered problems. IDUs are available for download for various versions of CiscoWorks applications.
- Q. Why should I install the latest IDU?
- A. If you had installed IDU 2.0 on Campus Manager 3.2, and then upgraded to Campus Manager 3.3, you will not lose any device support. This is because IDU 2.0 has been merged into Campus Manager 3.3. But, if you had installed a version of IDU later than 2.0 on Campus Manager, and then upgraded to Campus Manager 3.3, you will lose support for new devices, and fixes to known problems.
- Q. Where can I download an IDU?
- A. To retain support for new devices, we recommend that you download and install the latest IDU for Campus Manager 3.3 from <http://www.cisco.com/cgi-bin/tablebuild.pl/cw2000-campus>
- Q. How do I know which version of IDU I have installed?
- A. To check the version of IDU installed on your system, from the CiscoWorks desktop, select **Server Configuration > About the Server > Applications and Versions**.
- The Patches Installed table displays the installed version of the applications in the following format:

If Patches Installed table displays	IDU version installed is...
CM3_2_IDU-1.0	IDU 1.0 on Campus Manager 3.2
CM3_2_IDU-2.0	IDU 2.0 on Campus Manager 3.2
CM3_2_IDU-3.0	IDU 3.0 on Campus Manager 3.2

- Q. I have upgraded to Campus Manager 3.3. But, I have lost support for some devices. Why?
- A. If you had installed IDU 2.0 on Campus Manager 3.2, and then upgraded to Campus Manager 3.3, you will not lose any device support. This is because IDU 2.0 has been rolled into Campus Manager 3.3 . But, if you had installed a version of IDU later than 2.0 on Campus Manager 3.2, and then upgraded to Campus Manager 3.3, you will lose support for new devices.

To retain support for the new devices, we recommend that you download and install the latest IDU for Campus Manager 3.3 from

<http://www.cisco.com/cgi-bin/tablebuild.pl/cw2000-campus>



## Mounting and Unmounting the CD-ROM

---

This appendix describes how to mount and unmount the Campus Manager CD-ROM on a Solaris 2.7 or 2.8 system and provides general information only. For more detailed instructions, consult your Sun documentation.

You can install Campus Manager from a CD-ROM mounted on the Campus Manager server system or from a CD-ROM mounted on a remote Solaris system. After you complete the Campus Manager installation, you must unmount the CD-ROM drive.

This appendix contains:

- [Mounting a Local CD-ROM Drive](#)
- [Mounting a Remote CD-ROM Drive](#)
- [Unmounting a Local CD-ROM Drive](#)
- [Unmounting a Remote CD-ROM Drive](#)

# Mounting a Local CD-ROM Drive

To mount a local CD-ROM drive:

- 
- Step 1** Insert the Campus CD-ROM.
- Step 2** Become the superuser by entering the command **su** and the root password at the command prompt, or log in as root. The command prompt changes to the pound sign (#).
- If the `/cdrom` directory does not already exist, enter the following command to create it:

```
# mkdir /cdrom
```

- Step 3** Mount the CD-ROM drive.




---

**Note** The `vold` process manages the CD-ROM device and performs the mounting. The CD-ROM might automatically mount onto the `/cdrom/cdrom0` directory.

---

If you are running File Manager, a separate File Manager window displays the contents of the CD-ROM.

- Step 4** If the `/cdrom/cdrom0` directory is empty because the CD-ROM was not mounted, or if File Manager did not open a window displaying the contents of the CD-ROM, verify that the `vold` daemon is running by entering:

```
# ps -e | grep vold | grep -v grep
```

- Step 5** If `vold` is running, the system displays the process identification number of `vold`. If the system does not display anything, restart the daemon by entering:

```
# /usr/sbin/vold &
```

- Step 6** If the `vold` daemon is running but did not mount the CD-ROM, stop the `vold` daemon and then restart it. To stop the `vold` process, you must know the process identification number. If you do not know the process identification number, you can get it by entering:

```
# ps -ef | grep vold | grep -v grep
```

Step 7 Stop the vold process by entering:

```
# kill -15 process_ID_number
```

Step 8 Restart the vold process by entering:

```
# /usr/sbin/vold &
```

Step 9 If you encounter problems using the vold daemon, enter the following command to mount the CD-ROM:

```
# mount -F hfs -r ro /dev/dsk/cxydz /cdrom/cdrom0
```

where *x* is the CD-ROM drive controller number, *y* is the CD-ROM drive SCSI ID number, and *z* is the slice of the partition on which the CD-ROM is located.

You have now mounted the CD-ROM drive. See [Chapter 2, “Installing Campus Manager”](#) for instructions on installation.

---

## Mounting a Remote CD-ROM Drive

To mount a remote CD-ROM drive:

---

- Step 1 Insert the Campus CD-ROM into the CD-ROM drive of the remote machine.
- Step 2 Become the superuser on the remote machine by entering the command **su** and the root password at the command prompt, or log in as root. The command prompt changes to the pound sign (#).
- Step 3 If the /cdrom directory does not already exist, enter:
- ```
# mkdir /cdrom
```
- Step 4 Mount the CD-ROM drive.



**Note** The vold daemon process manages the CD-ROM device and performs the mounting. The CD-ROM might automatically mount onto the /cdrom/cdrom0 directory.

---

If you are running File Manager, a separate File Manager window displays the contents of the CD-ROM.

**Step 5** If the `/cdrom/cdrom0` directory is empty because the CD-ROM was not mounted, or if File Manager did not open a window displaying the contents of the CD-ROM, verify that the `vold` daemon is running by entering:

```
# ps -e | grep vold | grep -v grep
```

**Step 6** If `vold` is running, the system displays `/usr/sbin/vold`. If the system does not display anything, restart the daemon by entering:

```
# /usr/sbin/vold &
```

**Step 7** If the `vold` daemon is running but did not mount the CD-ROM, stop the `vold` daemon and then restart it. To stop the `vold` process, you must know the process identification number. If you do not know the process identification number, you can get it by entering:

```
# ps -ef | grep vold | grep -v grep
```

**Step 8** Stop the `vold` process by entering the following command:

```
# kill -15 process_ID_number
```

**Step 9** Restart the `vold` process by entering the following command:

```
# /usr/sbin/vold &
```

**Step 10** If you encounter problems using the `vold` daemon, enter the following to mount the CD-ROM:

```
# mount -F hfs -o ro /dev/dsk/cxydz /cdrom/cdrom0
```

where *x* is the CD-ROM drive controller number, *y* is the CD-ROM drive SCSI ID number, and *z* is the slice of the partition on which the CD-ROM is located.

**Step 11** Use a text editor to create an `/etc/dfs/dfstab` file, if one does not exist.

**Step 12** Add the following line to the `/etc/dfs/dfstab` file:

```
share -F nfs -o ro /cdrom/cdrom0
```

**Step 13** Make sure your remote machine is enabled as an NFS server by entering:

```
# ps -ef | grep nfs | grep -v grep
```

The output of this command indicates whether the `/usr/lib/nfs/nfsd` and `/usr/lib/nfs/mountd` daemons are running. If they are not running, enable your machine as an NFS server by entering:

```
# /etc/init.d/nfs.server start
```

If your machine is enabled as an NFS server, enter one of the following:

```
# share
```

or

```
# shareall
```

**Step 14** Log in to the machine on which you want to install Campus as superuser by entering the command `su` and the root password, or log in as root.

**Step 15** Create a `/cdrom` directory, if one does not already exist, by entering:

```
# mkdir -p /cdrom/cm33
```

**Step 16** To mount the CD-ROM drive, enter:

```
# /usr/sbin/mount -r remote_machine_name:/cdrom/cdrom0 /cdrom/cm33
```

You have now mounted the CD-ROM drive. See [Chapter 2, “Installing Campus Manager”](#) for installation instructions.

---

## Unmounting a Local CD-ROM Drive

To unmount a local CD-ROM drive:

---

**Step 1** As root, enter:

```
# cd  
# umount /cdrom/cdrom0
```

**Step 2** Remove the CD-ROM and store it in a safe place.

---

## Unmounting a Remote CD-ROM Drive

To unmount a remote CD-ROM drive:

---

**Step 1** As root, enter the following on the local machine:

```
# umount /cdrom/cm33
```

**Step 2** As root, enter the following on the remote machine:

```
# umount /cdrom/cdrom0
```

**Step 3** Remove the CD-ROM and store it in a safe place.

---



---

## A

### accessing

CiscoWorks Server [3-3](#)

### additional

software required on server [1-4](#)

### administrators

tasks, in preparing to use Campus Manager [3-4](#)

ANI database, backing up [3-4](#)

logging in [3-4](#)

logging out [3-12](#)

### ANI database

backing up [3-4](#)

inadvertently deleting (caution) [1-3](#)

ANI Server, configuring [3-7](#)

audience for this document [vii](#)

---

## B

backing up the ANI database [3-4](#)

browser requirements for client systems [1-7](#)

---

## C

### cautions

#### regarding

ANI database, inadvertently deleting [1-3](#)

manually uninstalling Campus [2-14](#)

significance of [viii](#)

### CD-ROM

installation, mounting and unmounting [B-1](#)

mounting a local CD-ROM drive [B-2](#)

mounting a remote CD-ROM drive [B-3](#)

unmounting a local CD-ROM drive [B-6](#)

unmounting a remote CD-ROM drive [B-6](#)

checking required disk space [1-5](#)

Cisco.com, accessing [xii](#)

### CiscoWorks Server

accessing [3-3](#)

Campus Manager, and [1-2](#)

troubleshooting access to [A-6](#)

client requirements [1-6](#)

browser [1-7](#)

Client System Requirements Summary  
(table) [1-6](#)

hardware [1-6](#)

memory (RAM) [1-7](#)

configuring

ANI Server [3-7](#)

Campus Manager (see preparing to use  
Campus Manager [3-1](#))

---

## D

data, importing after installation [2-10](#)

data conversion, understanding [2-11](#)

converting Campus 3.2 data [2-11](#)

data conversion process [2-11](#)

importing data manually from 3.1 or 3.2 [2-12](#)

upgrading saved views from Topology  
Services [2-10](#)

devices supported by Campus [1-7](#)

Discrepancy Reports

setting up [3-11](#)

verifying [3-11](#)

disk space, checking for required [1-5](#)

displaying topology views and attribute  
summaries [3-11](#)

documentation [ix](#)

additional online [xi](#)

audience for this [vii](#)

feedback, submitting electronically [xiii](#)

obtaining [xi](#)

CD-ROM [xii](#)

Cisco.com [xii](#)

ordering [xii](#)

other Cisco publications and information [xvi](#)

related to this product [x](#)

typographical conventions in [vii](#)

drive space requirements on the server [1-4](#)

---

## G

getting started with Campus Manager (see  
preparing to use Campus  
Manager) [3-1](#)

---

## H

hardware requirements

client [1-6](#)

server [1-4](#)

help [xiii](#)

(see also troubleshooting) [A-1](#)

Cisco.com [xiv](#)

online documentation [xi](#)

TAC [xiv](#)

Escalation Center [xv](#)

website [xv](#)

---

importing data after installation [2-10](#)

data conversion, understanding [2-11](#)

conversion process [2-11](#)

converting Campus 3.1 data [2-11](#)

manually, from Campus Manager 3.2 [2-12](#)

upgrading saved views from Topology Services [2-10](#)  
 installing Campus Manager [2-1](#)  
   importing data after installation [2-10](#)  
     data conversion, understanding [2-11](#)  
     importing data manually from 3.2 [2-12](#)  
 Installation Messages (table) [A-3](#)  
 Installing Campus Manager Overview (table) [2-2](#)  
 new installations [2-3](#)  
   installation notes [2-3](#)  
   process [2-4](#)  
 overview of the install process [2-2](#)  
 reinstallations (see upgrading or reinstalling Campus Manager) [2-6](#)  
 troubleshooting [A-1](#)  
   CiscoWorks Server access [A-6](#)  
   installation error messages [A-3](#)  
 uninstalling Campus Manager [2-14](#)  
   cautions regarding [2-14](#)  
   failure to delete a package during, troubleshooting [A-5](#)  
 upgrades (see upgrading or reinstalling Campus Manager) [2-6](#)

---

## L

logging in  
   after upgrading [A-2](#)  
   as administrator [3-4](#)  
 logging out as administrator [3-12](#)

---

## M

maximum recommended load on servers [1-5](#)  
 memory (RAM) requirements  
   client [1-7](#)  
   server [1-4](#)  
 mounting and unmounting the CD-ROM [B-1](#)  
   mounting a local CD-ROM drive [B-2](#)  
   mounting a remote CD-ROM drive [B-3](#)  
   unmounting a local CD-ROM drive [B-6](#)  
   unmounting a remote CD-ROM drive [B-6](#)

---

## N

network  
   setting up [3-6](#)

---

## O

overview of Campus Manager [1-2](#)

---

## P

Path Analysis  
   setting up [3-9](#)  
   verifying [3-10](#)  
 preparing to use Campus Manager [3-1](#)  
   administrator tasks [3-4](#)  
     ANI database, backing up [3-4](#)

- logging in as administrator [3-4](#)
- CiscoWorks Server, accessing [3-3](#)
- logging out as administrator [3-12](#)
- setting up Campus Manager applications [3-5](#)
  - ANI Server, configuring [3-7](#)
  - Discrepancy Reports, setting up [3-11](#)
  - network, setting up [3-6](#)
  - Path Analysis, setting up [3-9](#)
  - Topology Services, setting up [3-7](#)
  - User Tracking, setting up [3-8](#)
  - VLAN Port Assignment, setting up [3-10](#)
- task overview [3-2](#)
- prerequisites [1-1](#)
  - client requirements [1-6](#)
    - browser [1-7](#)
    - Client System Requirements Summary (table) [1-6](#)
    - hardware [1-6](#)
    - memory (RAM) [1-7](#)
- server requirements [1-4](#)
  - disk space, checking [1-5](#)
  - drive space [1-4](#)
  - hardware [1-4](#)
  - maximum recommended load [1-5](#)
  - memory (RAM) [1-4](#)
  - recommendations [1-5](#)
  - Server System Requirements Summary (table) [1-4](#)
  - software [1-4](#)
  - //tmp directory [1-4](#)

- upgrade paths [1-3](#)

---

## R

- reinstalling Campus Manager (see upgrading or reinstalling Campus Manager) [2-6](#)

---

## S

- saved views, upgrading from Topology Services [2-10](#)
- server requirements [1-4](#)
  - disk space, checking [1-5](#)
  - drive space [1-4](#)
  - hardware [1-4](#)
  - maximum recommended load [1-5](#)
  - memory (RAM) [1-4](#)
  - recommendations [1-5](#)
  - Server System Requirements Summary (table) [1-4](#)
  - software [1-4](#)
  - //tmp directory [1-4](#)
- software requirements
  - client [1-7](#)
  - server [1-4](#)
- supported devices [1-7](#)

---

## T

- tables

Client System Requirements Summary [1-6](#)  
 Installation Messages [A-3](#)  
 Installing Campus Manager Overview [2-2](#)  
 Network Setup Tasks [3-6](#)  
 Overview of Campus Setup Tasks [3-2](#)  
 Server System Requirements Summary [1-4](#)  
 TAC (Technical Assistance Center) [xiv](#)  
     Escalation Center [xv](#)  
     website [xv](#)  
 technical support [xiii](#)  
     (see also troubleshooting) [A-1](#)  
     Cisco.com [xiv](#)  
     TAC [xiv](#)  
         Escalation Center [xv](#)  
         website [xv](#)  
 //tmp directory, required location [1-4](#)  
 Topology Services  
     setting up [3-7](#)  
         configuring network discrepancies [3-8](#)  
         verifying Topology Services [3-8](#)  
     upgrading saved views from [2-10](#)  
 troubleshooting  
     installation [A-1](#)  
         CiscoWorks Server, troubleshooting  
         access [A-6](#)  
         installation error messages [A-3](#)  
         logging in after upgrading [A-2](#)  
     uninstallation, failure to delete a package  
         during uninstallation [A-5](#)  
 typographical conventions in this document [vii](#)

---

## U

uninstalling Campus Manager [2-14](#)  
     cautions regarding [2-14](#)  
     failure to delete a package during,  
         troubleshooting [A-5](#)  
 upgrading or reinstalling Campus Manager [2-6](#)  
     installation notes [2-6](#)  
     logging in after [A-2](#)  
     process [2-7](#)  
     troubleshooting [A-1](#)  
         CiscoWorks Server access [A-6](#)  
         installation error messages [A-3](#)  
         logging in after upgrading [A-2](#)  
     upgrade paths [1-3](#)  
     upgrading saved views from Topology  
         Services [2-10](#)  
 User Tracking, setting up [3-8](#)  
     supporting user name collection [3-9](#)  
     verifying User Tracking [3-9](#)

---

## V

VLAN Port Assignment  
     setting up [3-10](#)  
     verifying [3-11](#)

---

## W

warnings, significance of [viii](#)

