

Cisco Services

Steve Lee

Cisco's Services— Accelerating Time to Value

Cisco.com



Cisco Technical Support Services And Certifications

CCIE - now available in CABLE!
**CCCS – Cisco Cable
Communication Specialist**



Cisco Technical Assistance Center (TAC)

Cisco.com

- Fast access to the technical resources **created by Cisco TAC engineers**

- Online at www.cisco.com/tac

- Online technical services available 24x7

- Multiple awards for best and most comprehensive support Web site



- “Follow the sun model”: Australia, San Jose, RTP, Belgium

- World’s top engineers, 15 years of troubleshooting experience


- 1500+ Cisco TAC engineers (500+ CCIEs) 3000+ development engineers

- 4.5+ customer satisfaction rating 1 to 5


**Industry’s Largest, Most Sophisticated
Networking Support Team**

TAC Mission Statement

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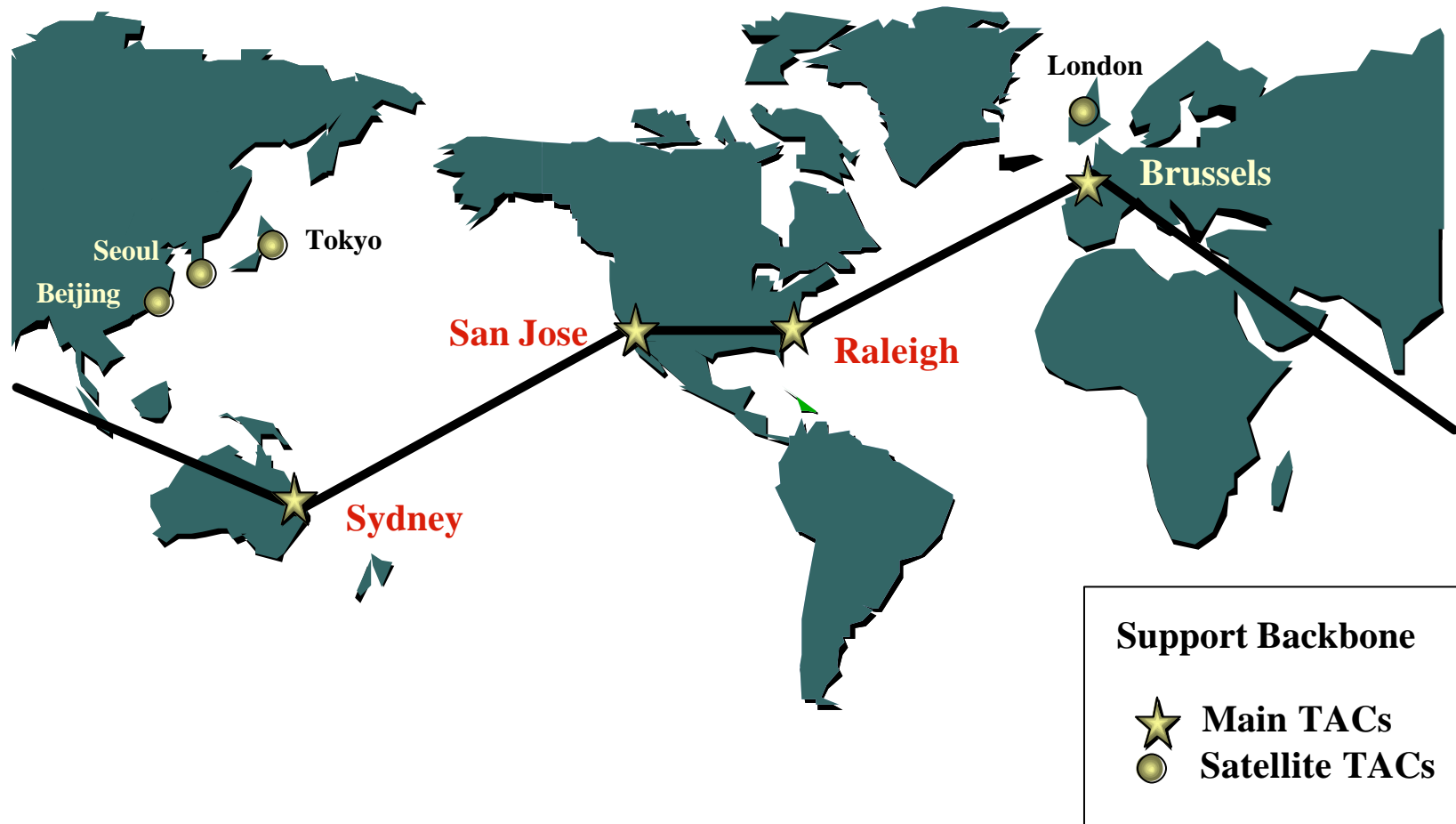


**Remove all barriers to
customers' successful
operation of Cisco
networks by **understanding**
their needs and **exceeding**
their expectations.**



TAC Global Backbone Support Centers

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Customer Advocacy

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**Serviceability
and
Design
Engineers**

**Advanced
Engineering
Services**

**Technical
Assistance
Center**

**Rapid Response
& On Site
Support**

Escalation Process

Technology Team Technical Lead –

Senior engineer with expertise across the teams core technologies including DOCSIS, RF, IP, SNMP.
Works closely with the Cable BU.

Rapid Response Team –

Escalation engineers in the Cable BU with years of experience in the Cable industry and knowledge depth across multiple related technologies.

Development Engineer –

Expert at source code and responsible for fixing defects that affect hardware, firmware and software.

Priority Description

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Customer Set Prioritization

- **Priority 1**
Production network or major software application is down
Critical impact to business operations
24 hour Cisco and customer commitment
No work-around available
- **Priority 2**
Network or major software application is severely degraded
Significant impact to business operations
Cisco and customer committed during business hours
No work-around available
- **Priority 3**
Network functionality degraded
Business operations noticeably impaired
Cisco and customer in frequent contact
- **Priority 4**
General assistance
Installation, upgrade or configuration assistance
General product information

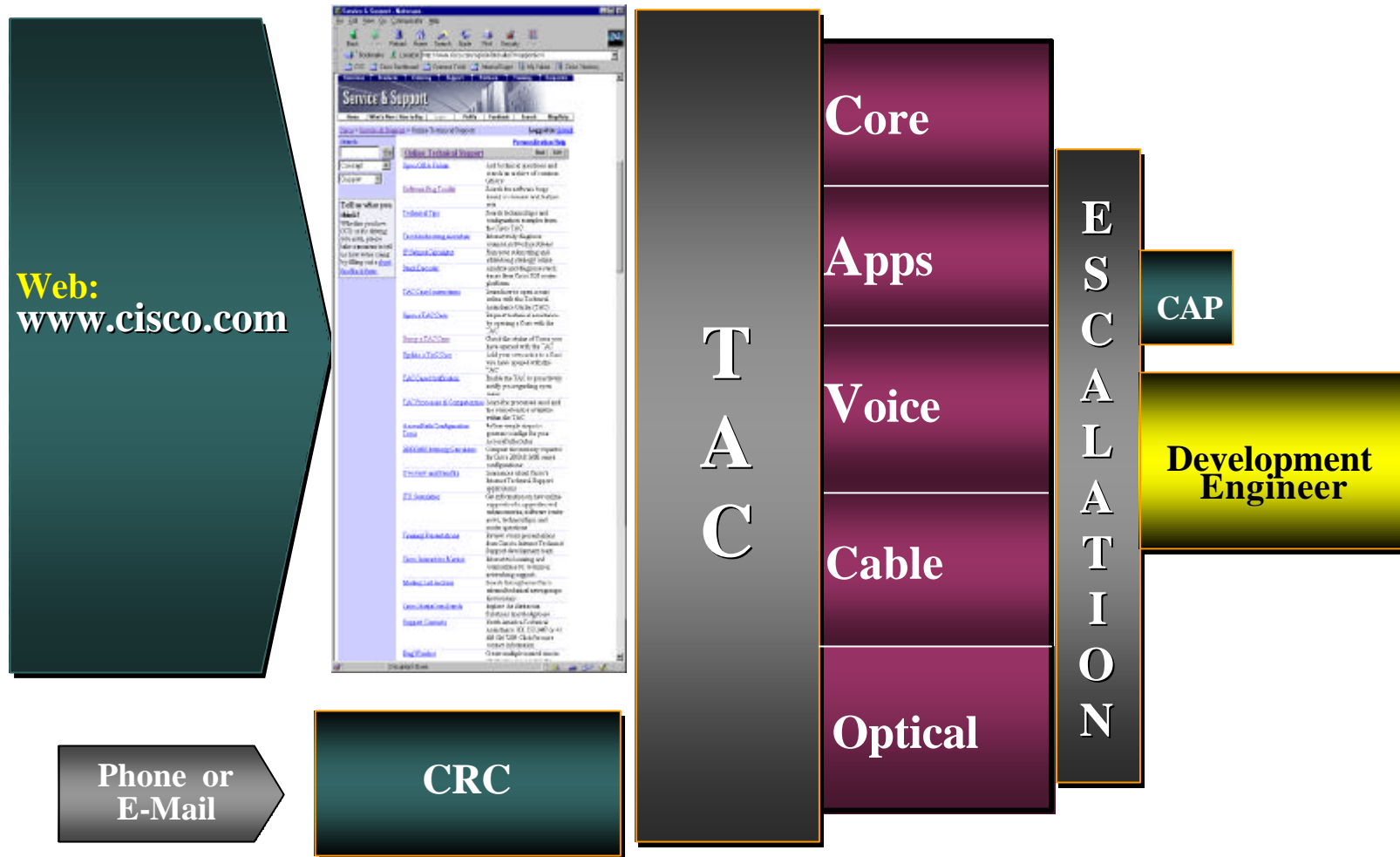
Automatic Problem Escalation

Cisco.com

| Elapsed Time | Priority 1 (Network Down) | Priority 2 (Severe Impact) | Priority 3 (Impaired Ops.) | Priority 4 (General Assistance) |
|--------------|------------------------------|-------------------------------|-------------------------------|------------------------------------|
| 1 Hour | TAC Manager | | | |
| 4 Hours | TAC Director | TAC Manager | | |
| 24 Hours | VP, Cust. Advocacy | TAC Director | | |
| 48 Hours | President | VP, Cust. Advocacy | | |
| 72 Hours | | | TAC Manager | |
| 96 Hours | | President | TAC Director | TAC Manager |

TAC Case Handling Process

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The Cisco TAC Web Site

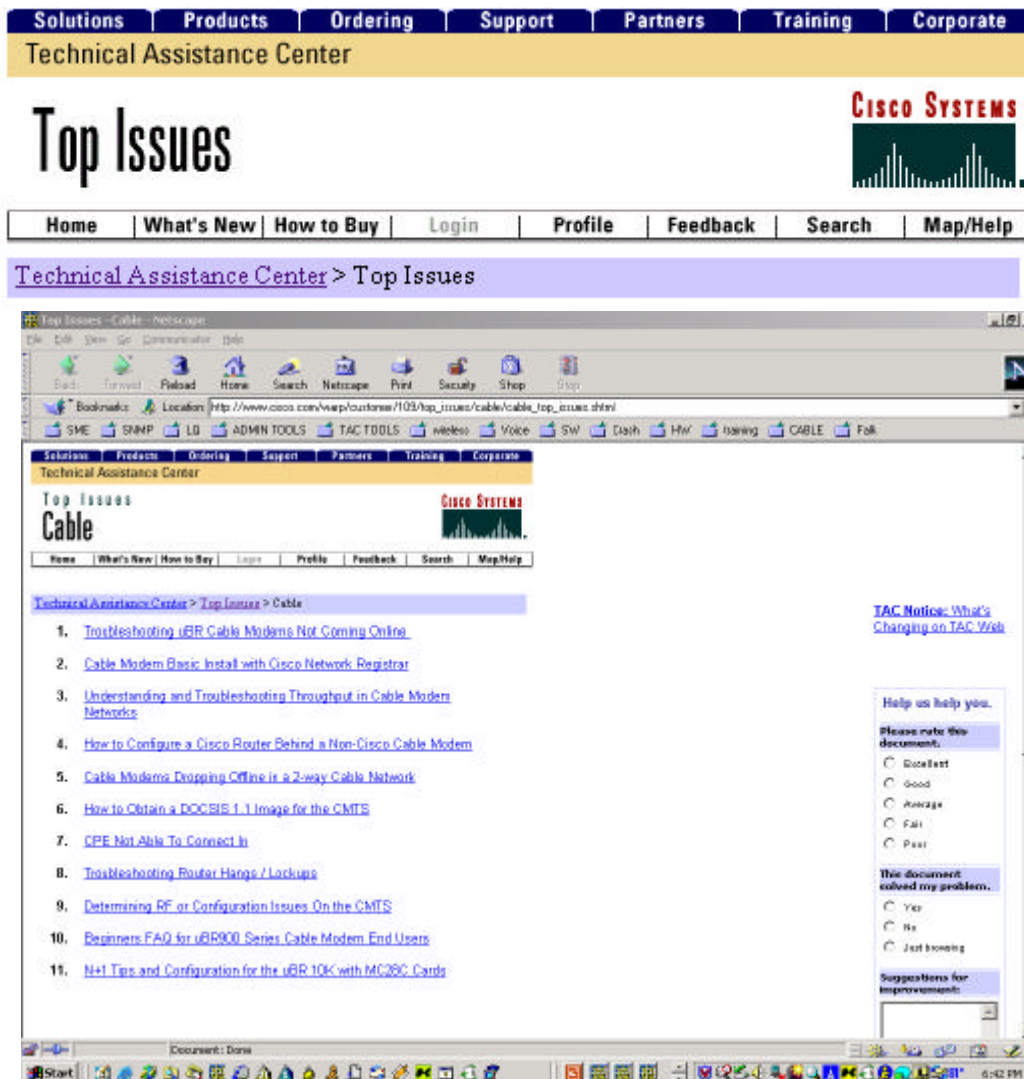
Major Sections:

- Cable Top Issues
- Cable Product Pages
- Technology Pages
- Cable Solution Pages
- Tools
- Documentation
- Software Center
- Escalate / Case Management
- and on line Training

The screenshot displays the Cisco Technical Assistance Center (TAC) website. At the top, the Cisco.com logo is visible. Below it, a navigation bar includes links for Solutions, Products, Ordering, Support, Partners, Training, and Corporate. The main header area features the 'Technical Assistance Center' title and a secondary navigation bar with links like Home, What's New, How to Buy, Login, Profile, Feedback, Search, and Map/Help. A user is logged in as 'julsco'. The left sidebar contains a 'TAC Home' section with links to TAC Overview, Personalize this Page, What's New, Subscribe to Newsletter, Newsletter Archive, Training, Give Us Feedback, Become a Beta Tester, and TAC Awards. Below this is the 'Service Contract Center' with links to Buy Cisco Products and Manage Service Orders. A 'Cisco TAC CERTIFIED' logo is also present. The main content area is titled 'Technical Assistance Center Guide' and includes a search bar. Below the search bar, there's a 'Cable' section with a 'Top Issues' link. A list of categories is shown: Overview (6), Network Design (16), Implementation and Configuration (35), Verification and Troubleshooting (21), Operating and Maintaining (2), and Documentation (4). Each category has associated links like Standards & Specifications, General Information, System Requirements, Known Problems, Troubleshooting Steps, and Performance Tuning. A 'Products' section on the left lists various Cisco products like High-End, WAN, LAN, Access, Web, Security, Network, Optical, and AVVID.

Cable Top Issues

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- Today's Solutions to the most common Cable issues based on current Cisco TAC cases.

Tools - Open Forum

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The screenshot shows the Cisco Open Forum page. At the top is a navigation bar with links: Solutions, Products, Ordering, Support, Partners, Training, and Corporate. Below this is a yellow banner for the 'Technical Assistance Center'. The main heading is 'Open Forum' with the Cisco Systems logo to its right. A secondary navigation bar includes links: Home, What's New, How to Buy, Login, Profile, Feedback, Search, and Map/Help. A welcome message states: 'Welcome to the Open Forum, where you can tap the knowledge of Cisco's team of technical experts. Before using this interactive tool, please read the [Open Forum Guidelines](#).' Below this, a red-bordered box highlights four main actions:

- **[Enter a Question in the Open Forum](#)**
Begin with a search of our extensive technical database.
- **[View New Q&A Pairs](#)**
Review questions recently answered in the Open Forum.
- **[Open Forum Technical Tips](#)**
Browse the categorized collection of Open Forum Q&As.
- **[Search the Open Forum](#)**
Search the Open Forum using CCO's [powerful search engine](#).

- A Database of Cable FAQs and Answers
- Ability to Submit a Question to the Open Forum of CCIE's

TAC Documentation

- **Critical technical information at your fingertips**

Tech Tips

Sample Configurations

Configuration Cookbooks

Security Advisories

- **TAC Certification**

Certified Documents are written, reviewed, tested in the lab and used internally by Cisco TAC Engineers

The screenshot shows the Cisco Technical Assistance Center (TAC) website. At the top, there's a navigation bar with links: Solutions, Products, Ordering, Support, Partners, Training, and Corporate. Below this is the 'Technical Assistance Center' header. A secondary navigation bar includes Home, What's New, How to Buy, Login, Profile, Feedback, Search, and Map/Help. The main content area is titled 'Documents' and lists various resources with brief descriptions:

- [Documentation Home Page](#): View an index of user guides, installation, configuration, and more
- [Security Advisories](#): Internet security issues and response procedures
- [Field Notices](#): Receive notification of critical issues regarding Cisco products
- [Product Bulletins](#): Find out about upgrades, options and revisions, as well as alerts to potential problems and workarounds
- [New Product Releases](#): Complete information on the very latest Cisco product launches
- [Cisco Product Documentation](#): Study user guides, installation, configuration, and more
- [Cisco Product Catalog](#): Product overviews, technical specifications, and ordering information
- [Hardware Technical Tips](#): Study technical information related to specific hardware platforms
- [Software Technical Tips](#): A collection of tips for a range of Cisco software products
- [Data Sheets: 5 languages](#): Product specifications in English, German, Spanish.

On the left side of the screenshot, there's a sidebar with links: TAC Home, TAC Overview, Personalize this Page, What's New, Subscribe to Newsletter, Newsletter Archive, Give Us Feedback, Become a Beta Tester, TAC Awards, Service Contract Center, and Buy Cisco Products. At the bottom of the sidebar is a 'Cisco TAC CERTIFIED' logo featuring a person holding a large document.

Software Center



- Tools that evaluate hardware and software compatibility
- Software Feature Selection Tools
- Software Downloads
- Bug Updates and Troubleshooting
- The Tools:

Bug Toolkit

IOS Upgrade Planner

Hardware/ Software
Compatibility Matrix

Compatibility Advisor

Feature Navigator

Case Query / Case Update

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Solutions **Products** **Ordering** **Support** **Partners** **Training** **Corporate**

Technical Assistance Center

Case Query

CISCO SYSTEMS

Home | What's New | How to Buy | Login | Profile | Feedback | Search | Map/Help

Cisco > Service & Support Logged in: acstwo

- Case Open
- Case Query**
- Case Update
- Worldwide Contacts
- Open Forum
- Troubleshooting Engine
- Case Open Guidelines
- PICA Case Query
- Service Order Status
- Email CCO Team

Talk To Us Now

Cisco Live!

For interactive help with using our web site, please click the image above.

To query a Technical Support case regarding your cisco product, please use the form to

Welcome to Cisco's Case Query tool. If you have an open Case with Cisco's Technical Assistance Center (TAC), since January 1, 1997, you may query the history and status of the Case here. To begin, simply select a Contract Number and choose Open, Closed, or Open and Closed Cases to bring back a listing of cases that meet your criteria. You may also type in an individual Case Number to bring back that Case's details. Once you've chosen the options that suit your needs, click the Submit Query button.

Select a Contract or a series of Contracts from the listing. Your default contract is already highlighted.

| QUERY OPTIONS | |
|--------------------------------|---|
| Cisco Case Number | <input type="text"/> |
| Select Contract(s) | <div>1034790</div> <div>1045130</div> |
| Case Status | <input checked="" type="checkbox"/> Open Cases <input type="checkbox"/> Closed Cases |
| Query by Create Date | From: <input type="text"/> 1 - <input type="text"/> JAN - <input type="text"/> 2000 To: <input type="text"/> 1 - <input type="text"/> FEB - <input type="text"/> 2000 <input type="radio"/> Yes <input checked="" type="radio"/> No |
| Contact's Last Name (Optional) | <input type="text"/> |
| Phone (Optional) | <input type="text"/> |

- Query your case to monitor its progress
- View the TAC engineers updates to your case
- Update your case with new information

Online TAC Case Management

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TAC Case Open

[Home](#) | [What's New](#) | [How to Buy](#) | [Login](#) | [Profile](#) | [Feedback](#)

Service and Support

Technical Assistance Center

Contact TAC / Status

TAC Case Open

INTERNAL CISCO USER

Step 1: Contact Information and Problem Description

ATTENTION

For information on the Cisco SNMP Security Advisory, please visit the following alert message before you open a case with the TAC:
[Cisco SNMP Security Advisory](#)

NEW

The functionality of this tool has changed

Please follow each step of the case opening process carefully before proceeding to the next step.

Prevent duplicate cases

Please ensure that all fields are entered with the correct data. A duplicate case will be created if you come 'back' to this page at any time afterwards.

Attention: Priority 1 or 2 (P1 or P2) network down emergencies

If you have a network down emergency, open your case by [telephone](#).

Contact Information

Is your contact information correct?

- For the purposes of this case, you may temporarily change your phone number and email address below.
- To permanently change your phone number or email address, access your online [contact profile](#).
- To change the contract data or the company in your online contact profile, please contact [Web-help](#).

CCO ID: [shanbrow](#)

First Name: Shannon

Last Name: Brown

- **Open a TAC Case Online**
(For P3 and P4 Cases)
 - **Securely attach and upload Documents to your case**
 - **Case Open Tool**
Verify contact info
Recommended URL's that might solve problem.
- Attention Banner alerts you to critical issues**

Case Open Tool, Screen 1: Problem Description

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Select Cable as the Technology and Problem Summary pull-downs allows Cisco to correctly identify possible solutions and to route to the Cable TAC team.

Add more detail here, including show commands or debug output from CMTS or cable modem.

The screenshot shows a Netscape browser window titled "Cisco Case Open - Netscape" with the address bar displaying "http://www.cisco.com/kobayashi/support/case_open.shtml". The main content area is a form titled "Describe your problem (* denotes mandatory field)". The form is divided into several sections: "Technology*" with a dropdown menu showing "Please specify" and a second dropdown "Please select a technology from above first"; "Problem Summary*" with a radio button selected for "Please select a sub-Technology from above" and an "OR" option with an empty text field; "Software Version" with a text field containing "(i.e. 12.1, 5.0.x)"; "Problem Description*" with a large text area; and "Upload File" with a green text prompt "Would you like to upload a file, such as a 'dump', 'trace' or 'config' file? You will be given an opportunity to upload the file(s) in a later stage of the case opening process." and radio buttons for "Yes" and "No". Red arrows point from the text boxes on the left to the "Technology*" and "Problem Description*" fields. The browser's status bar at the bottom shows "Document: Done".

Case Open Tool, Screen 2: Solutions and Selections

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Selecting one of these Solutions will launch a new browser window for viewing. Please return to this screen to select from the buttons below.

Please select one of these actions before closing browser.

Solutions Products Ordering Support Partners Training

Technical Assistance Center

TAC Case Open

Home What's New How to Buy Login Profile Feedback Search

Service and Support
Technical Assistance Center
Contact TAC / Status
TAC Case Open

Next Step: Review Useful Links

You are not done. Your case has not yet been sent to the Technical Assistance Center. Select an action below to prevent the automatic closure of your case.

Before completing your case, please review these links - customers with similar issues have found them helpful:

- [Configuring and Troubleshooting the Cisco Secure PIX Firewall with two \(or more\) Internal Networks](#)
- [Using nat, global, static, conduit and access-list Commands and Port Redirection on PIX](#)
- [Understanding/Using the alias Command for PIX](#)
- [Configuring and Troubleshooting the Cisco Secure PIX Firewall with a Single Internal Network](#)
- [PIX Top Issues](#)

Select an action! You must choose one of the following options to prevent the automatic closure of your case C072256 .

- ☒ I still need help - Send my case to an engineer
- ☐ I need more time to try the solutions - Hold my case
- ☐ The links above have provided a solution to my issue - Close this case

Next

Cisco Live

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- Browser synchronization technology
- Chat
- Whiteboard
- Telnet
- Application Sharing
- Clipboard
- [www.cisco.com/tac/case open](http://www.cisco.com/tac/caseopen)

Transactional Survey

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CISCO ENGINEER :

CASE A12345 OPENED 03-SEP-2001 SURVEY SENT 04-SEP-2001

REPLY 05-SEP-2001

CUSTOMER :

EMAIL :

SITE :

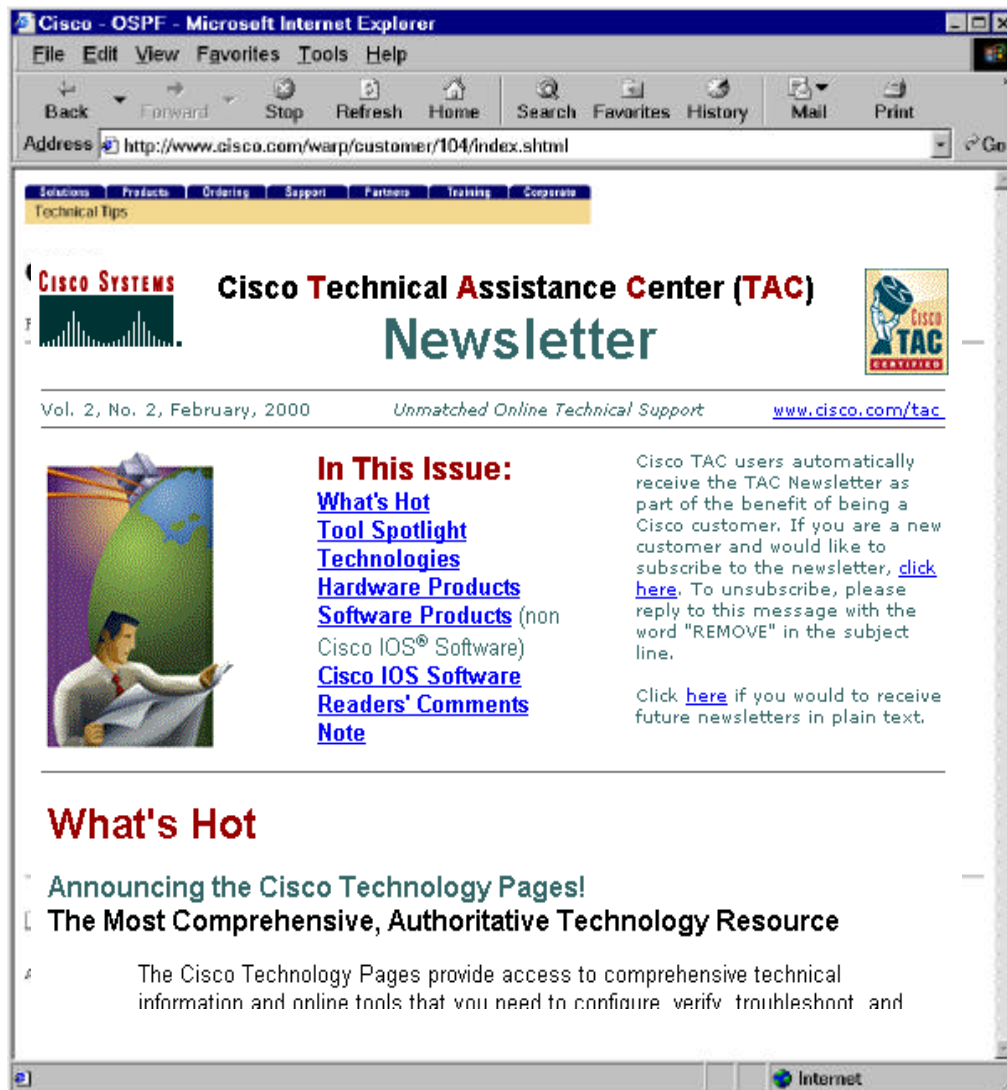
PROBLEM DESCRIPTION :

- (Q1) Overall handling of case.....(1-5)**
- (Q2) Ease of Access to help.....(1-5)**
- (Q3) Timeliness of Problem Resolution.....(1-5)**
- (Q4) Communication of Problem Status.....(1-5)**
- (Q5) Effectiveness of Solution/Information.(1-5)**
- (Q6) Technical Expertise of Engineer.....(1-5)**
- (Q7) Courteous Service.....(1-5)**
- (Q8) Part Replacement - Delivery Timeliness(1-5)**
- (Q9) Part Replacement - Accuracy of Part...(1-5)**
- (Q10)OVERALL satisfaction of Cisco Support.(1-5)**

Customer comments stored with the case:

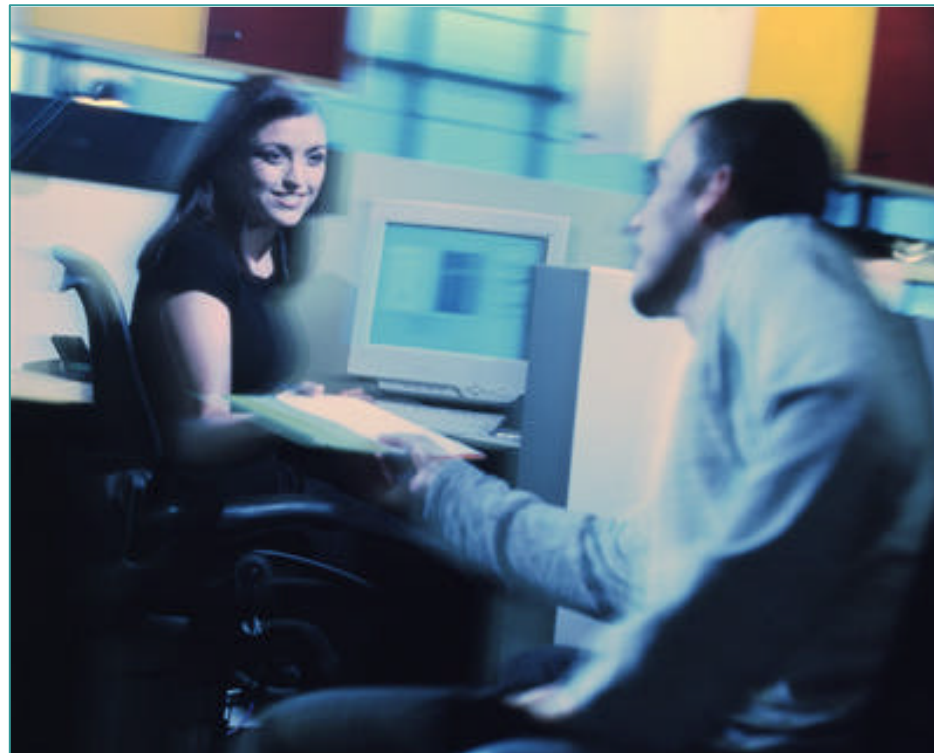
TAC Newsletter

Cisco.com



- Get the latest Technical Information and Tool Updates from the TAC
- Personalize the content you want to receive!
- **Subscribe now:**
www.cisco.com/tac/newsletter

Cisco Advanced Services



Cisco Advanced Services

Cisco.com

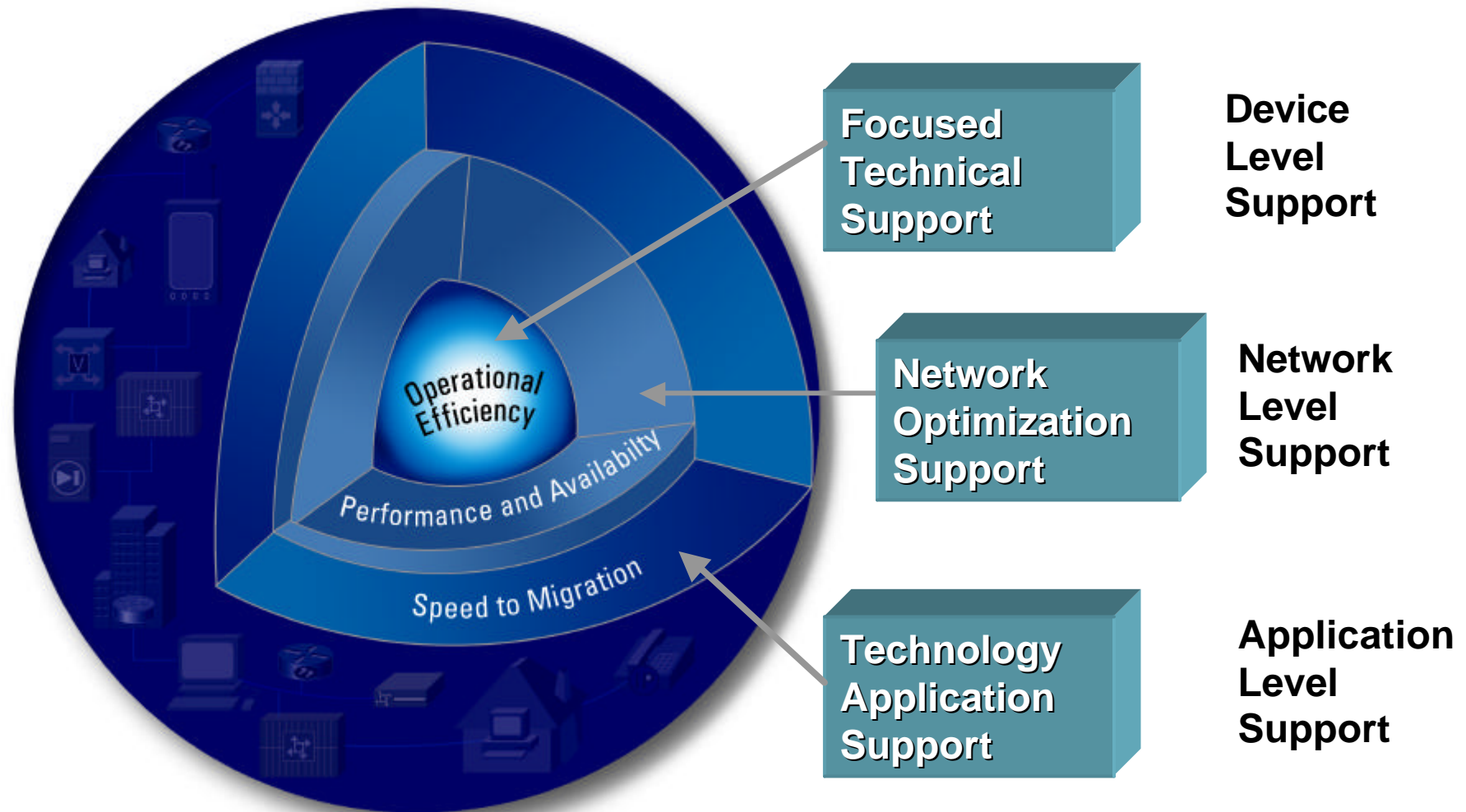
Comprehensive Suite of Support Offerings

- **Engineering support of Cisco networking solutions**
- **Optimization support to achieve highest levels of availability, quality of service (QoS), and security**



Cisco Advanced Services

Cisco.com



Net Impact— High Network Performance

Cisco.com



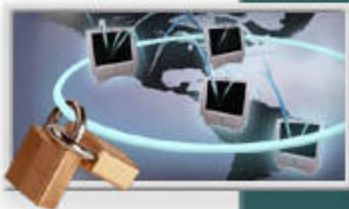
QoS and Performance:

- Ensures compatibility of your network infrastructure design with existing technology, products, and services and, avoids network disruptions



Availability:

- Migrates your support organization from core to context
- Bridges the gap from implementation to optimization
- Provides a road map for increased availability management



Security:

- Supplies your organization with security best practices including:
 - Intrusion detection
 - Policy management

Cisco Focused Technical Support— Operational Efficiency

Cisco.com

| Service Component Descriptions | Customer Impact | Business Benefit |
|---|---|--|
| <ul style="list-style-type: none">• Operations management• Focused, dedicated engineering support• Dedicated 800 #• High-touch upgrade | <ul style="list-style-type: none">• Ability to apply technical resources to more critical functions• Improved network stability• Personalized attention | <ul style="list-style-type: none">• Improved network availability and customer satisfaction• Reduced operating expenses |

Cisco Network Optimization Support— Performance and Availability

Cisco.com

| Service Component Descriptions | Customer Impact | Business Benefit |
|--|--|--|
| <ul style="list-style-type: none">• Network infrastructure design and implementation assistance• Software migration• Performance engineering and optimization• Knowledge transfer and mentoring | <ul style="list-style-type: none">• Avoids costly redesigns and deployment delays• Controlled software migration• Minimizes network performance problems• Enhances skills and builds knowledge base | <ul style="list-style-type: none">• Reduces operating expense to positively affect ROI• Improves staff productivity and retention |






Cisco Technology Application Support— Speed to Migration

Cisco.com

| Service Component Descriptions | Customer Impact | Business Benefit |
|--|--|---|
| <ul style="list-style-type: none">• Network application design and implementation assistance• Network application performance engineering and optimization• Knowledge transfer | <ul style="list-style-type: none">• Faster application adoption with minimum risk for rework and delays• Improved application performance• Enhances skills and builds knowledge base | <ul style="list-style-type: none">• Improves ability to meet business goals with less risk• Increases staff productivity and retention |

Over 63% of Cisco Advanced Services Engineers Hold CCIE® Certifications

Cisco.com

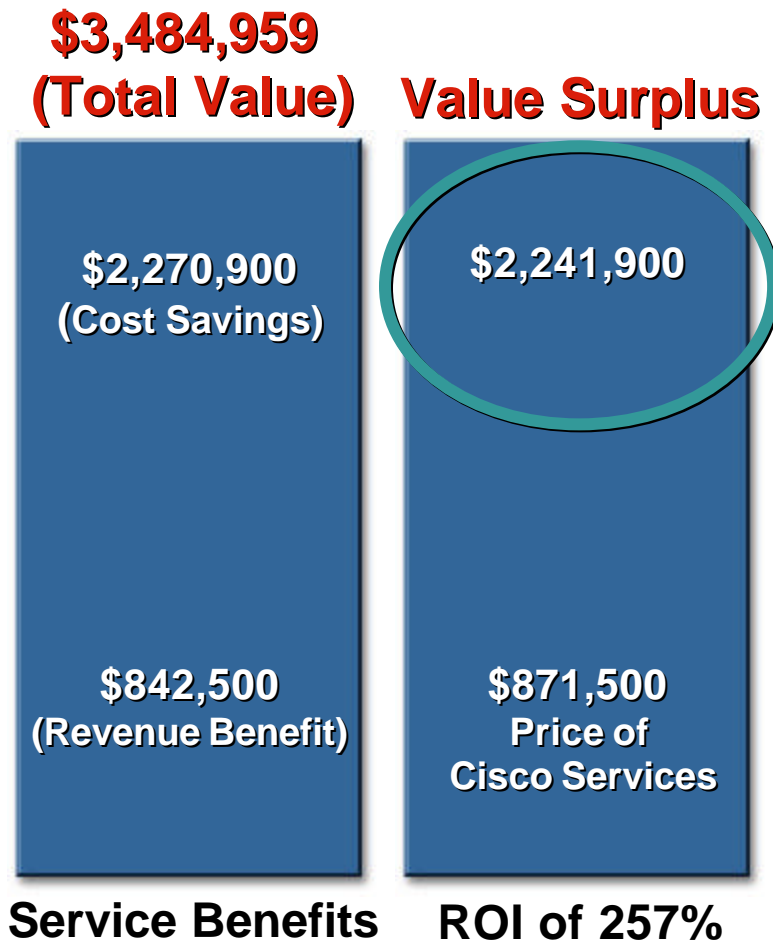
| | | | | |
|--|--|--|---|---|
|  |  |  |  |  |
| Enhanced IP | Content Networking | IP Telephony | Security | SP Packet Telephony |
| <ul style="list-style-type: none">• Chief architect for first MPLS/VoIP network• 2 patents pending• 6 books• Key contributor to RFC standards | <ul style="list-style-type: none">• 2 patents• Layer 4–7 switching software engineering experience• White papers on CDN and security | <ul style="list-style-type: none">• Developed standards for high availability in IP telephony• E911 system architect for major city• 4 patents pending• Author IP telephony solutions guide | <ul style="list-style-type: none">• Showcased in Fortune magazine and Network Computing• Briefed National Security Council• Holds top secret clearance• Co author CSEC Security Encyclopedia | <ul style="list-style-type: none">• Voice technologies support including VoIP, VoATM, and VoFR• Industry experience with SS7• IP signaling protocols MGCP, H.323, and SIP |

ROI Example—A Large Cable Service Provider Deploying IP Services

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Cisco Technology Application Support for Broadband Cable

| Deliverables Value Summary | Value |
|---|--------------------|
| Core network design reviews | \$10,000 |
| Cisco IOS® Software recommendation | \$189,000 |
| Cisco network problem resolution | \$518,525 |
| Multiservice design review and assistance | \$852,900 |
| Multiservice verification support | \$400,000 |
| NOC staff mentoring | \$120,000 |
| Problem escalation support | \$1,023,200 |
| Total | \$3,113,400 |



Cisco Consulting Services



Why Cisco Consulting?

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- **Solutions are more than just network components – they also require:**

People

Best Practices

Know-How

Solutions Aren't Solutions Without Cisco Solutions Consulting

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- **You Can Build It Yourself, But At Your Own Risk:**

Interoperability Issues

Service Rollout Delays

Design Inconsistencies

Home-Grown Processes

Solution Consulting Is Key To Success

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- **Cisco consultants uniquely qualified to create mission-critical networks yielding the highest:**

Performance

Availability

Reliability

Security

- **Cisco expertise and best practices are delivered at the front end to smooth deployment and accelerate time to value**

Cable Solution Consulting From Cisco

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- **Key element of Cisco Cable Solutions**
- **Top industry experts with real-world experience**
- **Dedicated on-site for pre-deployment planning**
- **Customer chooses mix of services:**
 - **Business Planning/Business Case Reviews w/ ROI Modeling**
 - **Solution Knowledge Transfer/Briefings**
 - **Solution Readiness Reviews (incl RF Plant Review)**
 - **Pre-Deployment Planning & Intellectual Property Transfer**
 - **Service Rollout, Project Plan, Network Staging/Pilots, Implementation, Operations**

Benefits of Solutions Consulting

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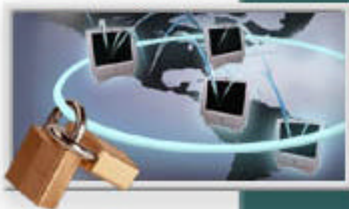
- **Reduced Costs**

**Experienced Advisors Lower
Planning Risk**



- **Rapid Service Enablement**

**Proven Documentation Shortens
Deployment**



- **Operational Excellence**

**Proven Best Practices
Streamline Operations**

Solution Consulting Examples

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- Strategic planning of service rollout
- Define resource requirements
- Determine readiness of current infrastructure
- Develop processes for capacity planning & traffic engineering
- Plan VoIP circuit to packet migration
- Plan Technology Transfer program
- Plan customer lab and providing access to Cisco SMEs
- Plan QoS implementation and management across network
- Plan service management and customer care/support
- Plan automated flow-through provisioning
- Define OSS/BSS requirements and develop OAM&P plan

CISCO SYSTEMS



EMPOWERING THE
INTERNET GENERATION