



# High Availability Observatory – Why I'd Want It If I Were You

Presentation #126, file 2 of 2, pages 38 to 95

Inter Works/HP World – Selected slides from:

H A O Installation, Configuration, and Maintenance  
(DJM.02/07/01)





# Site Preparation Workbook



## HEWLETT-PACKARD HIGH AVAILABILITY OBSERVATORY SITE PREPARATION WORKBOOK Release A.03.00.010

Company or Site Name	
Address1	
Address2	
City	
State/Province	
Zip/Postal Code	
Country	
Contact Name	
Contact Phone	
Contact E-mail	
HP Contact Name	

Introduction

[See the HAQ Site Preparation Reference Guide for more information.](#)

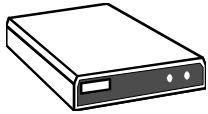
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Customer Support Lab  
L200-A.03.10.ppt  
September 2000



Customer Support  
Research & Development



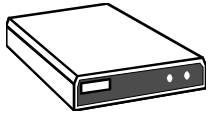
# HP Support Node Router



## About the Cisco Router

- Equipment
  - Cisco 801 or 802
  - Cisco 1003 or 1004
  - Cisco 1603-R or 1604-R
- MCSC System Administrator
  - Pre-configures router at the MCSC
  - Sends router to customer site
  - Configures a primary and secondary LAN
- HASE
  - Checks router functionality at customer's site
  - Works with MCSC Administrator





# HP Support Node Router Installation



## Cisco 801/802, 1003/1004 or 1603/1604 Router Configuration Information

- Expectations of HASE
  - Plug in ISDN, LAN, Laptop cables
  - Power up router
  - Work with M C S C Administrator to verify connectivity and configuration
- Custom installations may require more configuration work at the customer site

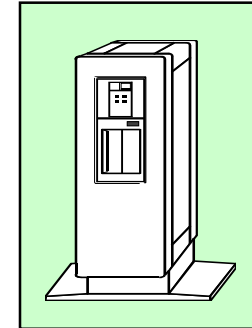


# HP Support Node Workstation (HPSN)



## About the HP Support Node Workstation

- Equipment:
  - B180L Series 700 Workstation
- Super Region Staging Center
  - Installs HPSN with HAO software
  - Sends to MC customer
- HASE/Account Team Member
  - Completes the configuration at the customer's site
  - Performs the backup

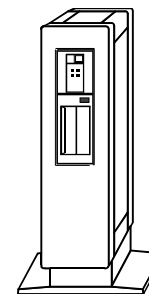


# What's on the HP Support Node?



HP Support Node is a depot for HAO Support Tools:

- HA Meter 2.0
- HAO Network Node Manager/ HA-NISP
- HP Configuration Tracker
- mc\_connect script
- Q4 Dump Analyzer
- Remote Administration Tool Suite (RATS)
- Secure Shell (SSH)
- SharedX
- Support Tools Manager (STM)
- Transport Office Manager (TOM)
- Virtual Network Computing (VNC)



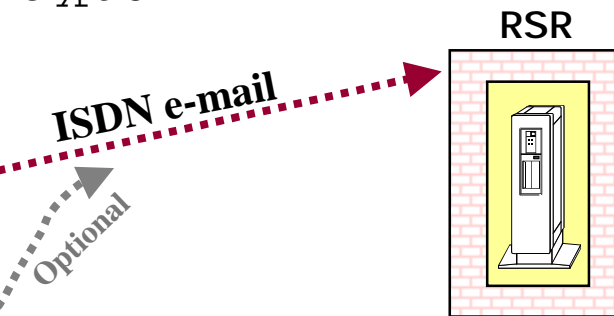
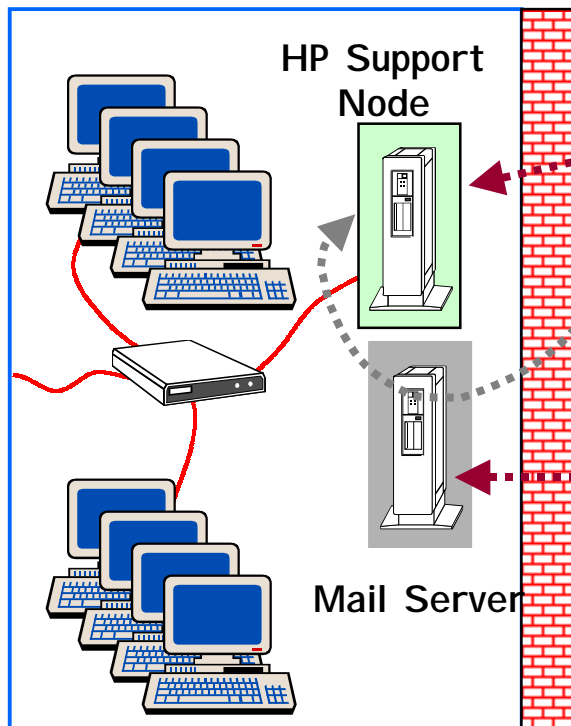
# H A O Provides E-mail Transfer



E-mail over the Internet or ISDN link

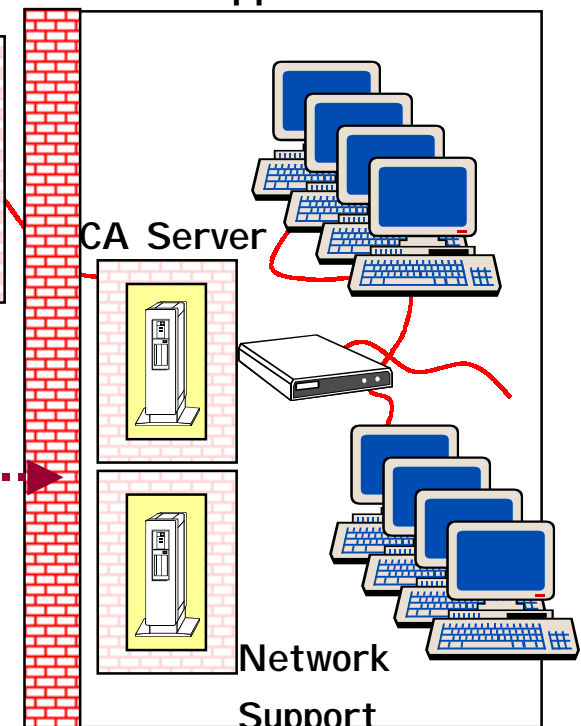
- Data from the HP Support Node to the MCSC
- Data Transport occurs nightly
- Proactive analysis at MCSC
- Data encryption

Customer Site



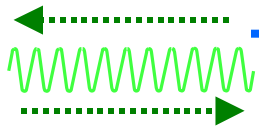
- Internet e-mail**
- Configuration to CA server
  - Network topology to NSR
  - Hardware fault events from customer's Systems (e-mail/modem)

MC Support Center



Repository

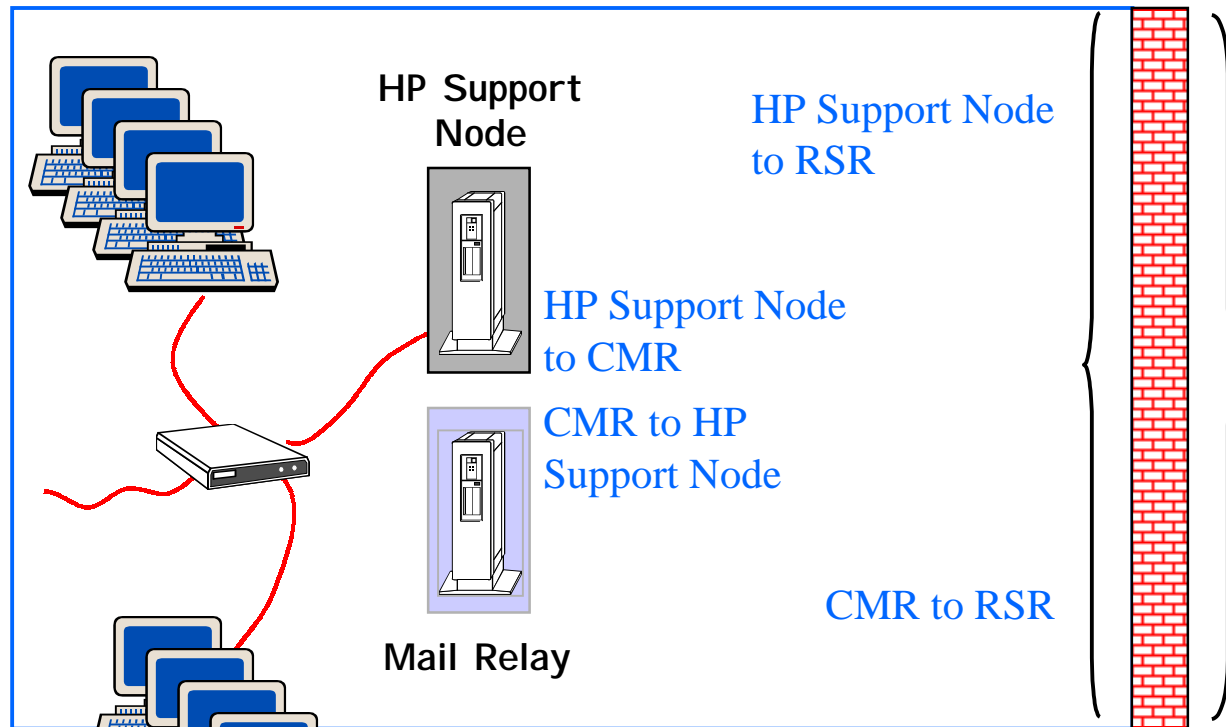




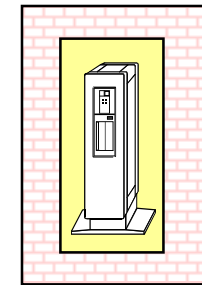
# Updates at the Customer Site (ISDN) – Firewall and Mail Relay



## Customer Site



## RSR



RSR to HP Support Node or CMR

### Changes to Mail Relay

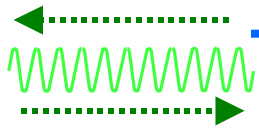
- Paths from CMR to HP Support Node
- Paths from HP Support to CMR

### Changes to firewall

- Port openings in firewall



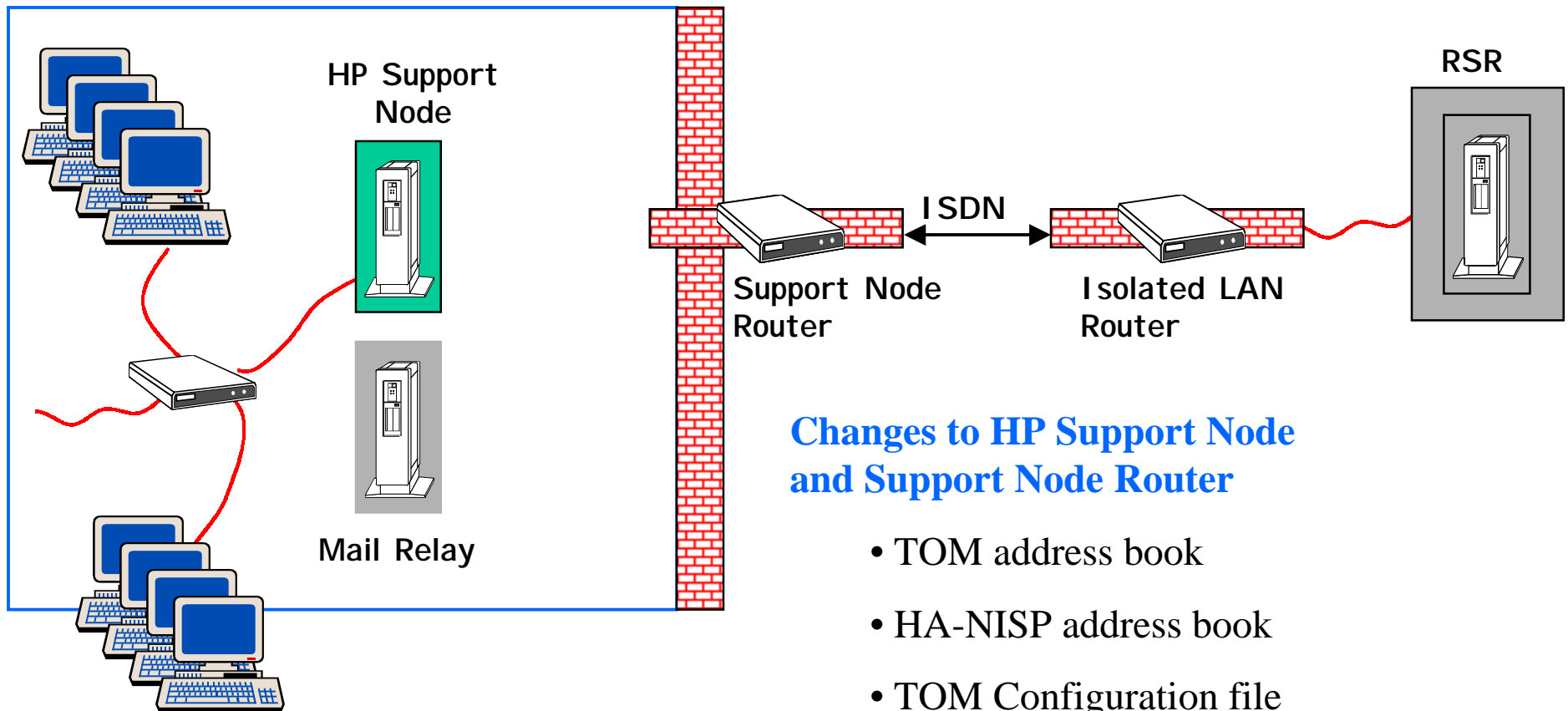




# Updates at the Customer Site - HP Support Node and Router



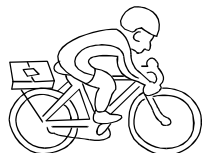
## Customer Site



## Changes to HP Support Node and Support Node Router

- TOM address book
- HA-NISP address book
- TOM Configuration file
- Access List



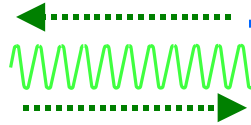


# Transport Office Manager – Encryption



- Transport Office Manager (TOM) automatically transports and encrypts data files via e-mail (ISDN and internet).
- Transports Tracker, HA-NISP and HA Meter data to HP
- Provides 56-bit DES (data encryption standard) from the HP Support Node to the MCCS for e-mail over internet and ISDN
- Generates keys on a per-session basis
- Uses public key exchange handshake to generate private key
- Provides encryption for Tracker data only





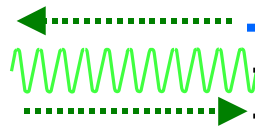
# What is Remote Connectivity in the H A O Program?



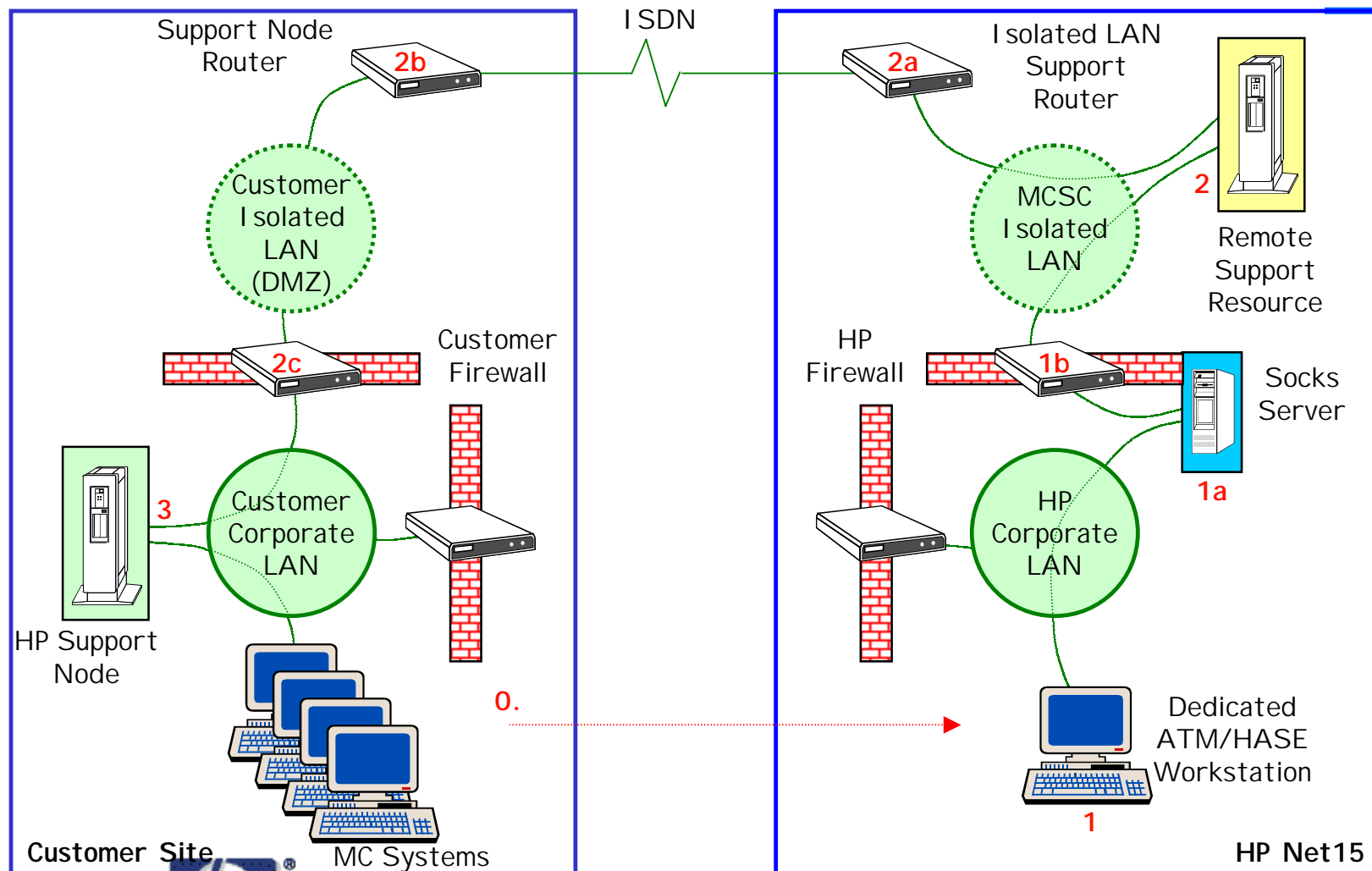
It is a method by which HP Support Engineers provide support to MC customers.

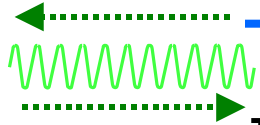
- Enables access to customer's MC machines for support purposes
  - Quicker access to diagnostic and administration tools
  - Shorter time to problem resolution
- Enables access to HP Configuration Tracker and NNM
- Provides an enabling infrastructure for more support tools or applications





# Detailed Logon Procedure to Access the HP Support Node



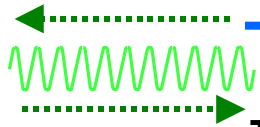


# Detailed Logon Procedure



0. Obtain permission from customer to access their environment.
1. From your HASE HP-UX or Windows workstation, connect to the Remote Support Resource (RSR) and log on using your MCSC-assigned username/password.
  - 1a. The Socks Server will authenticate that you are authorized to pass through.
  - 1b. The HP Firewall will verify that you are authorized to pass through.
2. From the RSR, connect to the HP Support Node and log on using the same username/password you used for the RSR.
  - 2a. Isolated LAN router verifies traffic coming from known RSR and destined for known customer site.
  - 2b. HP Support Node Router verifies traffic coming from known HP RSR and destined for the HP Support Node.
  - 2c. Customer firewall verifies incoming traffic meets customer security requirements.
3. Optionally, access the HAO tools and log on to MC systems using your customer-assigned username/password. Perform support tasks.



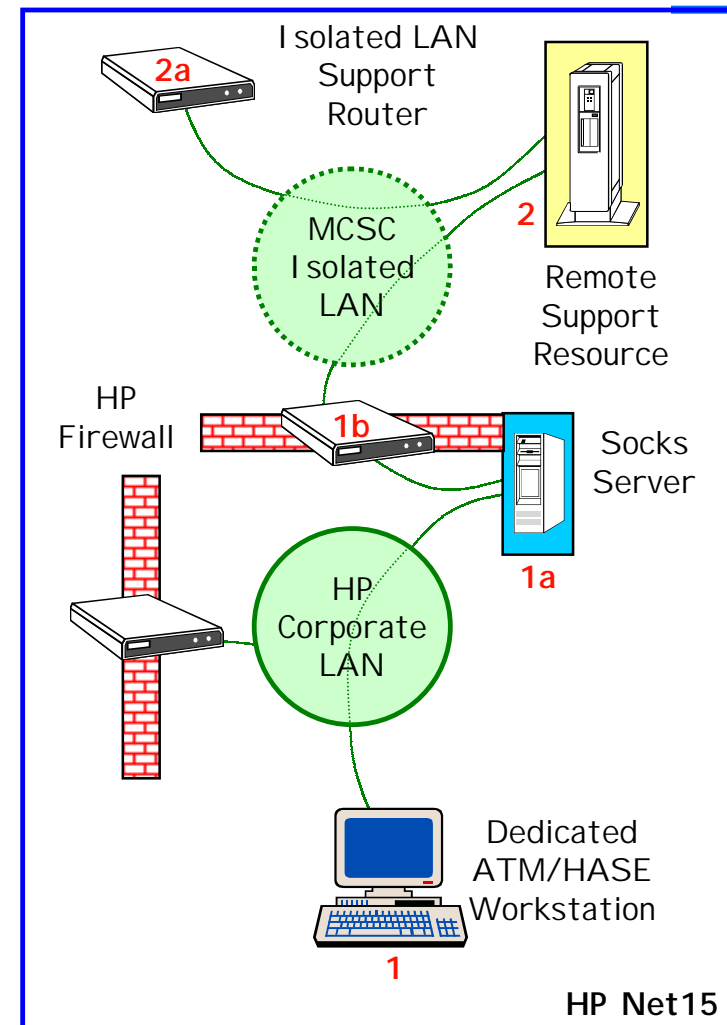


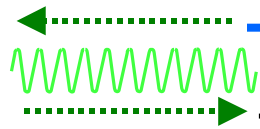
# Remote Support Resource (RSR)



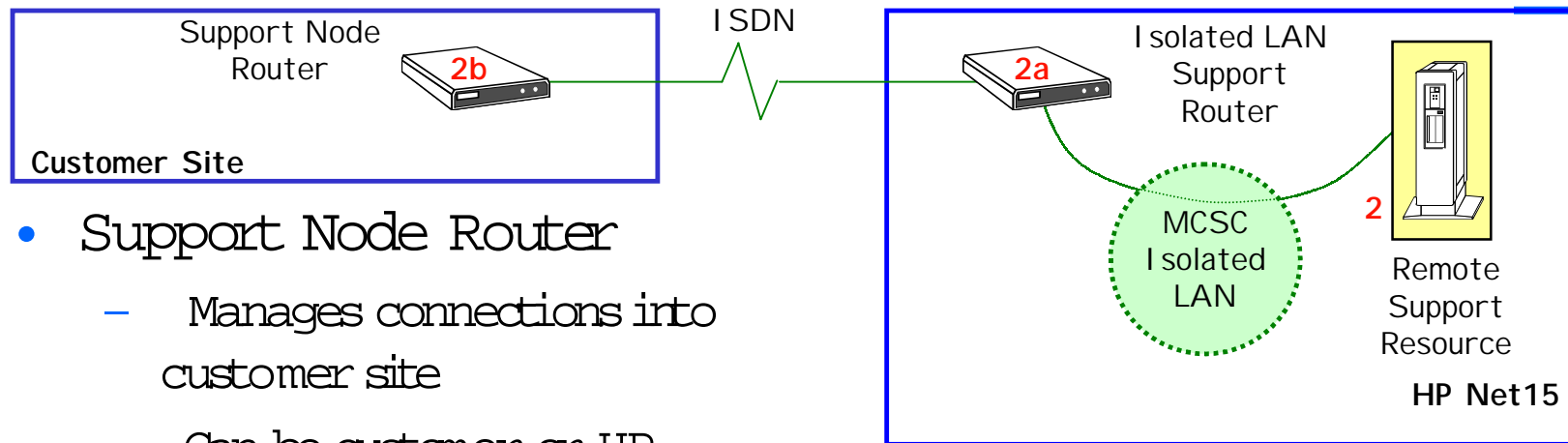
Provides security, data transfer, a repository for information

- Purposes
  - First "hop" for HASEs/Account Team Members
  - Tool storage to reduce ISDN traffic
  - Depot for problem-solving information
  - Directs e-mail over ISDN into HP
- Security
  - Allow only connections via the Isolated LAN Socks Server or Secure Shell
  - MCSC support engineer-specific logins with complex username / password
  - No sharing accounts; separate user space for each HASE/Account Team Member
  - Customer data handled under HP Policy
  - Highly-secured configuration
  - Login / Activity logging





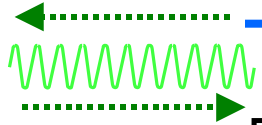
# Isolated LAN and Support Node Routers: Security



- Support Node Router
  - Manages connections into customer site
  - Can be customer or HP owned. If HP:
    - Installed by HASE/ Account Team Member
    - Jointly configured and verified by HASE and MCSC Administrator
    - Administered by MCSC Administrator

- Isolated LAN Support Router
  - Manages connections to multiple customer sites
  - Configured and administered by MCSC Administrator





# The ISDN Link



## Connectivity Link to MC Customer Site

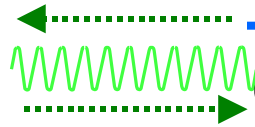
- High Availability in all regions
- PRI line with:
  - 23 simultaneous connection channels (MCSC ISDN) in Americas and Asia-Pacific
  - 30 simultaneous connection channels (MCSC ISDN) in Europe
- BRI line with 2 simultaneous connection channels (customer ISDN)

## Installation at MC Customer Site

- Contact the ISDN provider
- Specify options
- Get configuration information from provider
  - Access Numbers
  - ISDN<sup>®</sup> switch type (being used by provider)





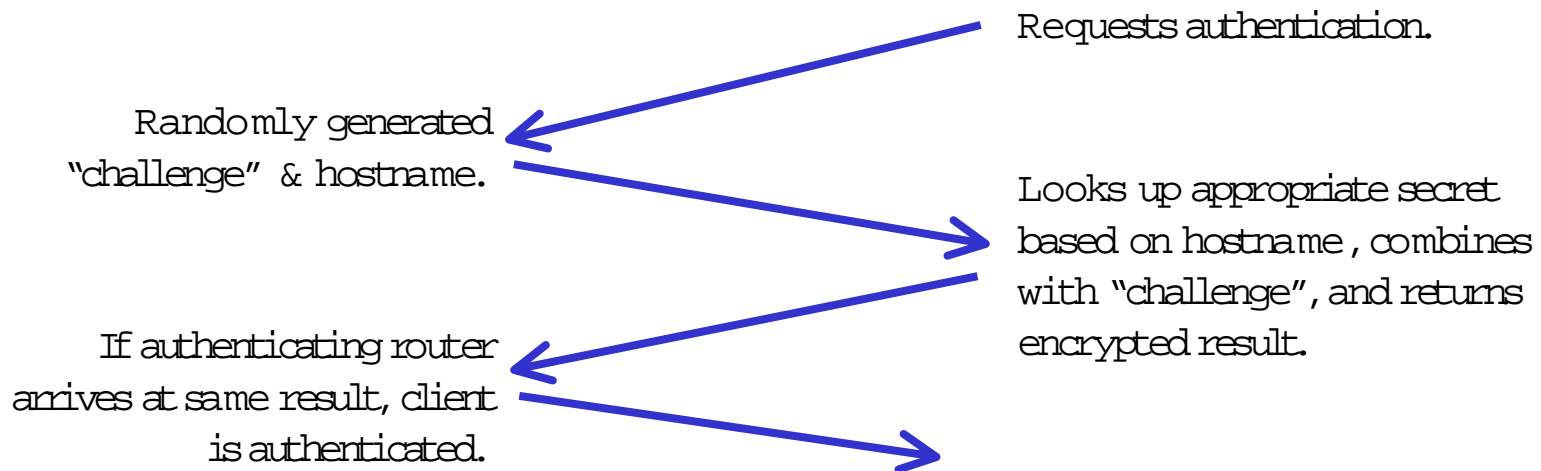


# Challenge Handshake Authentication Protocol (CHAP)



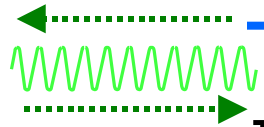
Authenticating Router

Requesting Router

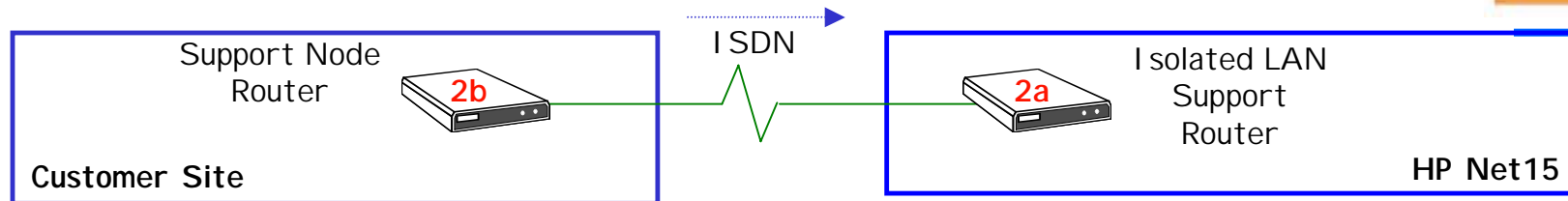


CHAP also sends challenges at regular intervals during an authenticated session to ensure that the client router has not been replaced by an intruder.



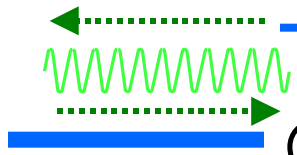


# Dialback

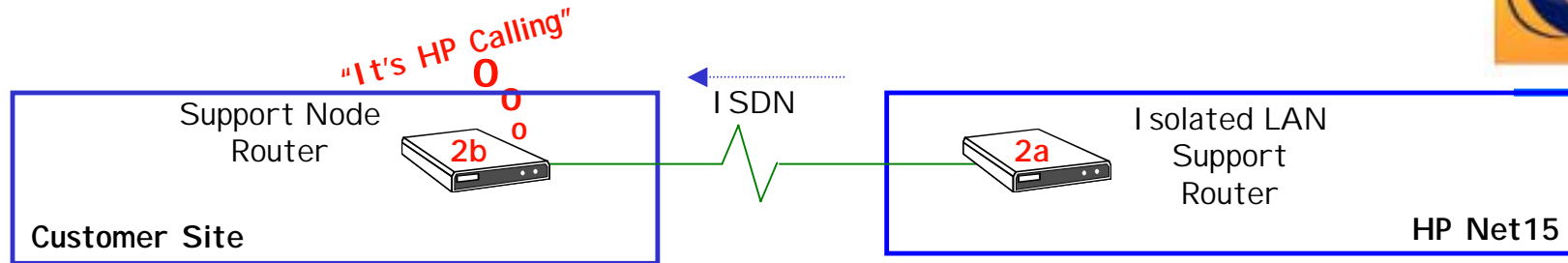


- Operation
  - M C S C router calls Support Node Router and gets authenticated
  - M C S C router requests dialback
  - Customer router hangs up
  - Customer router dials HP router and gets authenticated
  - Secure connection is established
- Advantages
  - Customer knows it was HP that called
  - Customer is assured that connection is with HP
- Disadvantages
  - Connection times are longer
  - Customer pays for call

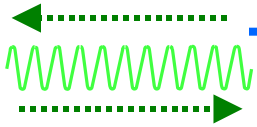




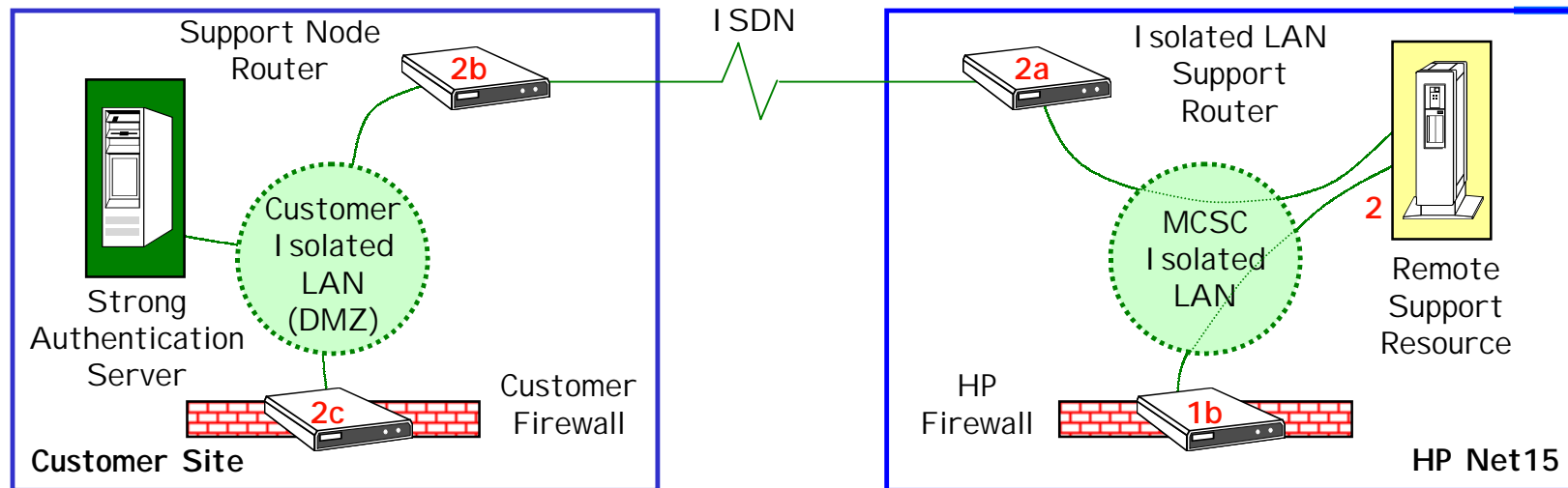
# Caller ID



- Advantages
  - Customer router verifies calling # is HP before answering the call
- Disadvantages
  - Does not work across all telco boundaries

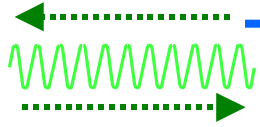


# Strong Authentication

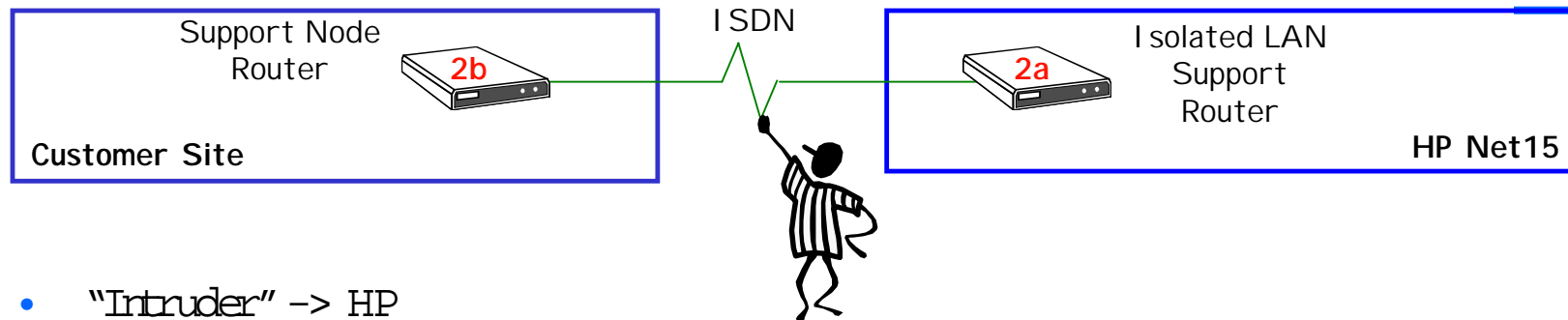


- Advantages
  - Accesses can be tracked to a specific Account Team Member
  - Increases security (token ID changes often and is impossible to guess)
- Disadvantages
  - Increases connect times
  - More software (and possibly more hardware) for the customer and HP to manage
  - Token ID cards must be managed (if supplied by the customer)



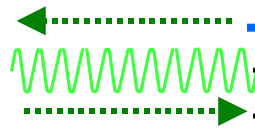


# "Intruder" Precautions

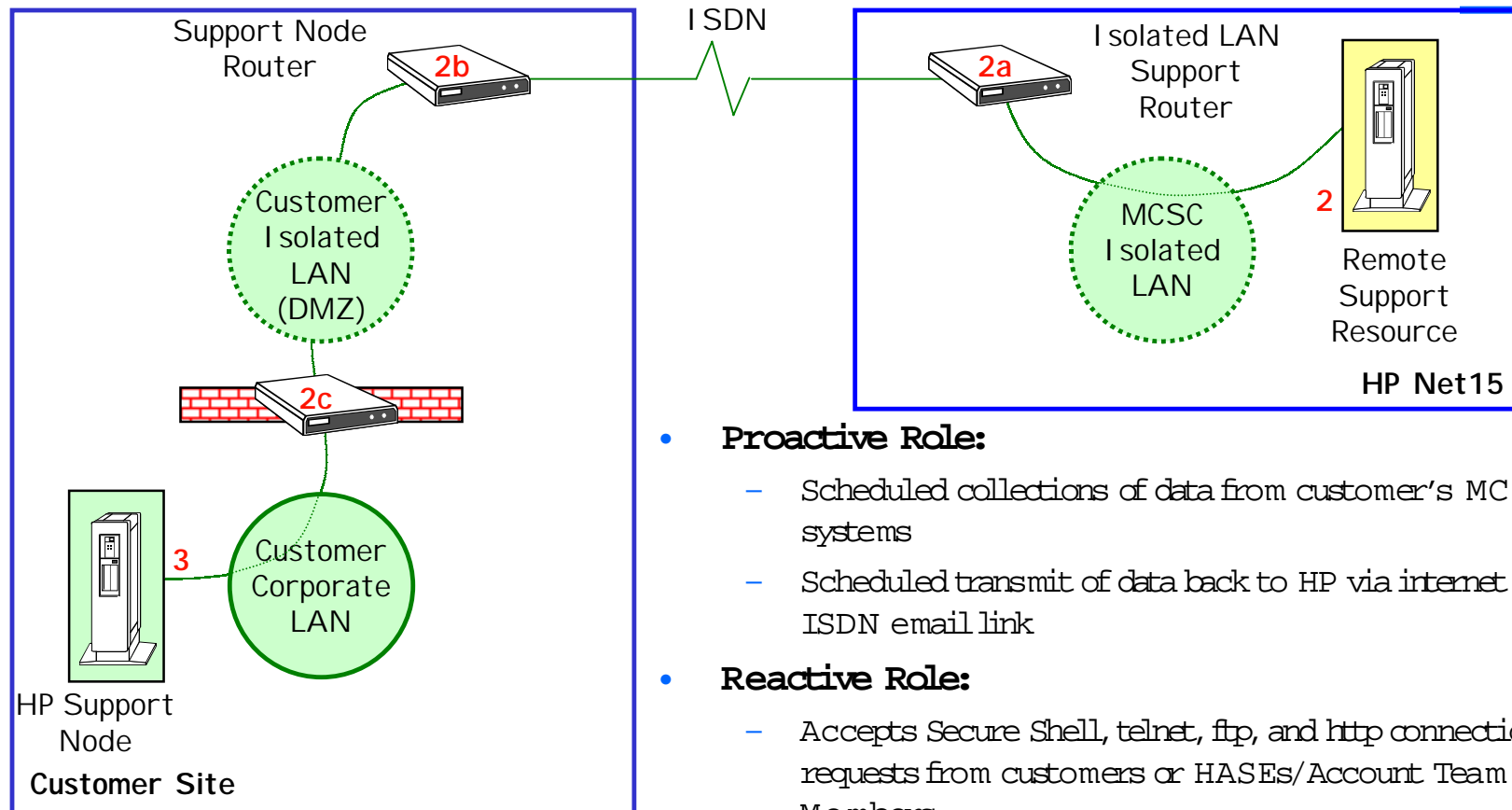


- "Intruder" -> HP
  - Router doesn't allow connections from outside
- "Intruder" -> Customer
  - Telephone number of customer router or ISDN
  - IP address of RSR
  - Router CHAP authentication information
  - IP address and username/password of HPSN
  - IP address and username/password of MC system(s)
  - Dialback -> Intruder has to physically answer callback to MCSC router
  - Additional barriers:
    - Caller ID -> ISDN telephone # of the MCSC router
    - Strong authentication -> Strong authentication username/token ID





# HP Support Node Workstation (HPSN)



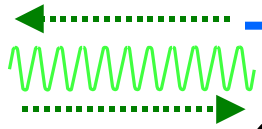
- **Proactive Role:**

- Scheduled collections of data from customer's MC systems
- Scheduled transmit of data back to HP via internet or ISDN email link

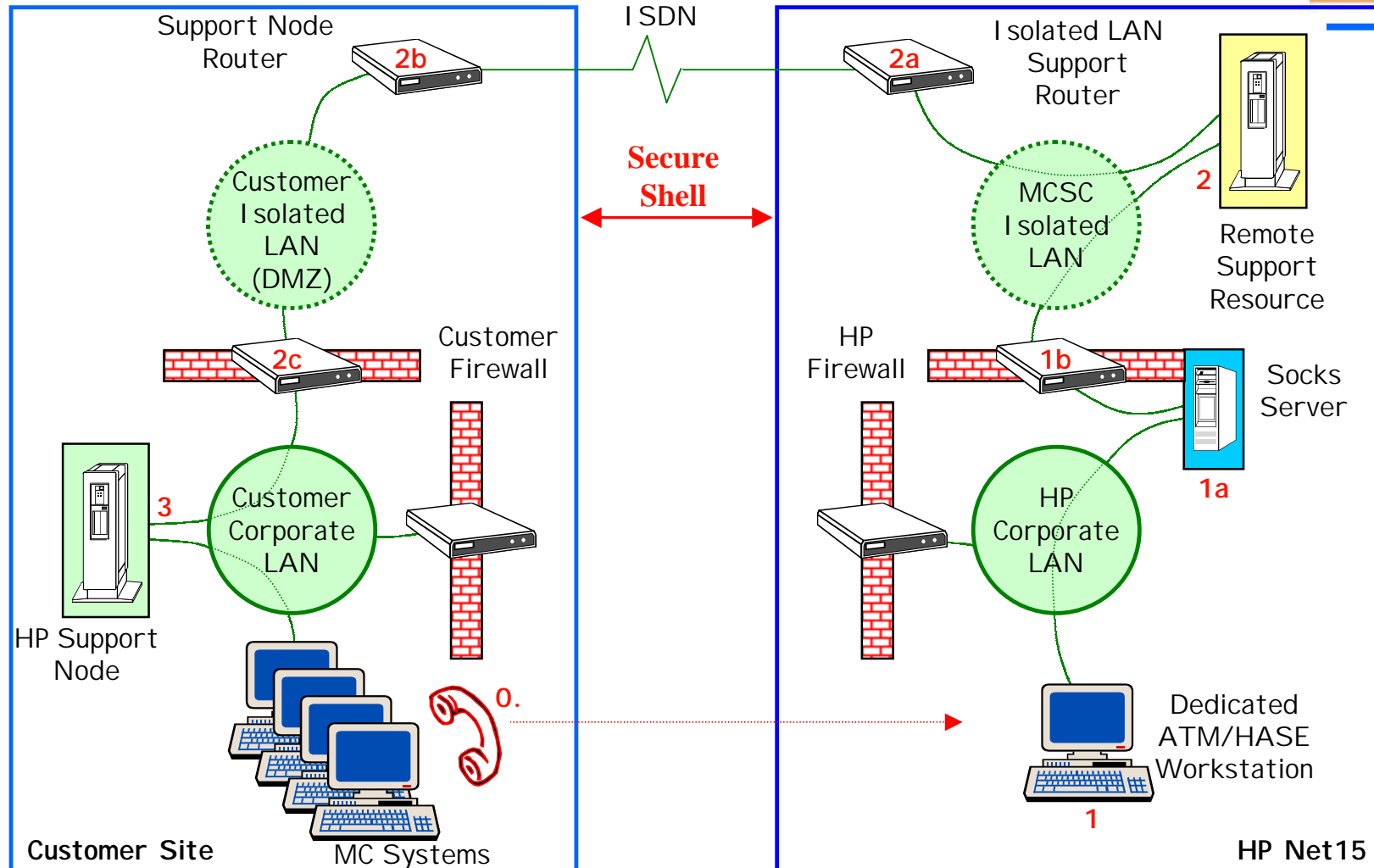
- **Reactive Role:**

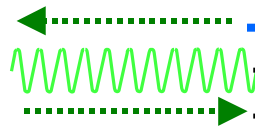
- Accepts Secure Shell, telnet, ftp, and http connection requests from customers or HASEs/Account Team Members
- Central location for running support tools in the customer's MC environment
- Facilitates HASE logins to MC machines





# Connecting: Secure Shell

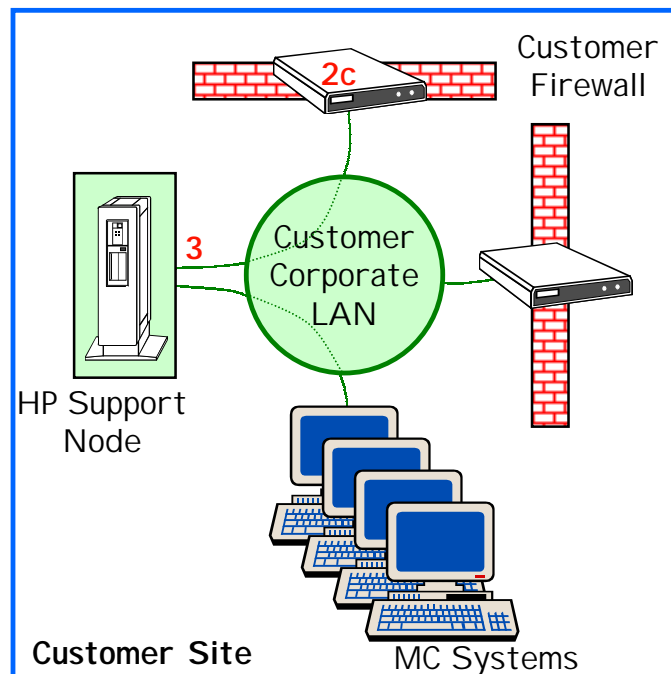




# Devices Covered by Mission Critical Support Contracts



## Ability to provide faster support for customers' problems



- **Access to MC systems**
  - Must come from HP Support Node
  - Only to customer authorized machines
  - No "telnets" to other machines
  - Unique HP login username/password for each HASE
  - Login and activity logging
- **System changes required:**
  - Tracker agent and HA Meter agent installation
  - Connectivity to HP Support Node (if needed)
- **No Other Changes are Necessary!**
  - No further change in security on these machines from present-day standards.
  - HASEs perform the same actions on these machines as they do today.





# Connections: mc\_connect



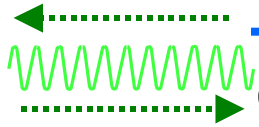
- Automatically determines connectivity method
- Select connectivity method
- Works with HP-UX, Windows NT/2000, Virtual Vault, and network interconnect devices

```
156.152.228.74 - F-Secure SSH - [csf-ssr [RemConn_RSR].ssh]
File Edit View Tools Help
jsscott@amber:/home/jsscott:$ mc_connect -i alcazar

Select connection method for alcazar
a Auto-detect services.
1 Telnet.
2 Netscape.
3 Microsoft Windows 95/98/NT running VNC.
4 Virtual Vault using basic authentication.
5 Virtual Vault Netscape connection.
q Quit.
Enter your choice: █

Connected to 156.152.228.74 Compression off Cipher: 3des 20, 12 80x24
```

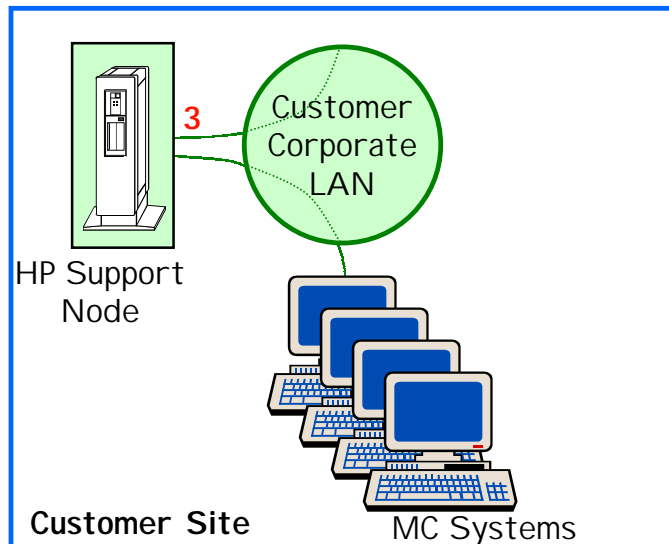


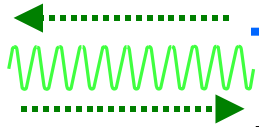


# Connecting: VNC ( Windows NT or 2000)



- Virtual Network Computing allows connectivity from the HP Support Node to the NT servers

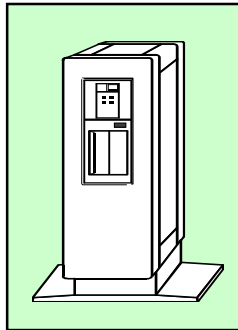




# Using VNC



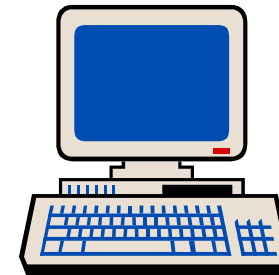
VNC Viewer



HP Support Node

VNC Protocol

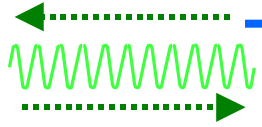
VNC Server



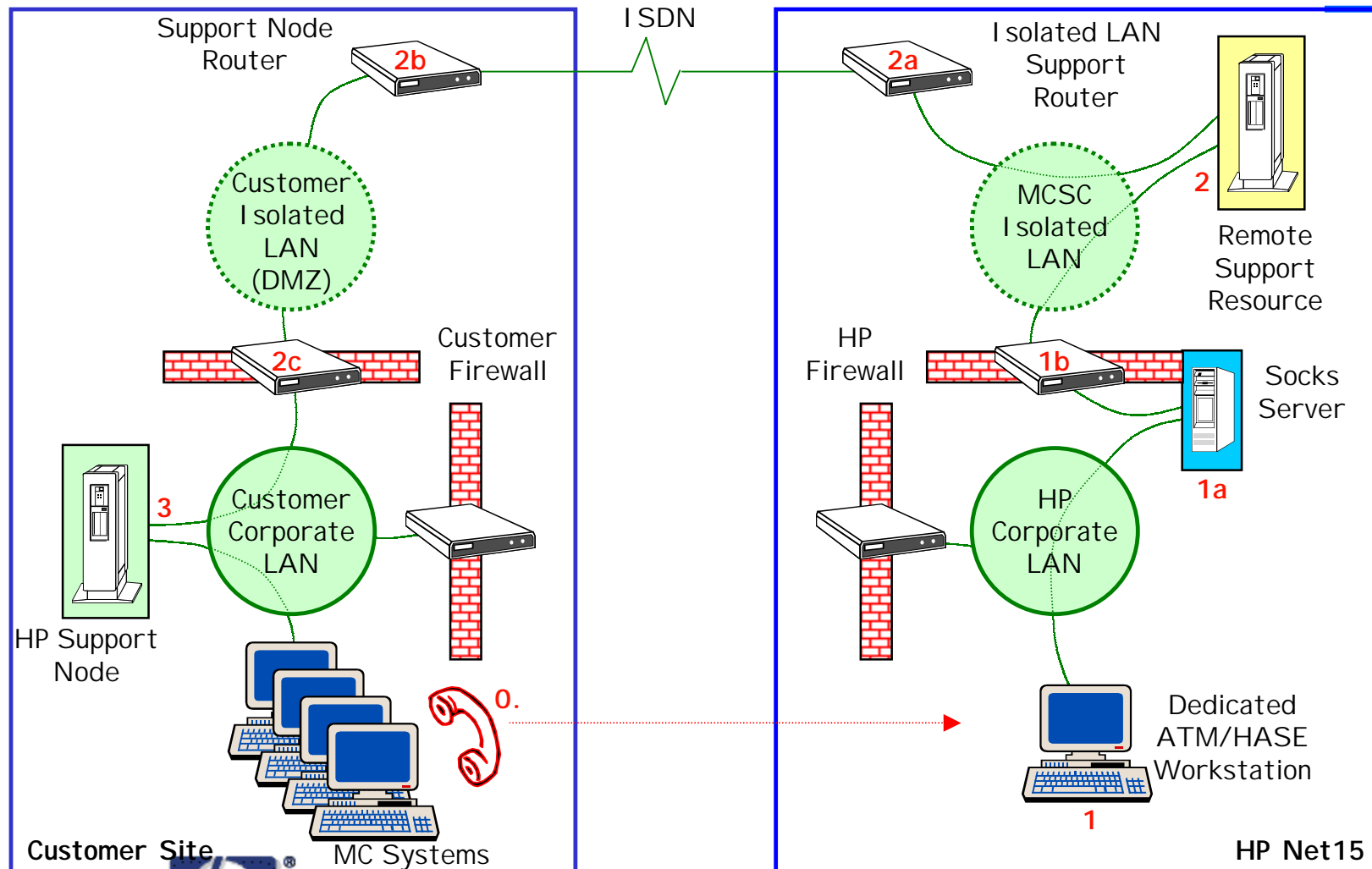
Mission Critical Windows  
NT or 2000 Server

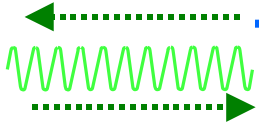
- Install VNC Server software onto Windows NT or 2000 Server using Tracker
- Initiate a session from the HP Support Node using the VNC Viewer





# Remote Connectivity Review

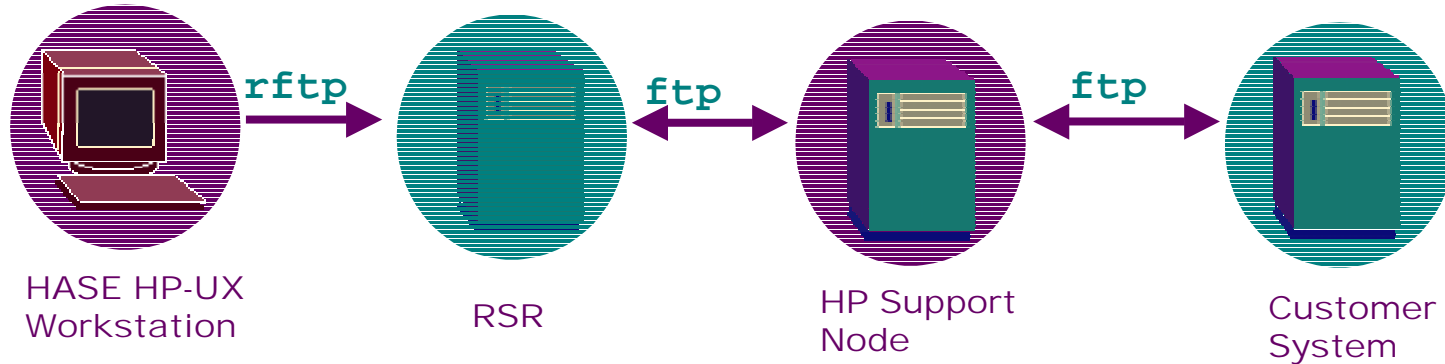




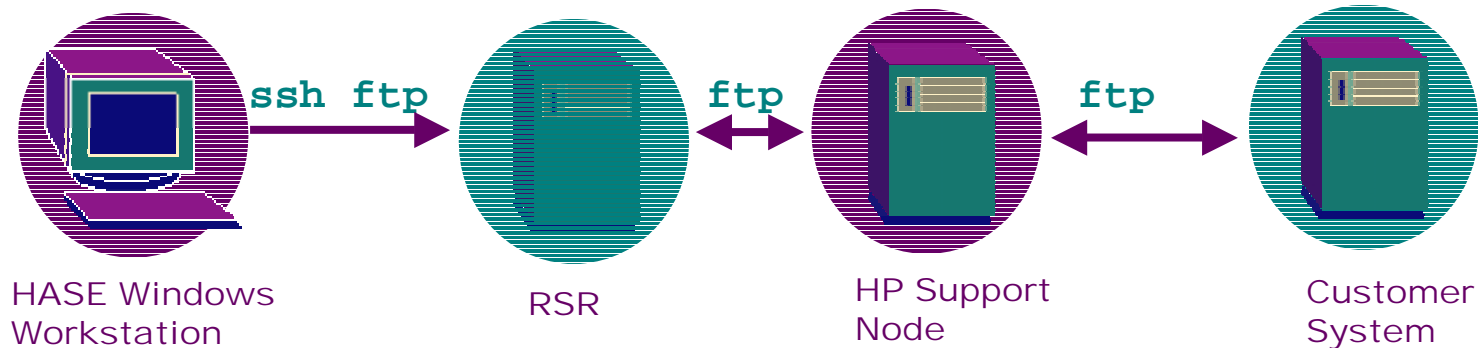
# Connecting: File Transfer



Use `rftp` and `ftp` to transfer files from an HP-UX workstation.



Use `ssh ftp` and `ftp` to transfer files from a Windows workstation.



The arrows show where the transfer command must originate. However, files can be transferred in either direction.



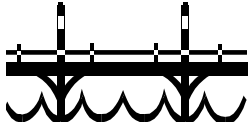


# Network Node Manager



- ✓ N N M tracks device status and identifies topology changes within a specified Management Region. This enables rapid isolation of the network problem.
- Displays an up-to-date map of all servers and interconnect devices
- Collects status data and logs status changes of servers and interconnect devices
- Extends HP's view beyond the system – to the MC customer's environment
- N N M on the HP Support Node is a special version for HAO
  - It does not interfere with any installed customer copies running in the environment
  - It is for use only by HP support personnel





## HAO NNM and HA-NISP

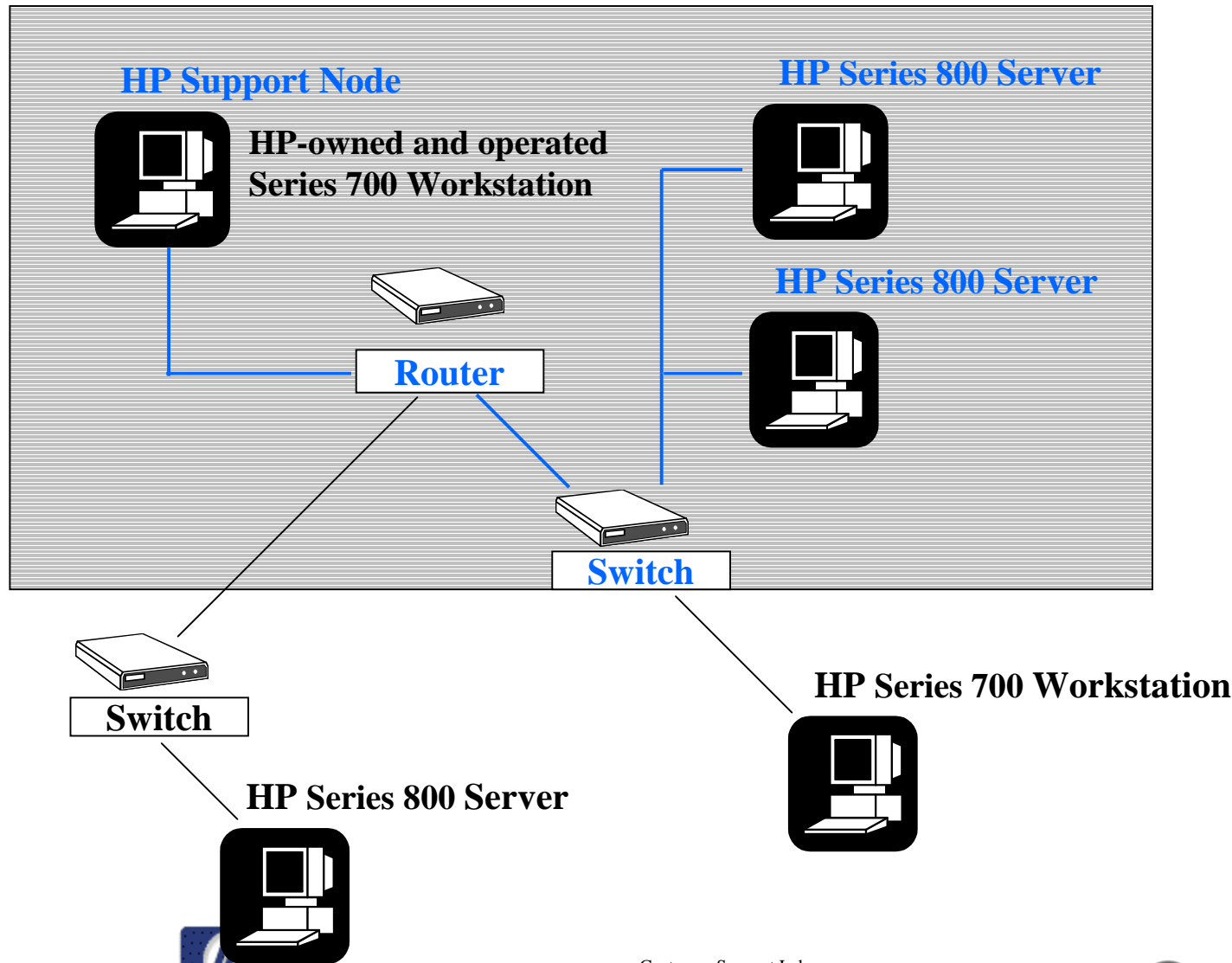


- ✓ HA-NISP collects and packages HAO NNM network topology and Tracker customer Information. It then sends this information to the MCSC via TOM.
- Network topology information available to Network Support Engineers
- Information updated once per week and loaded into the Network Support Repository residing in the MCSC
- Specialists use AutoMAP and WebNISP Manager to view topology information
- HASE/Account Team Member modifies the HP-NISP configuration file to set up data transport





# Network Traffic - Example







# HP Configuration Tracker



- ✓ Significantly reduces time of gathering critical information
- Snapshots of critical systems configurations at daily or weekly intervals
- Differences between snapshots identified
- Hardware, software, network interconnect device configuration information transmitted to the MCSC
- Controls transport of configuration data to the MCSC

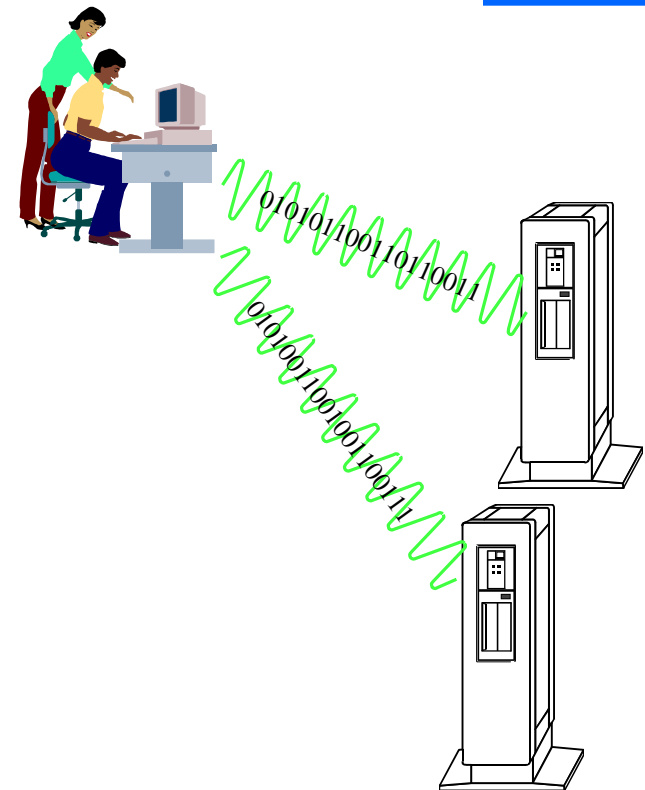




# About Tracker



- Four Components
  - Tracker server
  - Tracked clients
  - Browser (Netscape or MS Internet Explorer)
  - Client software

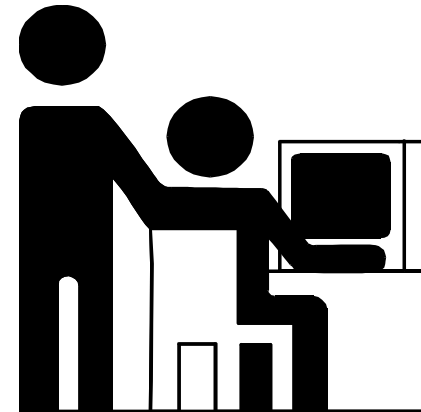




# Tracker Users



- H A Support Engineer, from onsite or a remote H A S E workstation, to view data and research problems
- M C S C Administrator or Account Team Member, from the Mission Critical Support Center ( M C S C ) at HP, to view data and research problems
- Customer System Administrator, from onsite, to view data only





# Tracker Login Page



**hp HEWLETT PACKARD Configuration Tracker**

**Login**

User:

Password:

[Enter User and Password](#)

[Improve Loading Speed](#)

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Palo Alto, CA 94304 U.S.A.

The High Availability Observatory (HAO) is an HP-owned and operated technology consisting of HP 9000 Series 700 system(s) with software tools and a network router and a secure connection to the HP Response Centers (including the Mission Critical Support Center [MCSC]). The HAO is for use solely to support systems on HP Critical Systems Support (CSS) and HP Business Continuity Support (BCS) contracts for the life of the contract.

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# Data Collection Templates



**hp HEWLETT PACKARD Configuration Tracker** Collection: Idle Transport: Disabled

Tracing Admin Info

Admin Tasks: Collection Templates

**Collection Templates**

- Available Collection Templates
  - HP-UX Computer Systems
    - SP2000 S800 HP-UX 10.X, 11.X
  - Network Interconnect Devices
    - Cisco Catalyst Switch
    - Cisco Catalyst Switch with TFTP capability
    - Cisco IOS Device
    - Default
    - HP IOS Device
    - HP ProCurve Routing Switch
    - HP ProCurve Switch
    - HP Router
    - HP Switch
    - HP Switch II
  - Windows Computer Systems
    - Windows 2000, NT 4.X Intel-based Server

**Modify Collection Template** or [Cancel This Task](#)

Configuration Item Types	Collect	Transport
<b>Boot and Shutdown</b>		
<a href="#">Boot Messages</a>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<a href="#">Boot Script</a>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<a href="#">Bootconf</a>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<a href="#">Crasheconf (Always Changing)</a>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<a href="#">LVM Activation</a>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<a href="#">Setboot</a>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<a href="#">Shutdown Log</a>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<b>File System</b>		
<a href="#">Autoboot Info</a>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<a href="#">Disk Usage (Always Changing)</a>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<a href="#">File Sys Config</a>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<a href="#">File Sys Info (Always Changing)</a>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<a href="#">LVM Info</a>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<a href="#">Lvmstab</a>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<a href="#">Super Block Info</a>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<b>Hardware Configuration</b>		
<a href="#">Adapters</a>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>





# Add Devices



Add devices in Tracker to collect configuration data

- HP-UX Servers
- NT Servers
- Windows 2000 Servers
- Network interconnect devices

The screenshot shows the HP Configuration Tracker web interface. At the top, it displays the HP logo and the title 'Configuration Tracker'. On the right, it indicates 'Collection: Idle' and 'Transport: Disabled'. The main content area is titled 'Add Devices' and contains the following text: 'Devices' is a collective term to refer to both computers and network interconnect devices. These forms enable adding new devices to be tracked and updating information about the devices if it changes.

The left sidebar shows a tree view of 'Admin Tasks' with the following items:

- Administration Tasks
  - Administrator Notes
  - Configuration Database
  - Devices
    - Add Devices**
    - Add A Network Device
    - Add An HP-UX Computer
    - Add An NT Computer
  - Delete Any Device
  - Edit Info For Any Device
  - Rename Any Device
- Enterprise Management
- Users





# Edit Collection Schedule



The screenshot shows the HP Configuration Tracker interface. At the top, it says 'hp HEWLETT PACKARD Configuration Tracker' and 'Collection: Idle Transport: Disabled'. The main window has tabs for 'Tracking', 'Admin', and 'Info'. Under 'Admin Tasks', there are 'Collection Templates' and 'Available Actions For User: admin' (Change Password, Help). A tree view on the left shows 'Admin Tasks' expanded to 'Edit Collection Schedule'. The main content area is titled '\* Edit Collection Schedule \*' and contains the following information:

- collection schedule : Daily, Starting Tue, 20 Jun 2000 00:51 MST7MDT.
- Set the Collection Frequency:
  - Daily
  - Weekly
- Set the next Collection start date/time:  
(this form has been posted: Mon, 19 Jun 2000 10:21 MST7MDT)
- Day at Hours (24 hour format) : Minutes.  
Tuesday at 00 : 51
- Note: Data Transport, if enabled, occurs automatically after a scheduled collection is complete.
- Buttons: Finish or [Cancel This Task](#)





# Data Transport: Data Transport Settings



The screenshot shows the HP Configuration Tracker interface. At the top, it displays the HP logo, 'HEWLETT PACKARD Configuration Tracker', and status information: 'Collection: Idle' and 'Transport: Disabled'. The interface is divided into several sections:

- Tracking | Admin | Info** (selected)
- Admin Tasks | Collection Templates**
- Available Actions For User: admin**: Change Password, Help
- Admin Tasks**: Administration Tasks
  - Administrator Notes
  - Configuration Database
  - Data Transport
    - Current Settings** (highlighted)
    - Reset Transport
    - Transport Now
  - Edit Collection Schedule
  - Devices
  - Enterprise Management
  - Users

The **Data Transport Settings** section contains the following table:

Destination:	americas-hao-tracker	<a href="#">Modify</a>
State:	Disabled	<a href="#">Modify</a>
Encryption:	Enabled	<a href="#">Modify</a>

*Destination* indicates the HP MCSC that receives configuration data from this node. A setting of 'Local File Store' indicates that data is written to the local file system instead of an e-mail transport.

*State*, if enabled, signals the data transport to occur immediately following a [Scheduled Collection](#).

View the [Status Report](#) on the current state of the Data Transport.







# Modify Collection Templates



**HP9000 S800 HP-UX 10.X, 11.X: HP9000 Series 800 Business Server supporting the 10.X and 11.X HP-UX operating systems.**

**Enabling Collection and Transport.** Use the table below to exclude any items from being collected or eligible for transport by de-selecting the related checkbox, then pressing the 'Modify Collection Template' button. Any modifications apply to all [associated devices](#) and models for this collection template.

**Other Available Actions:** (from this form)

- **Individual item information and actions** are accessible via the item's hyperlink in the table. Actions include:
  - Toggling the 'Always Changing' field
  - For 'Custom' or 'New Configuration Items'
    - **Delete** the item.
    - **Export** the item to a file.
    - **Modify** the new configuration item.
- **Add/import new item(s)** to this template in the 'User-Defined' subsystem.
- **Edit Attributes:** For items that are files, attributes such as permissions and timestamps are also collected. You can affect how attributes are used in generating 'change indicators' (!).





# Modify Collection Templates: Attribute Settings



The screenshot shows the HP Configuration Tracker interface. The main window is titled 'HEWLETT PACKARD Configuration Tracker'. The 'Collection' status is 'Idle' and the 'Transport' is 'Running'. The left pane shows a tree view of 'Collection Templates' under 'Admin Tasks'. The selected template is 'HP-UX Computer Systems' > 'HP5000 S800 HP-UX 10.X, 11.X'. The right pane displays the 'Collection Template Attribute Settings' dialog box.

**\* Collection Template Attribute Settings \***

Collection templates contain configuration items that are either files or commands. Items that are files have their attributes collected. For these items, you can continue collecting data while excluding 'change indicators' (i) for data changes. When you have the desired attribute settings, push the 'Modify Attribute Settings' button.

**Note:** Attribute changes are only applied from this point forward.

**Viewing Options for this Form**

<a href="#">All Items (current settings)</a>	<a href="#">All Items (factory defaults)</a>
>> Only Items With Attributes (current settings) <<	<a href="#">Only Items With Attributes (factory defaults)</a>

**Modify Attribute Settings** or [Cancel This Task](#)

**Boot and Shutdown**

Config Item Type	Perms	NumLinks	Owner	Group	Timestamp
Boot Script	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>





# Modify Collection Templates: Create New Configuration Item



The screenshot shows the HP Configuration Tracker interface. The main window is titled "Configuration Tracker" and includes the HP logo and "HEWLETT PACKARD" text. The status bar indicates "Collection: Idle" and "Transport: Running". The left sidebar shows a tree view of "Collection Templates" under "Admin Tasks". The "Available Collection Templates" section is expanded to show "HP-UX Computer Systems" and "Network Interconnect Devices". The "HP-UX Computer Systems" folder is selected, and the "HP9000 S800 HP-UX 10.X, 11.X" template is highlighted. The main content area displays the "Create New Configuration Item" dialog box. The dialog box contains the following text: "Create a new configuration item for this template. This item is added to the subsystem: 'User-Defined'." Below this, it lists "Other Available Actions: (from this form)" with a bullet point: "Import an item from a file." The dialog also includes two input fields: "Configuration Item Name: (max 80 chars, character restrictions, space handling)(required) Name displayed in the collection template." and "Configuration Item Description: (max 400 chars)(required) Description used in the collection template."





# Modify Collection Templates: Create New Configuration Item



**hp HEWLETT PACKARD Configuration Tracker** Collection: *Running* Transport: *Running*

Tracking Admin Info

Admin Tasks Collection Templates

**Collection Templates**

- Available Collection Templates
  - HP-UX Computer Systems
    - HP9000 S800 HP-UX 10.X, 11.X**
  - Network Interconnect Devices
    - Cisco Catalyst Switch
    - Cisco Catalyst Switch with TFTP capability
    - Cisco IOS Device
    - Default
    - HP IOS Device
    - HP ProCurve Routing Switch
    - HP ProCurve Switch
    - HP Router
    - HP Switch
    - HP Switch II
  - Windows Computer Systems
    - Windows 2000, NT 4.X Intel-based Server

**Collection Method Type:** This can either be a command that is run on the client, or a file that is collected from the client (required)

- File** (absolute path of the file): (max 800 chars)
  - Must* be an ASCII file.
- Command:** How to collect the data (single line): (max 800 chars)
  - This command is run on clients as entered. Use caution in defining this command.
  - Since no 'PATH' variable is defined, use absolute paths when defining this command.
  - The output of this command *must* be ASCII.

**Change Alert Setting:** If this configuration item is 'Always Changing', you can disable the 'Change Alert'. (you must select one).


- This item is 'Always Changing' do not display the Change Alert
- Display Change Alert (!)





# Tracking



 **HEWLETT  
PACKARD** **Configuration Tracker** Collection: Idle  
Transport: Disabled

! Tracking Admin Info

**Available Actions**

Changes Time1 Time2 Command

Collect Now Properties List Changes

Reload Search Help

**Timeframe (MDT)**

Change Time1: 21 Jun 2000 09:17

Timeframe Time2: 21 Jun 2000 09:22

- The Enterprise
  - HP-UX devices
  - NICs
  - NT Devices

### Getting Started with Configuration Tracker

Configuration Tracker has 3 main tabs:

- **Tracking:** Used to access individual configuration data items for specific devices, as well as historical changes for configuration data items.
- **Admin:** Intended for the 'Tracker Administrator', this tab is used to manage the devices monitored by Configuration Tracker, set transport options, as well as manage users for the system.
- **Info:** The colored ball indicator displays the current state of the health of Configuration Tracker itself. Use this tab to access information about alarms associated with the colored ball indicator. Additionally, access to this system's error and log files is available via this tab.





# Tracking: Data Changes



**hp HEWLETT PACKARD Configuration Tracker** Collection: Idle  
Transport: Disabled

Tracking Admin Info

**Available Actions**

Changes Time1 Time2 Command

Collect Now Properties List Changes

Reload Search Help

**Timeframe (MDT)**

Change Time1: 21 Jun 2000 09:17  
Timeframe Time2: 21 Jun 2000 09:22

The Enterprise

- HP-UX devices
- NICs
- NT Devices

HP-UX devices

**List of Configuration Changes for: The Enterprise:HP-UX devices**

Note: this operation may take some time. You can continue when the cursor returns to normal when over the left side.

[ You may also see a [List Of Failures](#) ]

- [aquaman: Boot and Shutdown: Boot Messages](#)
  - (21 Jun 2000 09:18 MDT)
- [aquaman: File System: File Sys Config](#)
  - (21 Jun 2000 09:18 MDT)
- [aquaman: HP-UX Configuration: Level1 Scripts](#)
  - (21 Jun 2000 09:18 MDT)
- [aquaman: HP-UX Configuration: Level2 Scripts](#)
  - (21 Jun 2000 09:18 MDT)
- [aquaman: HP-UX Configuration: Script Level Flags](#)
  - (21 Jun 2000 09:18 MDT)
- [aquaman: HP-UX Configuration: Sys Filesets](#)
  - (21 Jun 2000 09:18 MDT)
- [aquaman: Software Configuration: PSIFile](#)
  - (21 Jun 2000 09:22 MDT)
- [cb4: HP-UX Configuration: Level1 Scripts](#)
  - (21 Jun 2000 09:18 MDT)
- [cb4: HP-UX Configuration: Level2 Scripts](#)
  - (21 Jun 2000 09:18 MDT)
- [cb4: HP-UX Configuration: Script Level Flags](#)
  - (21 Jun 2000 09:18 MDT)
- [cb4: HP-UX Configuration: Sys Filesets](#)
  - (21 Jun 2000 09:18 MDT)
- [cb4: Software Configuration: PSIFile](#)
  - (21 Jun 2000 09:22 MDT)





# Tracking: Individual Changes



**hp HEWLETT PACKARD Configuration Tracker** Collection: Idle  
Transport: Disabled

Tracking Admin Info

**Available Actions**

Changes Time1 Time2 Command

Collect Now Properties List Changes

Reload Search Help

**Timeframe (MDT)**

Change Timeframe

Time1: 21 Jun 2000 09:17  
Time2: 21 Jun 2000 10:22

- File System
- Hardware Configuration
- HP-UX Configuration
  - Device Drivers
  - HPUX Lib
  - Init File
  - Kernel Config
  - Kernel Version (Current)
  - Kernel Version (Previous)
  - Level1 Scripts**
  - Level2 Scripts
  - Level3 Scripts

...aquaman:HP-UX Configuration:Level1 Scripts

**Data changes detected between Time2 and Time1:**

Line 4 of the *time1* revision:

```
lrwxr-xr-x 1 root sys 21 Apr 19 02:42 2000 K110HAMagent -> /sbin/init
```

**replaced by** line 4 of the *time2* revision:

```
lrwxr-xr-x 1 root sys 21 Jun 19 14:38 2000 K110HAMagent -> /sbin/init
```

---

Line 266 of the *time1* revision:

```
lrwxr-xr-x 1 root sys 21 Apr 19 02:42 2000 /sbin/rc1.d/K110HAMagent -
```

**replaced by** line 266 of the *time2* revision:

```
lrwxr-xr-x 1 root sys 21 Jun 19 14:38 2000 /sbin/rc1.d/K110HAMagent -
```

Event Time	Event Information
21 Jun 2000 10:22	'Time2'
21 Jun 2000 09:18	The item changed.
21 Jun 2000 09:17	'Time1'

(Always Changing' items won't have change events.)





# Change the Collection Timeframe



**HEWLETT PACKARD Configuration Tracker** Collection: Idle Transport: Disabled

Tracking Admin Info

**Available Actions**

Changes Time1 Time2 Command

Collect Now Properties List Changes

Reload Search Help

**Timeframe (MDT)**

Change Timeframe Time1: 21 Jun 2000 09:17 Time2: 21 Jun 2000 09:22

- The Enterprise
  - HP-LIX devices
  - NICs
  - NT Devices

**\* Change Timeframe \***

The data displayed for all tracked devices is limited by the Timeframe setting. **Change the Timeframe** by assigning the Time1 and Time2 boundaries below to include your choice of Tracker data collections.

The change symbol **!** associated with a collection indicates an observed data change since the previous collection. Times listed with a **!** represent a *failure* of Tracker to collect.

The most recent 30 collections, ([All Collections](#))

Finish or [Cancel This Task](#)

from Time2	to Time1	Collection
<input type="radio"/>	<input type="radio"/>	! 21 Jun 2000 10:17 <a href="#">sched</a>
<input checked="" type="radio"/>	<input checked="" type="radio"/>	! 21 Jun 2000 09:17 <a href="#">sched</a>
<input type="radio"/>	<input type="radio"/>	! 17 May 2000 16:05 <a href="#">sched</a>
<input type="radio"/>	<input type="radio"/>	17 May 2000 15:05 <a href="#">sched</a>
<input type="radio"/>	<input type="radio"/>	! 17 May 2000 14:05 <a href="#">sched</a>
<input type="radio"/>	<input type="radio"/>	! 17 May 2000 13:05 <a href="#">sched</a>
<input type="radio"/>	<input type="radio"/>	! 17 May 2000 12:05 <a href="#">sched</a>
<input type="radio"/>	<input type="radio"/>	! 17 May 2000 11:05 <a href="#">sched</a>
<input type="radio"/>	<input type="radio"/>	17 May 2000 10:05 <a href="#">sched</a>





# Health/Link Checker reports

## HAO Support Node Health & ISDN Link Status Report



version:  
created: Jul/07/2000 08:15 (UTC)  
Germany, ISE, Other, Spain, UK, US.

Customer	Node	Bracknell bracknell.hp.com Bra/01/2000 01:01 (UTC) Link Status (time tested)	Brussels brussels.hp.com Bru/01/2000 01:01 (UTC) Link Status (time tested)	Comment
<b>Germany</b>				
<a href="#">Company 1 (Germany)</a> Jun/21/2000 01:01 (UTC)	1.1.1.1	OK May/14/2000 01:01 (UTC)	OK May/14/2000 01:01 (UTC)	
<a href="#">Company 2 (Germany)</a> Jun/21/2000 01:02 (UTC)	1.1.1.2	data not available yet	OK May/14/2000 01:02 (UTC)	
<a href="#">Company 3 (Germany)</a> Jun/21/2000 01:03 (UTC)	1.1.1.3	OK May/14/2000 01:03 (UTC)	data not available yet	
<a href="#">Company 6 (Germany)</a> Jun/21/2000 01:06 (UTC)	1.1.1.6	not configured	ISDN May/14/2000 01:06 (UTC)	* no call logged yet, ...link failure in 6 report cycle is below configured limit
<a href="#">Company 7 (Germany)</a> Jun/21/2000 01:07 (UTC)	1.1.1.7	OK May/14/2000 01:07 (UTC)	n/a RATS switched off	
Company 8 (Germany)	1.1.1.8	data not available yet	data not available yet	
<b>ISE</b>				
<a href="#">Company 44 (ISE)</a> Jun/21/2000 04:04 (UTC)	1.1.4.4	OK May/14/2000 04:04 (UTC) special connection required	OK May/14/2000 04:04 (UTC) special connection required	* brussels.hp.com: no customer name configured
<b>Other</b>				
<a href="#">Company 41 (Other)</a> Jun/21/2000 04:01 (UTC)	1.1.4.1	ISDN (200 200 200 200) May/14/2000 04:01 (UTC)	ISDN (200 200 200 200) May/14/2000 04:01 (UTC)	* call logged Jul/04/2000
<a href="#">Company 42</a> Jun/21/2000 04:02 (UTC)	1.1.4.2	ISDN May/14/2000 04:02 (UTC) special connection required	ISDN May/14/2000 04:02 (UTC)	* known link issue, but no call info stored
<a href="#">Company 43</a> Jun/21/2000 04:03 (UTC)	1.1.4.3	OK May/14/2000 04:03 (UTC) special connection required	OK May/14/2000 04:03 (UTC) special connection required	





MCSC Monitor - Microsoft Internet Explorer

File Edit View Go Favorites Help

Back Forward Stop Refresh Home Search Favorites History Channels Fullscreen Mail Print Edit

Address <http://dos.fc.hp.com/tracker/tmp/index.955481408.html> Links

---

**HEWLETT  
PACKARD** **MCSC Monitor**

Enterprises Customer Data Admin Info

**Available Actions**

Reload Search Properties Help

Patch Summary Scheduling Subscription

**Customer Enterprises**

- PSR tests (don't use)
  - Alert Summary 1
  - Alert Summary 2
  - Alert Summary 3
  - Alert Summary 4
  - Alert Summary 5
  - Alert Summary 6
- Southern Europe
  - Customer A
  - Customer B**
  - Customer C
  - Customer D
- Unassigned
- Customer E

Southern Europe: Customer B

**Current Status of 'Customer B'**  
(consisting of all 'stoplights' appearing below)

- Data Transport **is recent** (occurred < 2 days ago)  
last date: 10 Apr 2000 13:28 - reset
- Support Node alarm state is clear.
- Support Node is transporting **full data**.
- Enterprise is **configured** for analysis.

**Available Actions**

- [Browse Configuration Data](#).
- Generate a [Patch Summary Report](#) for this enterprise.
- [Modify the Analyzer Schedules](#) for this enterprise.
- [Modify Analyzer Subscription Settings](#) for all devices in this enterprise.
- See all devices by expanding this item in the tree.

Support Node Name: custb.cust.com

Done Local intranet zone





MCSC Monitor - Microsoft Internet Explorer provided by SoftQuad Software Inc.

File Edit View Favorites Tools Help

Back Forward Stop Refresh Home Search Favorites History Mail Print Edit

Address http://haoca.fc.hp.com/tracker/tmp/index.961446587.html

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**hp HEWLETT PACKARD MCSC Monitor**

Enterprises: Customer Data Admin Info

Tracking Collection Templates Info

**Available Actions**

Changes Time1 Time2 Command

Collect Now Properties List Changes

Reload Search Help

**Timeframe (MDT)**

Change Time1: 09 Nov 1999 18:51

Timeframe Time2: 31 May 2000 19:59

**Caltex Australia**

- comdb1
- prdapp1.ampol.com.au
- prdapp2.ampol.com.au
- prdapp3.ampol.com.au
- prdapp4.ampol.com.au
- prdapp5.ampol.com.au
- prdb0.ampol.com.au

Caltex Australia

### Patch Summary Report for 'Caltex Australia'

This report depicts the overall set of patch candidates for HP-UX devices in this enterprise. Each cell may contain an indicator of the type of patch candidate. A blank cell indicates that the patch is not installed and not a candidate. A cell containing an 'I' indicates that the patch is already installed.

Links to:

- [System Summary](#)
- [Analyzer Legend](#)

HP-UX 10.XX	P	P	P	P	P	P	C
	r	r	r	r	r	r	O
	d	d	d	d	d	d	n
	a	a	a	a	a	d	d
	p	p	p	p	p	b	b
	P	P	P	P	P	0	l
	B.10.20						
<a href="#">PHCO 7891</a>	I	I	I	I	I	I	I
<a href="#">PHCO 7892</a>	I	I	I	I	I	I	I
<a href="#">PHCO 8009</a>	I	I	I	I	I	I	I
<a href="#">PHCO 8246</a>				I	I	I	I
<a href="#">PHCO 8247</a>				I	I	I	I
<a href="#">PHCO 8621</a>	I	I	I	I	I	I	I

Start | Inbox - Outlook Expr. | MCSC Monitor - ... | untitled - Point | Exploring - C:\HP | 2:53 PM





MCSC Monitor - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Forward Stop Refresh Home Search Favorites History Mail Print Edit

Address http://mcscondo.fc.hp.com/tracker/ntp/index.955664190.html

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**hp HEWLETT PACKARD** **MCSC Monitor**

Enterprises Customer Data Admin Info

**Available Actions**

Reload Search Properties Help

Patch Summary Scheduling Subscription

**Customer Enterprises**

- MCSC
  - At MCSC Before A.03.00
    - Customer A**
    - Customer B
    - Customer's Name has apostrophe
    - Set Company Name (neruda)
  - Unassigned
  - Customer C

At MCSC Before A.03.00: Customer A

**\* Modify the Analyzer Schedule for the Enterprise 'Customer A' \***

The analyzer schedule for this enterprise is summarized below. The analyzer schedule displays how often the devices of this enterprise are analyzed. Designating which analyzers are applied to a device is accomplished via [Analyzer Subscription](#). **Note:** this operation may take up to a minute to complete.

Modify Analyzer Schedule or [Cancel This Task](#)

Analyzer Name	Interval
critical	<input type="radio"/> Disabled <input checked="" type="radio"/> Daily <input type="radio"/> Every N Days: 2 <input type="radio"/> Weekly on day: Sun <input type="radio"/> Monthly on day: 1
firmware	<input type="radio"/> Disabled <input checked="" type="radio"/> Daily <input type="radio"/> Every N Days: 2 <input type="radio"/> Weekly on day: Sun <input type="radio"/> Monthly on day: 1
recalled	<input type="radio"/> Disabled <input checked="" type="radio"/> Daily <input type="radio"/> Every N Days: 2 <input type="radio"/> Weekly on day: Sun <input type="radio"/> Monthly on day: 1
	<input type="radio"/> Disabled





MCSC Monitor - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Forward Stop Refresh Home Search Favorites History Mail Print Edit

Address http://macondo.fc.hp.com/tracke/tmp/index.955664190.html

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**hp HEWLETT PACKARD MCSC Monitor**

Enterprises Customer Data Admin Info

**Available Actions**

Reload Search Properties Help

Patch Summary Scheduling Subscription

**Customer Enterprises**

- MCSC
  - At MCSC Before A.03.00
    - Customer A
    - Customer B
    - Customer's Name has apostrophe
    - Set Company Name (neruda)
    - Unassigned
    - Customer C

At MCSC Before A.03.00:Customer A

---

**\* Current Analysis State for devices in 'Customer A' \***

The table below represents the analyzer subscription state for all HP-UX devices in this enterprise. If a device is subscribed to a specific patch analyzer, it is processed during the scheduled run that analyzer. Modify the set of analyzers scheduled to process these devices with the checkboxes then push the 'Finish' button.

[Analyzer abbreviations legend.](#)

HP-UX Device	c	f	r	s	s	y	R	l	d	E	HP-UX Device	F	f	F	F	H	h	I
	r	i	r	e	e	2	a	0	l	n		b	d	C	C	W	w	f
	t	m	a	u	v	k	d	0	t	t		p	i	-	-	S	d	s
monstro	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	monstro	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
thisway	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	thisway	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Finish or [Cancel This Task](#)

---

**Analyzer Abbreviations:**

abbrev	Analyzer	Description
crit	critical	Reports applicable Critical (and Supercedes Critical) patches.
firm	firmware	Reports disks, SPU's and interfaces that have problem firmware revisions.
reca	recalled	Reports active recalled patches that are installed on the system.
secu	security	Reports applicable security patches.
serv	service_notes	Reports Service Notes, less than two years old, for SPU's.
y2k	y2k	Reports applicable patches that fix Y2K-specific problems.
Raid	AutoRaid	Reports applicable patches for disk arrays manufactured by HP.
100t	A_100BaseT	Reports applicable patches for 100BaseT networking.





MCSC Monitor - Microsoft Internet Explorer

Address: http://macondo.hp.com/backe/tmp/index.955559403.html

**HEWLETT PACKARD MCSC Monitor**

Enterprises | Customer Data | Admin | Info

Tracking | Collection Templates | Info

**Available Actions**

Changes | Time1 | Time2 | Command

Collect Now | Properties | List Changes

Refresh | Search | Help

**Timeframe (MDT)**

Change Timeframe | Time1: 12 Apr 2000 12:04 | Time2: 12 Apr 2000 12:04

- HP-UX Configuration
- Network
- Printing and Spooling
- Software Configuration
- ph3400nt**
- Boot & Shutdown
- Cluster Config
- Components
- Event Log
- Hardware
- Network
- NT Configuration
- Ports
- Printing
- Processes

ph3400nt

Note: this operation may take some time. You can continue when the cursor returns to normal when over the left side.

**All Configuration Items**

NOTE: Any configuration data that contains a '<' is processed in this view as an html tag therefore causing the display of data to look incorrect. However, a 'Save to File' or 'View Source' contains the actual data.

```
*****
000 START OF Adapter

----- "AMDPCN1"
AdapterType          "Ethernet 802.3"
Availability          3
Caption              "[1] AMD PCNET PCI Ethernet Adapter"
CreationClassName    "Win32_NetworkAdapter"
Description          "AMD PCNET PCI Ethernet Adapter"
DeviceID             "AMDPCN1"
Index                1
InstallDate          30 May 1997 10:05 GMT -06:00
Installed            TRUE
MACAddress           "00:60:80:7C:F9:FC"
Manufacturer        "Microsoft"
BoxNumberControlled
Name                 "[1] AMD PCNET PCI Ethernet Adapter"
NetworkAddresses
PermanentAddress
PNPDeviceID
PowerManagementSupported FALSE
ProductName         "AMDPCN1"
ServiceName         "AMDPCN1"
Speed
Status               "OK"
StatusInfo           3
SystemCreationClassName "Win32_ComputerSystem"
SystemName           "PH3400NT"
TimeOfLastReset     02 Jun 2000 03:15 GMT -06:00
```





# HP Configuration Analyzer



- ✓ HP Configuration Analyzer (CA) automatically analyzes customer configurations by patch, service note, and firmware analyzers. It automatically notifies the Mission Critical Support Center by creating workflow cases.
- Proactive analysis occurs automatically once configuration data arrives at the MCSC
- Case automatically generated in Workflow Management System to notify HP Support Personnel of potential problems





# Application Patch Analyzers – List of Analyzers



- AutoRaid
- A\_100BaseT
- DLT
- Ethernet
- Fbackup
- FDDI
- FibreChannelMS
- FibreChannelNet
- FW SCSI
- Hardware Model
- HFS
- Informix
- JFS







# Application Patch Analyzers – List of Analyzers (continued)



- LP Spooler
- LVM
- Mirroring
- NFS
- OmniBack
- OnlineJFS
- Oracle
- OS
- Predictive
- SAP
- ServiceGuard
- SE SCSI
- SNA
- X25



# HP High Availability Observatory Level 200 Training



## Course Objectives

- Part 1 - Review the Site Prep Process
- Part 2 - Install and Configure the Support Node Router and HP Support Node
- Part 3 - Connect to the customer's MC Environment
- Part 4 - Configure and use the HAO Support Tools
- Part 5 - Use Support Tools in the MCSC
- **Completed!**

You are Here

