



PathNavigator™ 5.1 Release Notes
June 12, 2003

This document provides complementary or late-breaking information to supplement the PathNavigator User Guide documentation. Check the Polycom web site (<http://www.polycom.com>) for the latest information.

Check the User Guide or the Read Me First for more information on system requirements, installation, and licensing.

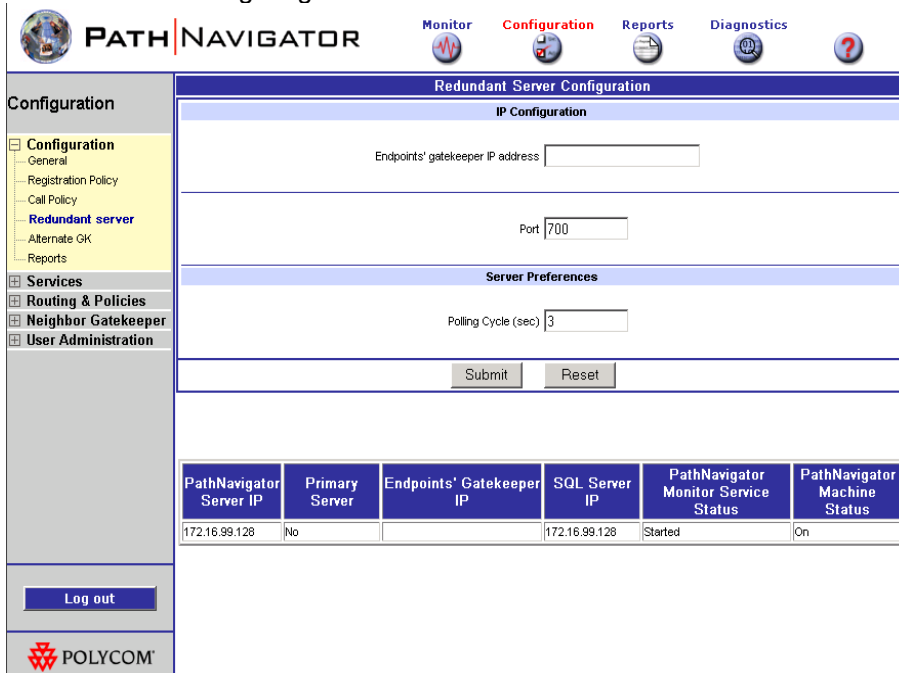
Table of Contents

What's New in 5.0	2
Enhancements in 5.0	4
Enhancements in 5.1	4
System Requirements	5
Installation	6
Installing PathNavigator in conjunction with a WebCommander.	6
Licensing	7
Logging Into PathNavigator.....	8
Technical Q&A	9
Bugs Fixed in This Release	11
Bugs Fixed for 5.0	11
Known Issues	12

What's New in 5.0

PathNavigator 5.0 has the following new features:

- **Redundant server feature:** Version 5.0 supports a second PathNavigator server as a redundant server. In the event of a failure on the primary server, this feature allows all endpoints to automatically register to the secondary server without disruption. To fully utilize this feature, a separate redundant server license must be purchased and authenticated. See the PathNavigator User Guide for information on configuring the Redundant Server feature.

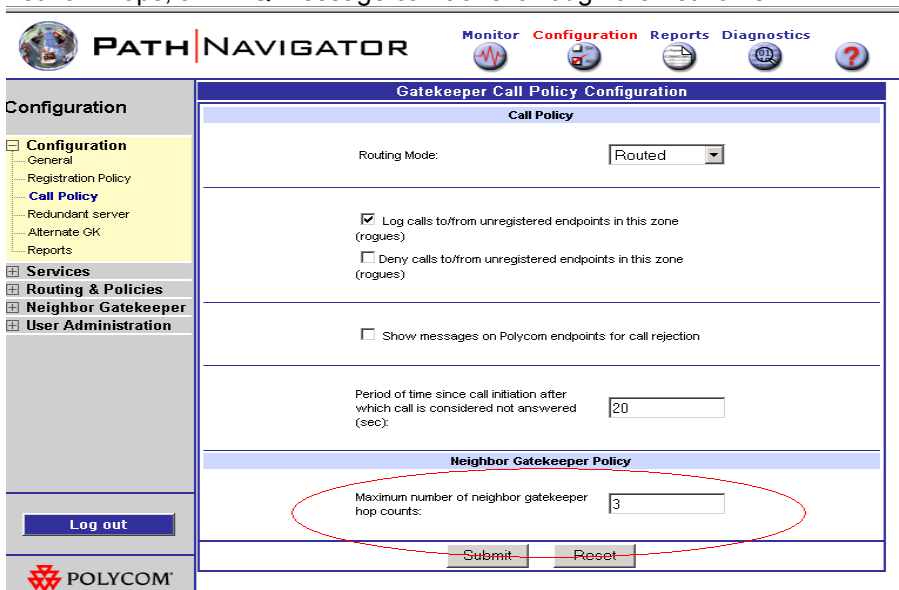


The screenshot shows the PathNavigator web interface for configuring a redundant server. The page title is "Redundant Server Configuration". The left sidebar contains a navigation menu with "Configuration" expanded to show "Redundant server" selected. The main content area is divided into sections: "IP Configuration" with a text input for "Endpoints' gatekeeper IP address" and a "Port" input set to "700"; "Server Preferences" with a "Polling Cycle (sec)" input set to "3"; and a "Submit" and "Reset" button pair. Below these sections is a status table:

PathNavigator Server IP	Primary Server	Endpoints' Gatekeeper IP	SQL Server IP	PathNavigator Monitor Service Status	PathNavigator Machine Status
172.16.99.128	No		172.16.99.128	Started	On

At the bottom of the sidebar is a "Log out" button and the Polycom logo.

- **Enhanced Network Hop Across Neighbor Gatekeepers:** In the previous version, only one network hop was allowed. In the current version, via a user interface, an administrator can control up to 255 network hops, an LRQ message can travel through the networks.



The screenshot shows the PathNavigator web interface for configuring a gatekeeper call policy. The page title is "Gatekeeper Call Policy Configuration". The left sidebar contains a navigation menu with "Configuration" expanded to show "Call Policy" selected. The main content area is divided into sections: "Call Policy" with a "Routing Mode" dropdown set to "Routed", two checkboxes for logging and denying calls to/from unregistered endpoints (both checked), and a checkbox for "Show messages on Polycom endpoints for call rejection" (unchecked); "Neighbor Gatekeeper Policy" with a "Period of time since call initiation after which call is considered not answered (sec)" input set to "20" and a "Maximum number of neighbor gatekeeper hop counts" input set to "3", which is circled in red. Below these sections is a "Submit" and "Reset" button pair. At the bottom of the sidebar is a "Log out" button and the Polycom logo.

- **Alternate Gatekeeper:** The alternate gatekeeper feature enables high availability for endpoints by enabling these endpoints to register with another PathNavigator or gatekeeper. The difference between an alternate gatekeeper and redundant server feature is that with an alternate gatekeeper, the endpoints register with an entirely different system with a different setup. In the redundant server situation, the endpoint registers with the backup server in the case of failure with the primary server and all configuration information is the same between the primary and backup PathNavigator. The alternate gatekeeper feature in PathNavigator informs the endpoint of its alternate gatekeeper. The alternate gatekeeper information is returned to the endpoint via the gatekeeper discovery confirm (GCF) or registration confirm (RCF) message.

The screenshot displays the PathNavigator web interface. At the top, the logo "PATH NAVIGATOR" is visible, along with navigation tabs for "Monitor", "Configuration", "Reports", and "Diagnostics". The "Configuration" tab is active. On the left side, a navigation menu lists various configuration categories: "Configuration" (with sub-items: General, Registration Policy, Call Policy, Redundant server, **Alternate GK**, Reports), "Services", "Routing & Policies", "Neighbor Gatekeeper", and "User Administration". The "Alternate GK" item is highlighted in yellow. Below the menu is a "Log out" button and the "POLYCOM" logo.

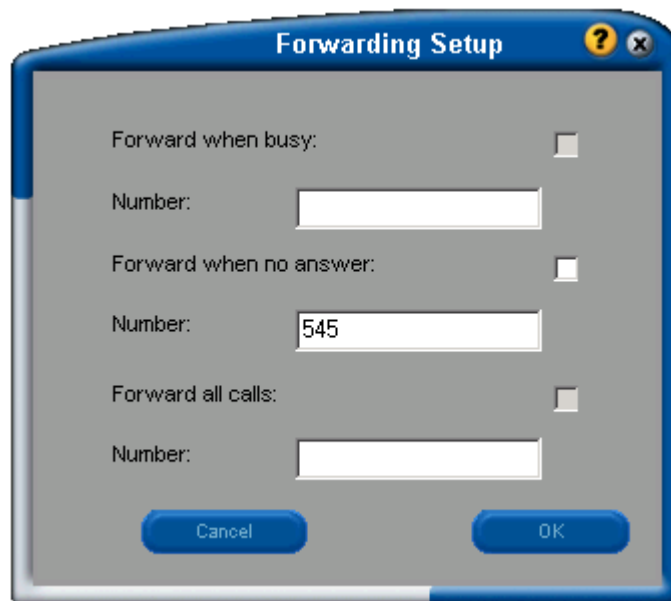
The main content area is titled "Alternate Gatekeeper Configuration". It contains the following fields and controls:

- Need to register
- Alternate Gatekeeper ID: PathNavigator2
- IP Address: 172.16.22.12
- Port: 0
- Priority: 0

At the bottom of the configuration area, there are "Submit" and "Reset" buttons.

Enhancements in 5.0

1. **Improved Call Processing:** Call routing has been designed to be more efficient over the previous 1.X version.
2. **Support H.323 Version 4 Protocol Stack:** The current version uses an updated version of the protocol stack.
3. **Predefined Alias Match:** For increased security, predefined endpoints can only register with PathNavigator if all of the following are true: 1) Key alias match 2) IP address match 3) Static IP Address match.
4. **Enhancement for FX 5.0:**
 - a. **Conference On Demand on ViewStation:** When a ViewStation FX 5.0 registers with PathNavigator 5.0 and detects the CON service is enabled, the Conference On Demand menu is automatically activated and allows ad-hoc multipoint to be dialed from the endpoint.
5. **Enhancement for ViaVideo 5.0:**
 - a. **Conference On Demand on ViaVideo.** When a ViaVideo 5.0 registers to PathNavigator 5.0 and detects the CON service is enabled, the Conference On Demand feature is automatically enabled and allows ad-hoc multipoint dialing from the endpoint.
 - b. **Call Forwarding Communication.** With the new communication mechanism, the Forwarding status and the Forwarding number on ViaVideo and PathNavigator are fully synchronized. Setting the Forwarding number on the ViaVideo interface will correspondingly update the Forwarding number on the Endpoints list of PathNavigator.



Enhancements in 5.1

New implementation in Call Policy that allows for calls that dial endpoints, which are offline, to immediately be routed to the offline endpoint's "No Answer" number.

System Requirements

The following requirements are the minimum for a typical PathNavigator deployment. Depending on the actual deployment need, your requirement may exceed the minimum recommended requirements.

Please check www.polycom.com for the most up to date server requirements.

Server Requirements

Hardware Requirements

- 512MB RAM (or more)
- 2GB free hard-drive space

License specific Database and Hardware Requirements

Licensed Endpoints	Database type	PathNavigator Server Hardware
25-seat	Microsoft® Access, Microsoft SQL	Pentium® III 500 MHz
100-seat	Microsoft SQL	Pentium III 650 MHz
500-seat	Microsoft SQL	Pentium III 1.4 GHz
1000-seat	Microsoft SQL	Pentium III 1.4 GHz
3000-seat	Microsoft SQL	Pentium IV 1.9 GHz

One of the following operating systems:

- Windows NT® 4.0 with Service Pack 6 or 6a
- Windows 2000 Server (Service Pack 2 optional but recommended)
- Windows 2000 Advanced Server with Service Pack 1
- Microsoft® Internet Information Services™ 4.0 with Service pack 2 or Microsoft Internet Information Services™ 5.0
- Microsoft Access™ or SQL 7.0 or higher*

* SQL must be installed on a separate server

Database Notes

Microsoft SQL server 7.0 or 2000 SQL Requirements, if SQL is chosen as the database of choice

- The SQL server has two authentication modes: SQL Server and Windows authentication mode. The SQL Server authentication mode is supported in PathNavigator. However, Windows only authentication mode isn't supported in PathNavigator. To check for the authentication mode type, run the SQL Enterprise Manager, select the SQL server, right-click for Properties, and click on Security tab. The authentication mode is shown on this screen.
- Microsoft SQL system account such as "sa" with permission to execute CREATE DATABASE, DROP DATABASE, ALTER DATABASE commands.

Microsoft Access as the Database

- If Microsoft Access is chosen as the database of choice, PathNavigator may require the following executables to be installed in the order listed prior to the installation.

NT 4.0: mdac_type.exe, Jetinstall.exe, JetSP5_NT.exe

Windows 2000 Server: mdac_type.exe, Jetinstall.exe, JetSP5_W2K.exe.

Client Requirements

One of the following operating systems:

- Windows 98
- Windows ME
- Windows 2000

Internet Explorer 5.0 or higher

Installation

Installation Notes

These executables are included with the PathNavigator installation files:

Web Download: The files are compressed into a resources.zip file in the System_Update_Resources folder.

Note: The Microsoft Access database can grow very large and database performance may be reduced. It is recommended to compact the database when its size 100 MB in size. Refer to the User Guide for instruction on compacting database.

Installing PathNavigator in conjunction with a WebCommander.

Please refer to the PathNavigator WebCommander Integration document included in the doc folder found on the CD or in the folder which this application is extracted into.

Licensing

Proper licensing is necessary to activate your PathNavigator software in production mode. The activation process is consisted of the three steps:

1. **Register License Key(s)**: All license keys must be first registered with Polycom.
2. **Get Authentication Code**: Once license keys are registered, Polycom provides an authentication code.
3. **Activate License Key(s)**: Enter the authentication code into PathNavigator.

Follow the below instructions to activate the PathNavigator license key:

1. Go to the PathNavigator registration website on the Polycom website (<http://www.polycom.com/products/pathnavigator/registration.html>) and select the **First time registration** tab.
2. Enter the license key, found on the back of the PathNavigator CD.
3. Click **Add**. If additional license keys are needed, enter the license keys in the appropriate field and click **Add**.
4. Once you have entered all the license keys, click **Submit**. Your authentication code will appear underneath the selection tables.
5. Enter the authentication code in PathNavigator's **General** screen (*Configuration > Configuration > General*) to activate PathNavigator's production mode.
6. To add additional licenses, follow the instructions above, but choose the **Add Additional Licenses** tab in the first step.
7. Log in to your PathNavigator in a web browser by entering the following address:

`http://<systemname>/pathnavigator`
or
`http://<system_ip_address>/pathnavigator`

Where `<systemname>` is the name of the server where your PathNavigator is loaded, and `<system_ip_address>` is the IP address of the server where your PathNavigator is loaded.

8. Enter "admin" in the **Log On** field. If this is the first time accessing the application, leave the **password** field blank.
9. Go to the **General** screen (*Configuration > Configuration > General*).
10. Click the **Authentication code** button.
11. Enter your authentication code and click **Submit**.
12. Your license should be activated immediately.

PathNavigator displays the maximum number of calls, maximum number of registrations, and warranty activation and expiration dates once the authentication code is entered into it. The maximum number of calls and the maximum number of registrations allowed reflects the total number of endpoints for which you have licenses. The activation date specifies when PathNavigator was activated with the authentication code. The expiration date specifies the expiration date of the warranty. After the warranty expiration period, no upgrades of PathNavigator software are allowed until a new warranty license is purchased. After the expiration period, a warning will appear on the browser every time a user logs in. However, PathNavigator will continue to function normally.

Logging Into PathNavigator

To login to your PathNavigator, perform the following steps:

1. Log in to your PathNavigator in a web browser by entering the following address:

<http://<systemname>/pathnavigator>

or

http://<system_ip_address>/pathnavigator

Where <systemname> is the name of the server that PathNavigator is loaded on, and <system_ip_address> is the IP address of the server that PathNavigator is loaded on.

2. Enter admin in the **Log On** field. If this is the first time accessing the application, leave the **password** field blank.
3. You will now be prompted for a password to be set.

Note: After logging in for the first time, the user will be forced to change the password from a blank password to a password containing up to 10 characters. This password will be used for all subsequent logins unless changed in the Configuration > User Administration section in PathNavigator.

Technical Q&A

1. Q: Can multiple PathNavigator servers share the same SQL server as the remote database source?
A: No, each PathNavigator must have its own SQL server.
2. Q: During the installation of PathNavigator, the Microsoft SQL server option is chosen. What login ID and password should be used?
A: This should be the Microsoft SQL user login that has at least has the CREATE DATABASE permission. Typically, the "sa" account has all the necessary permissions to allow PathNavigator to create a "Gatekeeper" database in the SQL server. To verify whether the login has the proper permission,
 - a. On the SQL server, run the SQL Server Enterprise Manager and expand SQL server tree.
 - b. Under the Security folder, click on Logins, and see the list of logins at the right side.
 - c. Right mouse click on the username and select Properties.
 - d. On the Server Roles tab, the System Administrators should be checked and selected.
 - e. Click on Properties button to view the permissions. The permissions list should allow a CREATE DATABASE, DROP DATABASE, and ALTER DATABASE commands to be executed.
3. Q: What is the benefit of choosing Routed mode over Direct mode for the Call Policy?
A: In routed mode, the call setup is routed through the PathNavigator using H.225 call control protocol. Many of the unique features of PathNavigator such as Simplified Dialing, Alternate Routing, Least Cost Routing, Hunt Groups, Conference On Demand, and Call Forwarding are supported only in Routed mode. Some features in Direct mode may not function optimally.
4. Q: What is considered a rogue call?
A: A rogue endpoint is defined as an unregistered endpoint for a given zone. When an unregistered endpoint attempts to place a call to a registered endpoint within the same zone or vice versa, (those networks defined in the Network Topology), PathNavigator can deny this call or allow the call to go through. To capture Rogue calls, the Call Policy must be set with "Log calls to/from unregistered endpoints in this zone (rogues)" checked.
5. Q: Does Conference on Demand work with other MCUs?
A: The Conference on Demand service in PathNavigator only works with the Polycom MGC-100 or 50. To use the service, the user has to specify the administrative username and password of the MGC in PathNavigator.
6. Q: Does an anti-virus program such as Norton® Antivirus interfere with PathNavigator?
A: An anti-virus program can interfere with the PathNavigator application and the SQL performance during the scanning process by means of over-burdening the server CPU and disk access. If a comprehensive anti-virus scan runs on the PathNavigator server, then its ability to log call registrations, resolve address for incoming call, (to name just a few) will be severely degraded. This will likely occur on a system that has marginal performance (CPU usage by Plcmgk.exe at a high 40-60% range). If a comprehensive anti-virus scan is run on the SQL server, then the database access will be slowed down, thereby affecting the ability for PathNavigator to read or write data from/to the PathNavigator database on the SQL server. There are several things that users can do to avoid the performance degradation:
 - a. Improve the performance of the PathNavigator or SQL hardware by putting faster CPU and faster hard disk.
 - b. Defrag the hard disk to improve hard disk access time. Since the defragmentation process is also hard disk intensive, be sure to do this during the PathNavigator maintenance period (when nobody in your enterprise is making video calls).
 - c. Run passive scans on the SQL server.

- d. Set the virus scan to run in the background if the software supports it.
 - e. Scan only program files and certain file extensions to minimize scanning time.
7. Q: I need to change my PathNavigator server IP address from DHCP to a static address. How can I safely do this?
- A: Use the following steps to change the server IP address.
- 1. Go to Services of the server and stop the World Wide Web Publishing and then Polycom Path Navigator services.
 - 2. Change the server IP address and reboot server if necessary.
 - 3. Go to Services, and start Polycom PathNavigator and then World Wide Web Publishing.
 - 4. Remove offline registrants.
 - 5. Configure the endpoints to register their gatekeeper address with the new IP address.
8. Q: When I enter additional PathNavigator license keys, the number of maximum registrants changes but the expiration date does not. How can I extend the expiration date?
- A: The expiration period or the warranty period does not change by adding PathNavigator licenses. That is, when the warranty period expires, additional PathNavigator licenses entered into the system will not extend the warranty period. Therefore, only new warranty licenses can be added to extend the warranty period by 1 year per license. See your reseller for purchasing new warranty license.
9. Q: Can PathNavigator and Global Management System be installed on the same server?
- A: Both PathNavigator and Global Management System software can coexist on the same server. However, there may be a performance penalty. For example, performing Call Detail Report on Global Management consumes considerable CPU resources. This may adversely affect the ability of PathNavigator to handle RAS messages from the endpoints.

Bugs Fixed in This Release

1. **Registrations.** A virtual memory leak that existed in 5.0 is now fixed.
2. **Neighbor Gatekeepers.** LRQs in the Directory PathNavigator were being broadcast to all neighbor gatekeepers. Now, LRQ requests will be directed only to the neighbor gatekeeper involved when they match a neighbor gatekeeper prefix.
3. **Alternate Routing.** Calls to endpoints registered to neighbor gatekeepers can be processed through the alternate routing mechanism.
4. **Call Detail Record.** In CDR, the address of the neighbor gatekeeper would appear on the record as the destination endpoint when calling between zones. Call Detail Record will now show the correct endpoint address instead of the neighbor gatekeeper address.

Bugs Fixed for 5.0

1. **Neighbor Gatekeeper.** When the Call Policy in PathNavigator was set to “Direct Mode”, calls from this PathNavigator that were routed to a Radvision ECS gatekeeper do not connect. Calls can now connect to endpoints registered to a Radvision ECS gatekeeper that were routed via Direct Mode from a PathNavigator.
2. **Registration.** PathNavigator incorrectly used the voice alias instead of the video alias when a Polycom iPower system registers to it. The video alias is now correctly used when an iPower system is registered to a PathNavigator.
3. **Reports.** When the data is not archived regularly or the previous archived data isn’t deleted, the database can get very large. In this case, generating reports on Network Usage, WAN Link Usage, or Call Detail Report resulted in a blank screen periodically. A work around is to not to generate one large report but several smaller reports. Otherwise, decrease the number of days in the “Archive data older than” and “Delete archive archives older than” settings in the Reports Configuration section. This is now solved and the blank screen when generating reports no longer appears.
4. **Diagnostics.** The ARQ and BRQ messages in the diagnostics may have contained confusing bandwidth information. For example, consider a 768Kbps bit rate call, the bandwidth information in the ARQ diagnostic message shows up as “1536000” when other bandwidth information in the same ARQ message is shown as “768” Kbps. Confusing bandwidth information is no longer shown in PathNavigator.
5. **Neighbor Gatekeeper.** When the Call Policy in PathNavigator was set to “Direct Mode”, calls from this PathNavigator using an H.323 ID to a terminal registered with a neighbor PathNavigator or gatekeeper do not connect. Calls can now connect using the H.323 ID of endpoints registered to a neighbor PathNavigator or gatekeeper that were routed via Direct Mode from a PathNavigator.
6. **Call Routing.** When the “Auto Answer Point to Point” or “Multipoint” setting in the ViewStation MP or FX was set to "Do Not Disturb" and a call was placed to it, the originating call kept on ringing. With the current fix, the originator of the call gets a busy message.
7. **Endpoints List.** In some cases, the Endpoints list showed an endpoint in a call (green ball) when it was not in a call. The Endpoints list now accurately shows the correct state of endpoints.
8. **Active Calls.** In some cases, the Active Calls list showed multiple active calls for the same endpoint. In the current version, the active calls now accurately show the correct state.
9. **MCU Calls.** When using CON service, board hunting among many MCU cards didn’t work. Board hunting in MCUs now works when using Conference on Demand.

Known Issues

1. **Forward No Answer.** If two endpoints are registered to the same PathNavigator and one of the endpoints has configured a Forward No Answer to an address belonging to an endpoint registered with a neighbor PathNavigator, a call between the two registered endpoints will not connect using the following aliases, E.164 or an H.323 ID. The call between these two registered endpoints can only connect if the forwarded endpoint is physically powered off.
2. **Neighbor Gatekeeper.** There is memory leak when placing calls through hierarchical gatekeepers. This occurs if Microsoft Access is the chosen database. A work around is to use Microsoft SQL as PathNavigator's database.
3. **Conference On Demand.** If the login information is changed on the MGC and PathNavigator is logged in for the Conference On Demand service, PathNavigator remains logged on with the previous login credentials. However, the next time PathNavigator logs back into the MGC (after restarting PathNavigator), it will log in with the new login information.
4. **Registration.** Advancing the local server clock causes all registered endpoints to be temporarily unregistered and all current active calls to be disconnected. However, the endpoints will re-register again with the full registrations (RRQ) within the default TTL timeout of 60 seconds. All force-online registrants will remain unaffected.
5. **Conference On Demand.** When dialing Conference On Demand from the ViewStation FX interface using the address book (local or Global), PathNavigator will show the bit rate as the bit rate dialed times the number of participants. e.g., a user dials 3 participants using Conference on Demand using 128kbps. The Active Calls will show the initiator dialed with a bit rate of 384kbps. This makes video switching from a ViewStation FX problematic.
6. **Registration.** Intermittently when the ViewStation FX version 5.0 registers to PathNavigator the "Use PathNavigator to Dial Multipoint Call" selection doesn't appear in the ViewStation FX Gatekeeper setup screen. This can be fixed by selecting the ViewStation FX from the Monitor > Endpoints list page and clicking "Unregister" and "Yes."
7. **Installation/Upgrade.** Upgrading from 1.0/1.1 to 5.0 causes the setting for the maximum number of neighbor gatekeeper hop counts to be set to 0. Although this setting was not available in the previous version's user interface, the default neighbor gatekeeper hop counts was 3. After upgrading, the maximum number of neighbor gatekeeper hop counts needs to be reset in the user interface under Configuration > Configurations > Call Policy or the neighbor gatekeeper functionality will not work.
8. **Login to Redundant Server.** Since the setup of a redundant PathNavigator prompts and requires a password during the initial login may result in different passwords between the primary PathNavigator and the redundant PathNavigator. This may cause confusion when logging into the endpoint's gatekeeper IP address and not knowing which PathNavigator is being pointed to. To circumvent this problem and avoid confusion, it is best to have the same login account for both the primary and redundant PathNavigators.
9. **Interoperability issues.** Running BrightStor ARCserve Backup Agent causes the PathNavigator server to render itself inoperable every few hours.

Copyright (c) 2003 Polycom Incorporated. All rights reserved.

Polycom, the Polycom logo design and ViewStation are registered trademarks, PathNavigator, Global Management System, and iPower are trademarks of Polycom, Inc. in the United States and various other countries. All other trademarks are the property of respective owners.

6/12/03