



IBM Software Group

## **z/OS® V1R9 Communications Server**

### ***IBM Configuration Assistant for z/OS Communications Server***



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This presentation describes the new functions in z/OS V1R9 Communications Server Configuration Assistant.

## Enhancing the configuration assistant

- V1R7 – z/OS Network Security Configuration Assistant (NSCA)
  - ▶ IPsec configuration
  - ▶ AT-TLS configuration
- V1R8 – IBM Configuration Assistant for z/OS Communications Server
  - ▶ Added support for:
    - ✓ IDS flat file configuration
    - ✓ QoS configuration
    - ✓ IPsec IPv6, AES encryption, NAT
    - ✓ AT-TLS IPv6
- V1R9
  - ▶ New and changed policy configuration data
  - ▶ Usability improvements
  - ▶ Customer requirements

The GUI was initially available for z/OS V1R7 Communications Server and was named the z/OS Network Security Configuration Assistant (NSCA). For V1R8, the GUI was renamed to the Configuration Assistant since it was enhanced to configure non-security related features.

Communications Server functions can be very complicated and time-consuming to configure by manually creating configuration files. The goal of the configuration assistant is to enable administrators to be able to configure these functions as easily as possible without having to understand the syntax of the configuration files.

## V1R9 configuration assistant - Enhancements

- New and changed policy configuration
  - ▶ Policy based routing (PBR)
  - ▶ Network security services (NSS)
  - ▶ Change to IPSec perfect forward secrecy specification
- Usability and customer requirements
  - ▶ Image and stack orientation across multiple technologies
  - ▶ Protect multi-user edits of the same backing store
  - ▶ Support backing store saved on z/OS
  - ▶ Import and combine V1R7/R8/R9 backing store data

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The configuration assistant supports configuration of many functions. On this slide and the next one are a list of enhancements made to the V1R9 configuration assistant.

Updates to the configuration assistant provide the solution for easier configuration of PBR and NSS. With the addition of these new technologies and to allow for expansion in the future, the configuration assistant was restructured to handle configuration of multiple technologies. Customers expressed concern about storing configuration information on the workstation and protecting against multiple administrators making configuration changes at the same time. These problems have been resolved by allowing the backing store files to be stored on z/OS over FTP and providing a locking mechanism to protect against multiple users making changes at the same time. The V1R8 configuration assistant allows for configuring one technology at a time. This prevents the ability to check for errors across technologies. The V1R9 configuration assistant solves this problem by allowing multiple technologies to be configured at the same time. Also it provides for the import of multiple backing store files from previous releases.

## Enhancements (continued)

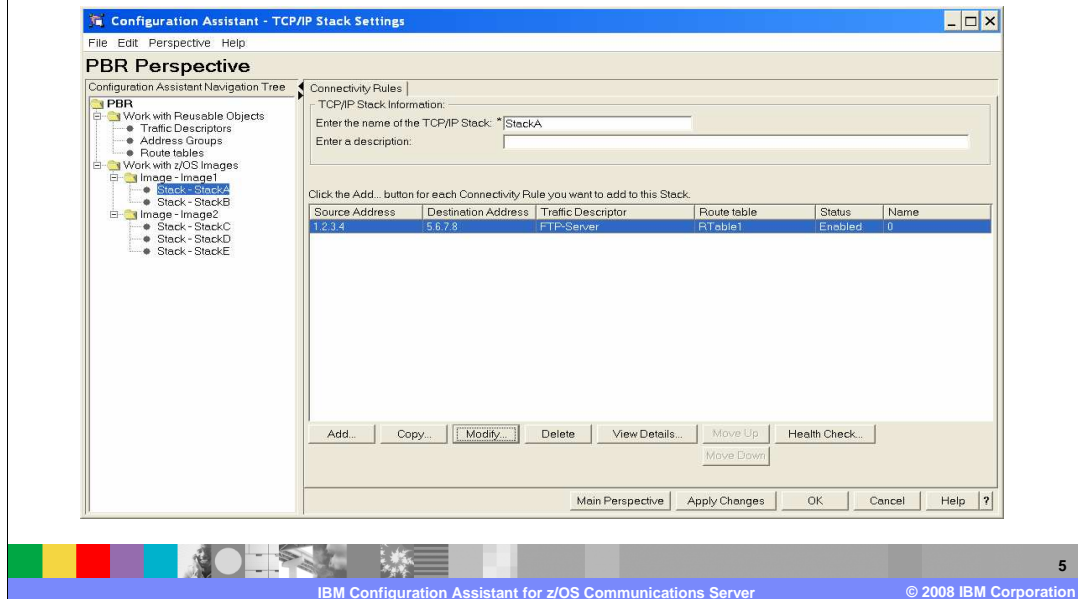
- Usability and customer requirements
  - ▶ Maintain configuration history for audit / tracking
  - ▶ Maintain delivery (FTP) history for audit / tracking
  - ▶ Support active and passive mode FTP
  - ▶ Sort table data
  - ▶ Enable or disable connectivity rules
  - ▶ Continue extensive tutorials
  - ▶ Improved diagnostics including log levels and a detailed FTP log

This slide is a continuation of the previous slide listing all the enhancements in the V1R9 configuration assistant.

Customers have asked for a way to record changes made to configurations. The solution was to add the ability to enter comments to be stored in the backing store files whenever the files are saved. Also comments can now be added to the policy files when the files are delivered using FTP. To resolve problems with firewalls preventing the FTP of configuration files, the configuration assistant now supports both active and passive mode FTP. Most tables in the configuration assistant can now be sorted allowing for easier navigation within large tables. When customers wanted to make a quick configuration change temporarily and then revert back to the original configuration, they needed to remove configuration rules and then re-key them when reverting to the original configuration. In the V1R9 configuration assistant this is resolved by allowing rules to be disabled. When you want to revert to the original configuration, this is easily done by re-enabling the rules. Customers often comment about how much the tutorials have helped them. The configuration assistant includes new tutorials for PBR and NSS. To allow for faster resolution of customer problems, the V1R9 Configuration Assistant provides more detailed logging including a separate log for FTP connections.

## PBR configuration

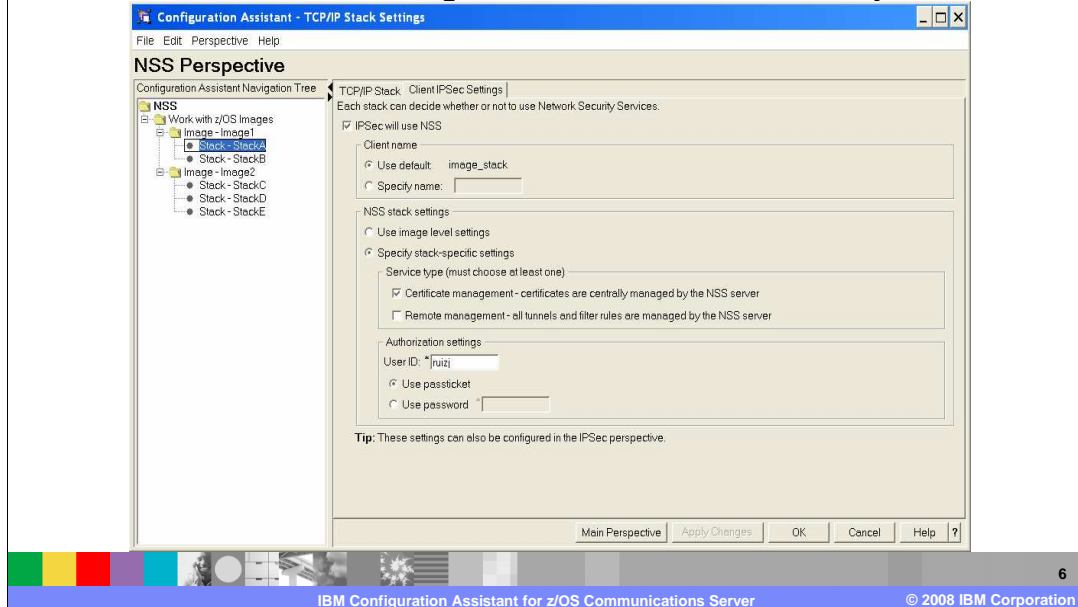
- Produces the flat file configuration for policy based routing



The configuration assistant enables PBR configurations to be created without worry about any of the syntax rules.

## NSS configuration

- Produces flat file configuration for network security services



The configuration assistant enables NSS configurations to be created without worry about any of the syntax rules.

## Health check

- Allow multiple technologies to be configured in one session enabling health checking across technologies.

**Checking the current technology with other technologies**

The following errors were detected between this technology and other technologies for this stack:

**IPSec and QoS Messages**

Table of QoS Connectivity Rules with Traffic Descriptors, Priority Levels, and Traffic Shaping Levels in the order as was defined.

Connectivity Rule	Traffic Descriptor	Priority Level	Traffic Shaping Level	Index	Protocol	Local port	Remote port	Time Condition
0	CICS	Interactive_1	Deny	1	TCP	3000	1024-65535	All times
1.1.1.1 2.2.2.2-2.2.2.4								

**Problem:** QoS and/or IPsec traffic is being denied.  
**Description:** The following traffic types are both configured by QoS and IPsec, but specify conflicting settings: Either the traffic is denied by QoS and protected by IPsec or it is denied by IPsec and permitted by QoS.  
**Solution:** Either change the IPsec Security Level or the QoS Traffic Shaping Level so that it no longer conflicts with each other.

IP Security				Quality of Service				
Connectivity Rule	Traffic Descriptor	Security Level	Index	Image Stack	Connectivity Rule	Traffic Descriptor	Traffic Shaping Level	Index
0	CICS	IPSec_Gold	1	image/stack	0	CICS	Deny	1

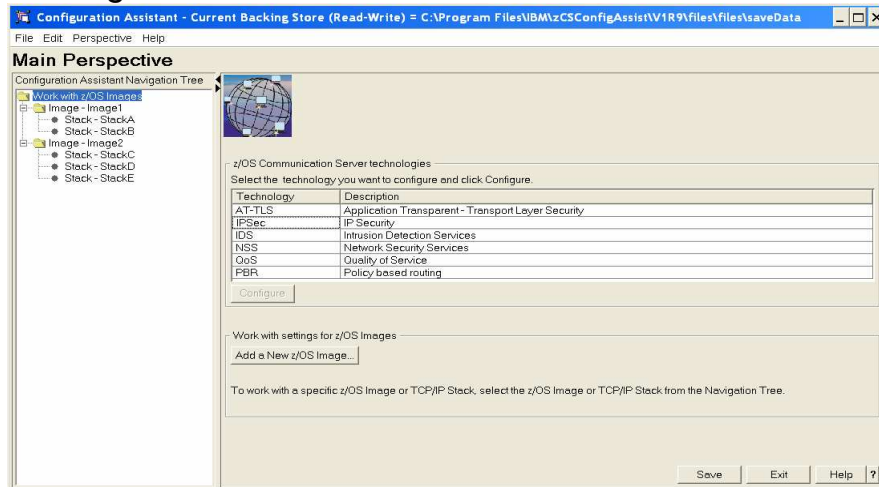
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IBM Configuration Assistant for z/OS Communications Server © 2008 IBM Corporation

Since the configuration assistant allows for multiple technologies to be configured in a single session, the health check feature is able to check for errors and inconsistencies between the configuration of multiple technologies. For example, in this screen capture, the IBM Health Checker for z/OS is warning that the user has configured QoS to deny traffic that IPsec is configured to protect.

## Image and stack orientation

- The new look is centered around the images and stacks to be configured

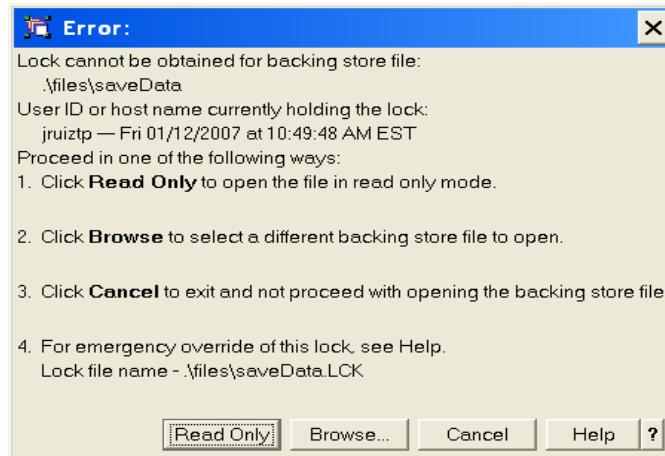


The customer's images and stacks can be defined once and are then available when configuring any of the supported technologies (AT-TLS, IPSec, IDS, NSS, QoS, and PBR).



## Protect multi-user edits

- Locking mechanism to help prevent multiple users from modifying the same backing store file at the same time.

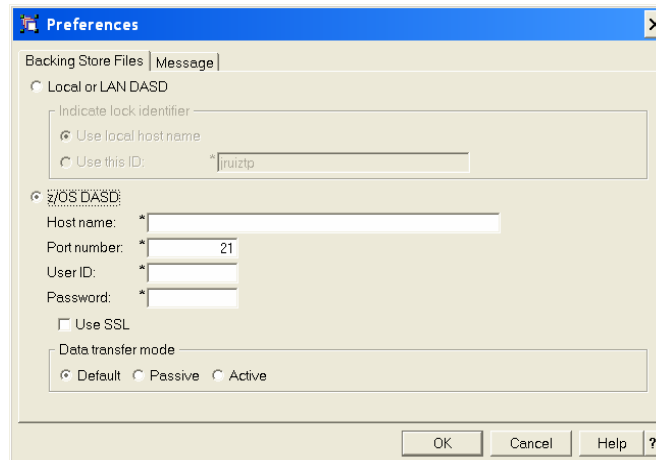


When a backing store file is opened in the configuration assistant, a lock file is created which contains a lock ID value, and the date and time at which the lock file was created. When you specify "Local or LAN DASD" as your preference, you can create a lock ID value of your own or use the host name of the workstation which is running the Configuration Assistant. When you specify "z/OS DASD" as your preference, the lock ID value is the user ID that is used to establish the FTP connection. If needed, the locking mechanism can be circumvented by manually deleting the lock file.

This file locking function has also been added to the V1R7 and V1R8 GUIs.

## Support backing store saved on z/OS

- Allow backing store files to be stored on z/OS DASD by FTP directly from the configuration assistant



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The configuration assistant saves your configuration data in a file called the backing store file. Users can manage different sets of configuration information by keeping them in different backing store files. In V1R9, backing store files can now be stored on z/OS DASD using FTP as well on the local file system. This allows for easier sharing of backing store files between multiple users.

Also added support for both active and passive mode FTP.

## Import

- Multiple V1R7 and V1R8 backing store files can be imported into a single V1R9 backing store file.

Indicate backing store file

Local or shared file

File name: \*

z/OS file

Enter FTP information to receive the file.

Login information

Host name: \*

Port number: \*

User ID: \*

Password: \*   Save password

Use SSL

FTP file including full path

File name and location: \*

Data transfer mode

Default  Passive  Active

Multiple backing store files can be imported in to a single V1R9 backing store file. This can be done for backing store files stored on the local file system or on a z/OS DASD. This is especially useful to run health check across multiple technologies.

## File history for backing store

- Automatic backing store history kept when backing store file is created and saved, when a file is imported, and when flat file configuration is FTPd.

Time Stamp	User Name	Action	Comment
2007-01-12 11:41:09	jrui2p	Install	Image=Image1 Stack=StackA Technology=IDS File=StackA.policy installed to host=home.nc.rr.com FTP user name=jrui2 Comment={8}
2007-01-12 11:36:47	jrui2p	Save As	C:\Program Files\IBM\zCSConfigAssist\VI\R9\files\files\saveData - Modified attack information for IDS
2007-01-11 07:35:05	jrui2p	Install	Image=Image1 Stack=StackA Technology=IDS File=StackA.policy installed to host=home.nc.rr.com FTP user name=jrui2 Comment={8}
2007-01-11 07:32:32	jrui2p	Save As	C:\Program Files\IBM\zCSConfigAssist\VI\R9\files\files\saveData - Imported R8 IPSec configuration and made minor changes
2007-01-11 07:31:39	jrui2p	Import	C:\Program Files\IBM\zCSConfigAssist\VI\R9\files\files\saveData - Imported R8 IPSec configuration and made minor changes
2007-01-10 08:30:10	jrui2p	Save As	C:\Program Files\IBM\zCSConfigAssist\VI\R9\files\files\saveData - Defined Images and Stacks and IDS configuration
2007-01-10 08:27:45	jrui2p	New File	C:\Program Files\IBM\zCSConfigAssist\VI\R9\files\files\saveData

View Details... View Summary...

Limit size of file history

Allow to grow indefinitely

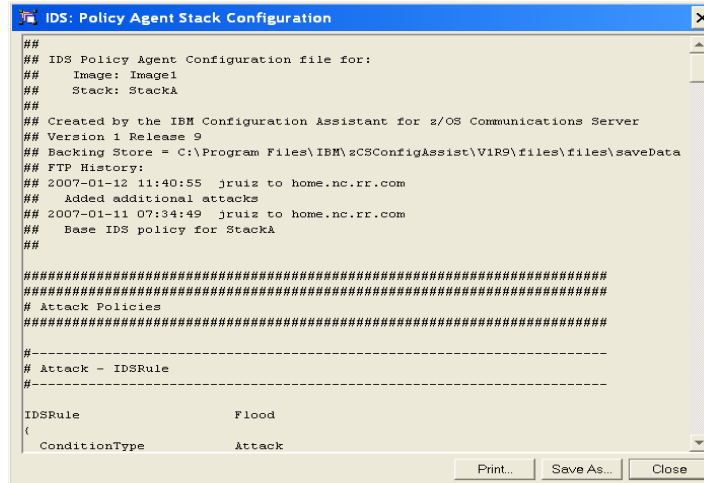
Limit size of history log to  entries

Close Help ?

A common customer requirement was to allow a user to add comments about the changes made to a configuration. Users can now add comments whenever they save a backing store file or FTP the flat file configuration. Here is an example showing user comments during save and FTP, and automatic history entries when the file was created and another backing store file was imported.

## FTP file history

- FTP history information is also stored as comments in the prolog of the configuration flat files.



```
##
## IDS Policy Agent Configuration file for:
## Image: Image1
## Stack: StackA
##
## Created by the IBM Configuration Assistant for z/OS Communications Server
## Version 1 Release 9
## Backing Store = C:\Program Files\IBM\zCSConfigAssist\V1R9\files\files\saveData
## FTP History:
## 2007-01-12 11:40:55 jruiz to home.nc.rr.com
## Added additional attacks
## 2007-01-11 07:34:49 jruiz to home.nc.rr.com
## Base IDS policy for StackA
##
#####
# Attack Policies
#####
-----
# Attack - IDSRule
-----
IDSRule           Flood
(
 ConditionType    Attack
```

The FTP history information is saved as comments in the configuration flat file and corresponds to the history information of the backing store file.

## Table sorting

- Column sort added to most tables; for example, traffic descriptors

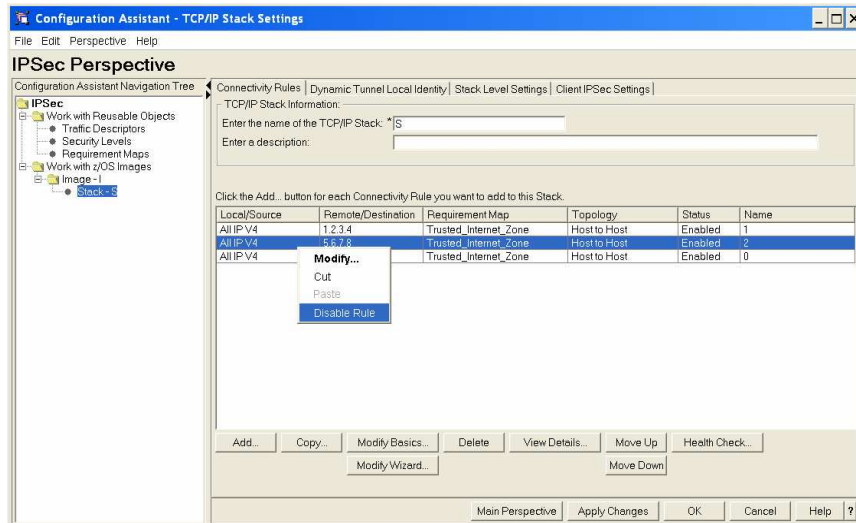
The screenshot shows the 'Configuration Assistant - Traffic Descriptors' window. The main area displays a table titled 'List of all defined Traffic Descriptor objects'. The table has two columns: 'Name' and 'Description'. The 'Name' column header has a small downward-pointing arrow, indicating it is sorted. Below the table are buttons for 'Add...', 'Copy...', 'Modify', 'Delete', 'View Details...', and 'Search...'. The bottom of the window shows 'Main Perspective', 'Close', and 'Help ?' buttons.

Name	Description
Web-SSL	IBM supplied: Web Secure SSL traffic
Web	IBM supplied: Web Server traffic
Trace_Route-IP_V6	IBM supplied: IP V6 ICMP - Trace Route traffic
Trace_Route-IP_V4	IBM supplied: IP V4 ICMP - Trace Route traffic
TN3270-Server	(VERIFY) IBM supplied: TN3270 Server traffic
TN3270-Client	(VERIFY) IBM supplied: TN3270 Client traffic
SNTP	IBM supplied: Simple Network Time Protocol (SNTP) Server
SNMP-Manager	IBM supplied: Simple Network Management Protocol (SNMP) Manager
SNMP-Agent	IBM supplied: Simple Network Management Protocol (SNMP) Agent traffic
SMTP	IBM supplied: Simple Mail Transfer Protocol (SMTP) Server
RSH-Server	IBM supplied: RSH - Remote Shell Server
RSH-Client	IBM supplied: RSH - Remote Shell Client
REXEC-Server	IBM supplied: REXEC - Remote Execution Server
REXEC-Client	IBM supplied: REXEC - Remote Execution Client
Resolver	(VERIFY) IBM supplied: Resolver - connect to DNS Server
Portmap-Server	IBM supplied: Portmap Server traffic
Ping-IP_V6	IBM supplied: IP V6 Ping traffic

Column sort allows you to sort most tables within the configuration assistant by clicking on the column header you want to sort by. The sorting toggles between alphabetic ascending, alphabetic descending and the default sort.

## Enable or disable rules

- Context menu to enable or disable connectivity rules



This solves the requirement to allow for disabling rules temporarily. Individual rules can be disabled without removing them from the configuration. When needed, the rules can be enabled to return to the original configuration.

## Built-in tutorials

- Picture based tutorials built-in
- Separate getting started tutorials for each technology

### Getting Started Tutorial - Routing

estimated review time: 15 minutes

#### Learn to use the Navigation Tree: page 1 of 18

[Next >](#)

[How do I print this tutorial?](#)

Click on the different nodes in the Navigation Tree. A node is a folder (such as "Work with Reusable Objects") or a leaf (such as "Traffic Descriptors") in the Navigation Tree.

Panels specific to the selected node will appear.

Right click on each node to see a menu containing additional actions specific to the selected node.



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The V1R7 and V1R8 GUIs include extensive tutorials. In V1R9, the configuration assistant adds tutorials for learning to configure policy based routing and network security services.



## How to get the configuration assistant

- Download from z/OS Communications Server Web site:

<http://www.ibm.com/software/network/commserver/zos/support/>

- Support is provided on a 'best effort' basis from the Communications Server newsgroup at

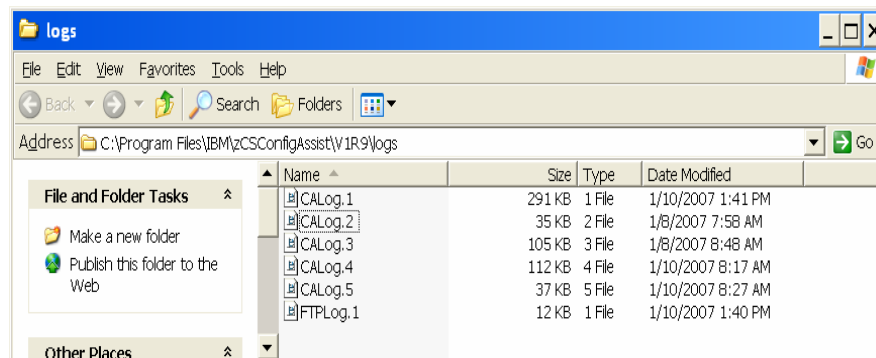
<news://news.software.ibm.com/ibm.software.commserver.os390.ip>



The configuration assistant is available from the download section of the communications server support Web site. Separate versions are available for V1R9, V1R8 and V1R7. Support is provided on a 'best effort' basis from the Communications Server newsgroup at <news://news.software.ibm.com/ibm.software.commserver.os390.ip>

## Diagnosis

- Traces are always running in the GUI
- Last 5 trace files kept in logs directory where GUI is installed
- Separate trace files kept for each FTP session



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Trace information is always available in the CALog.n files where n increments between 1 and 5. The traces are stored in the logs directory where the GUI is installed, the default being C:\Program Files\IBM\zCSCConfigAssisV1R9\logs. Sort by "Date Modified" to determine the log file you need. Detailed trace information about FTP sessions is stored separately in FTPLog.n files where n increments between 1 and 5.

The ca.properties file located in the .files directory can be modified to specify various log settings. This is typically used to provide additional information for debugging specific problems.

## Feedback

### Your feedback is valuable

You can help improve the quality of IBM Education Assistant content to better meet your needs by providing feedback.

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This module is also available in PDF format at: [../ConfigAssist.pdf](http://../ConfigAssist.pdf)



You can help improve the quality of IBM Education Assistant content by providing feedback.

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