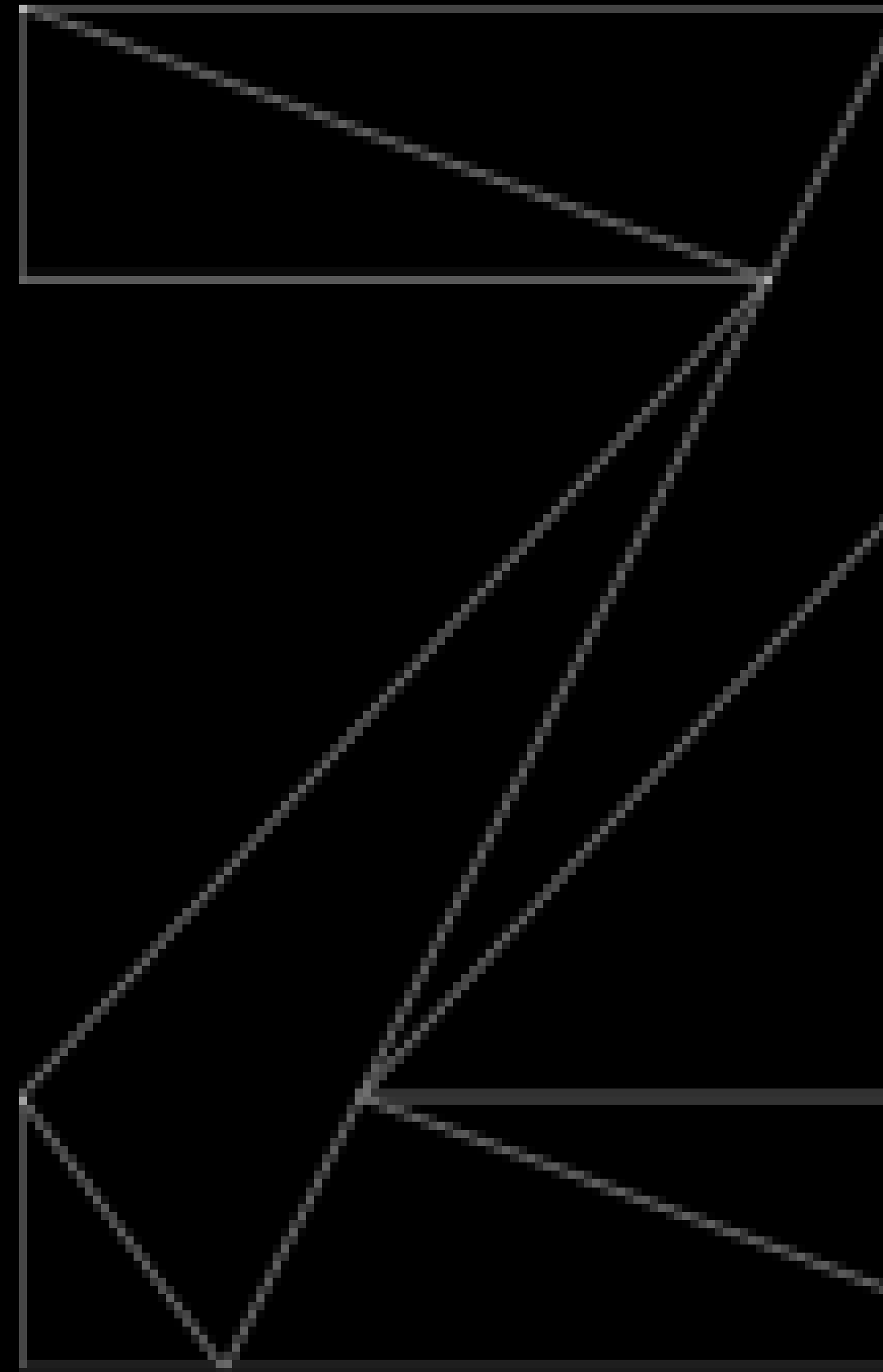

TCP/IP Configuration Basics

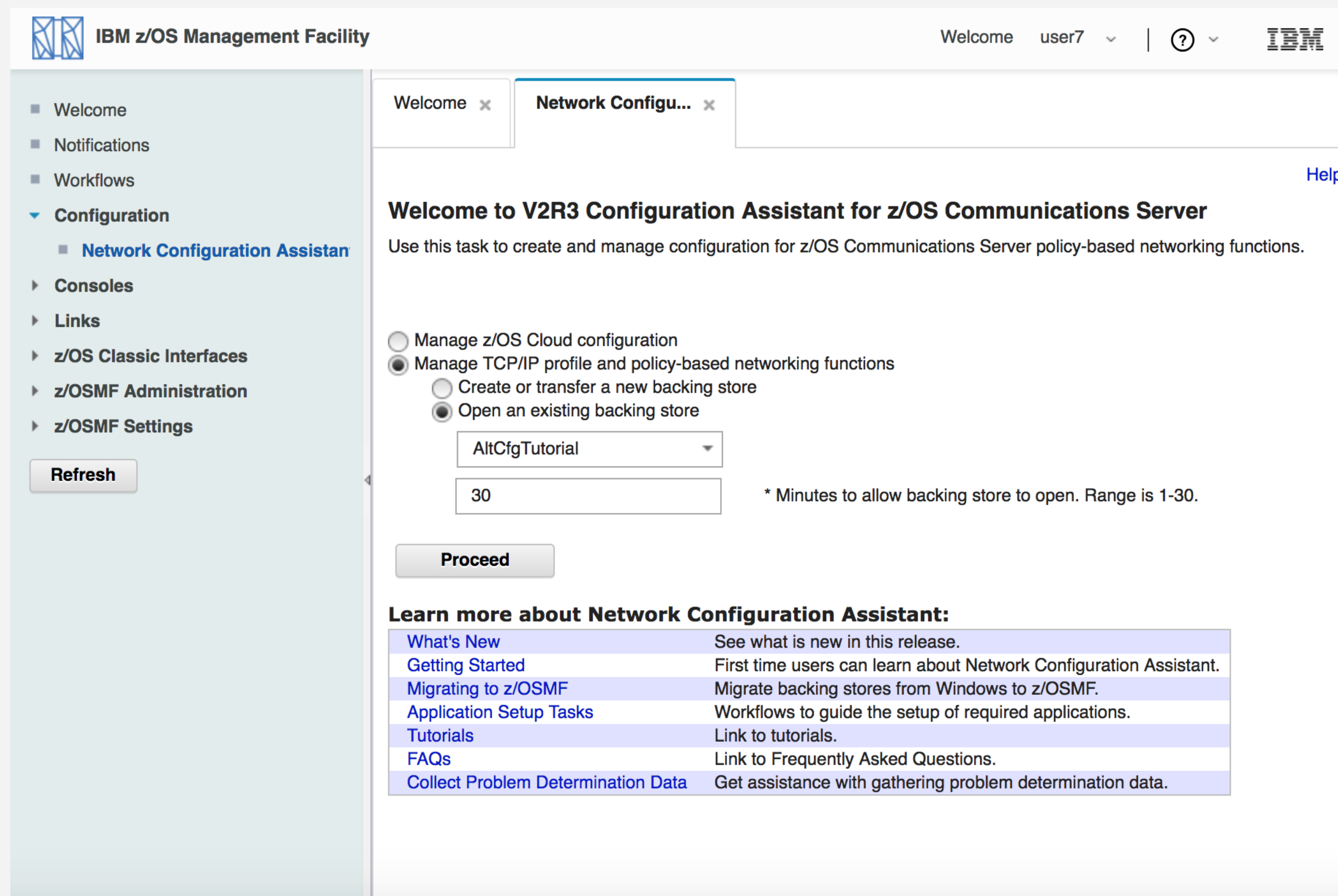
IBM Z





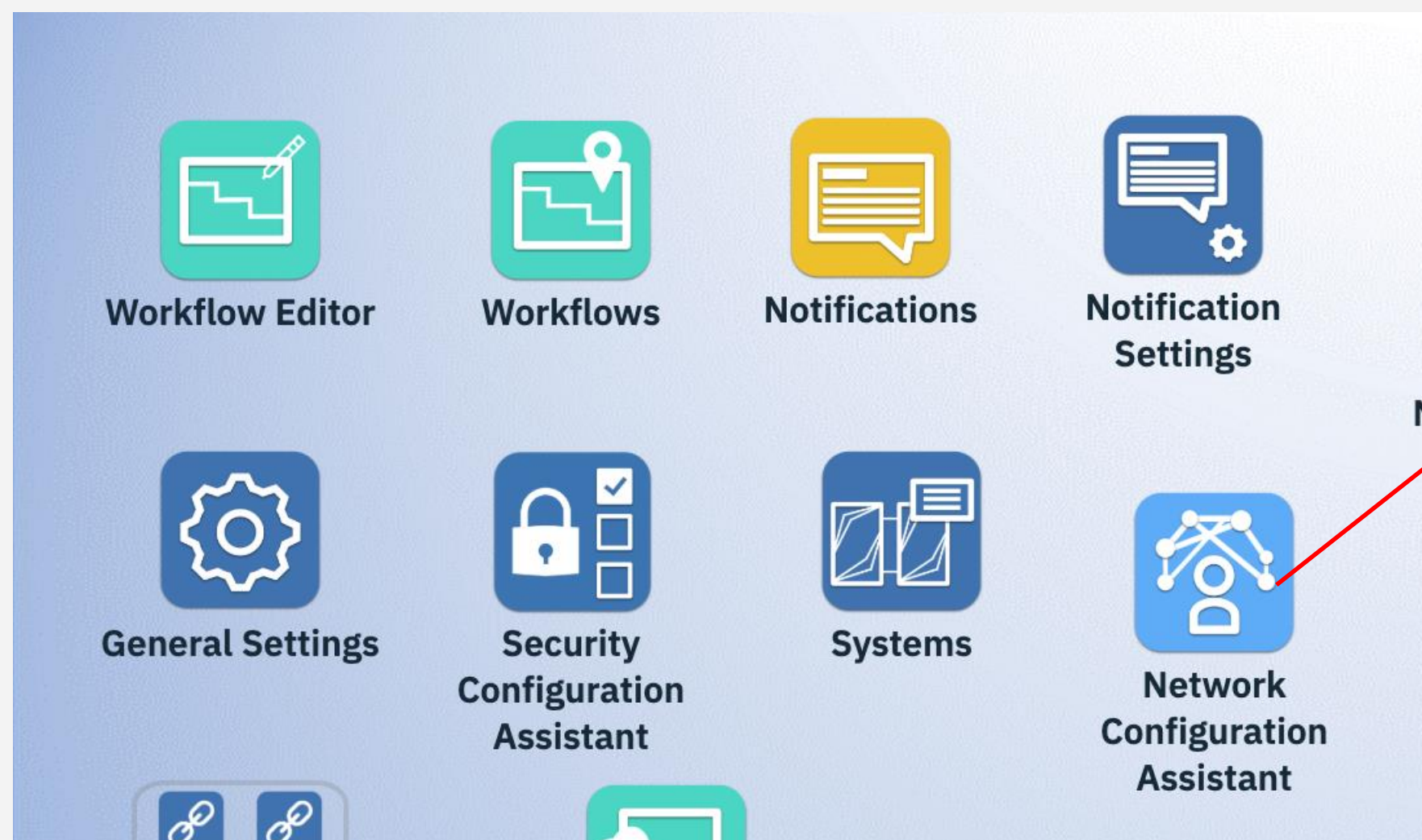
BACKGROUND ON NETWORK CONFIGURATION ASSISTANT

Network Configuration Assistant is a z/OSMF plug-in (navigation tree view)



- You access the Network Configuration Assistant under the “Configuration” header in the z/OSMF navigation pane.
- This gets you to the Network Configuration Assistant opening screen shown here, where you open or create your backing store.
 - Backing store is the configuration data file used by Network Configuration Assistant, in which it persists the configuration you’ve created in its own binary format.

Network Configuration Assistant: z/OSMF desktop view



Network Configuration Assistant

Help

Welcome to V2R4 Configuration Assistant for z/OS Communications Server

Use this task to create and manage configuration for z/OS Communications Server policy-based networking functions.

☐ Manage z/OS Cloud configuration

☒ Manage TCP/IP profile and policy-based networking functions

☐ Create or transfer a new backing store

☒ Open an existing backing store

MJF_DEMO

1

* Minutes to allow backing store to open. Range is 1-30.

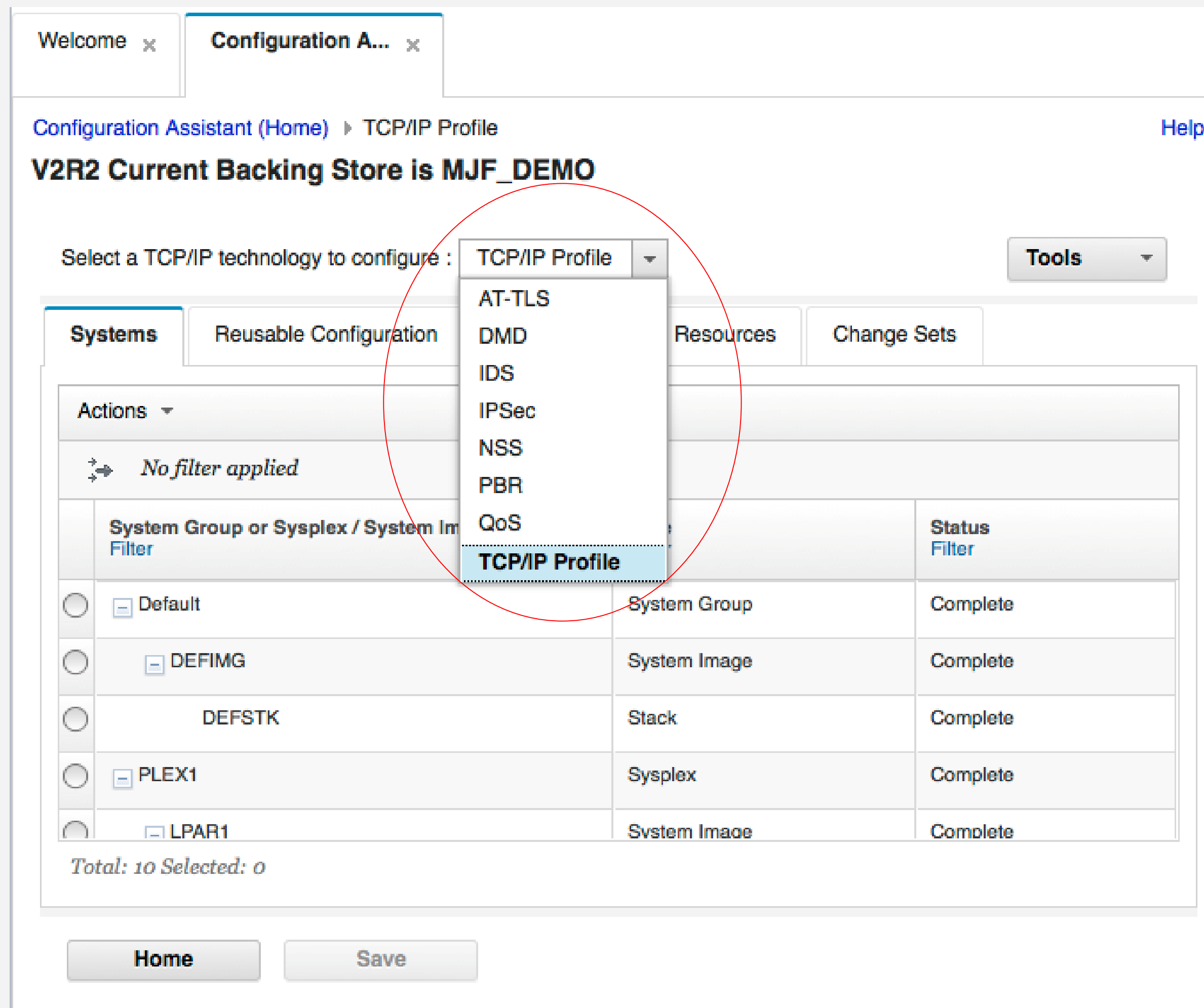
Proceed

Learn more about Network Configuration Assistant:

What's New	See what is new in this release.
Getting Started	First time users can learn about Network Configuration Assistant.
Migrating to z/OSMF	Migrate backing stores from Windows to z/OSMF.
Application Setup Tasks	Workflows to guide the setup of required applications.
Tutorials	Link to tutorials.
FAQs	Link to Frequently Asked Questions.
Collect Problem Determination Data	Get assistance with gathering problem determination data.

In the z/OSMF desktop view, access Network Configuration Assistant by double clicking its icon.

Technologies configured by the Network Configuration Assistant



This screen capture shows the TCP/IP technologies that Network Configuration Assistant configures

- The first seven in the list are policy-based security and routing technologies that have been supported in the Network Configuration Assistant since its beginning. They are not the focus of this lesson.
- The last one, TCP/IP profile, is the focus of this lesson.

The systems tree

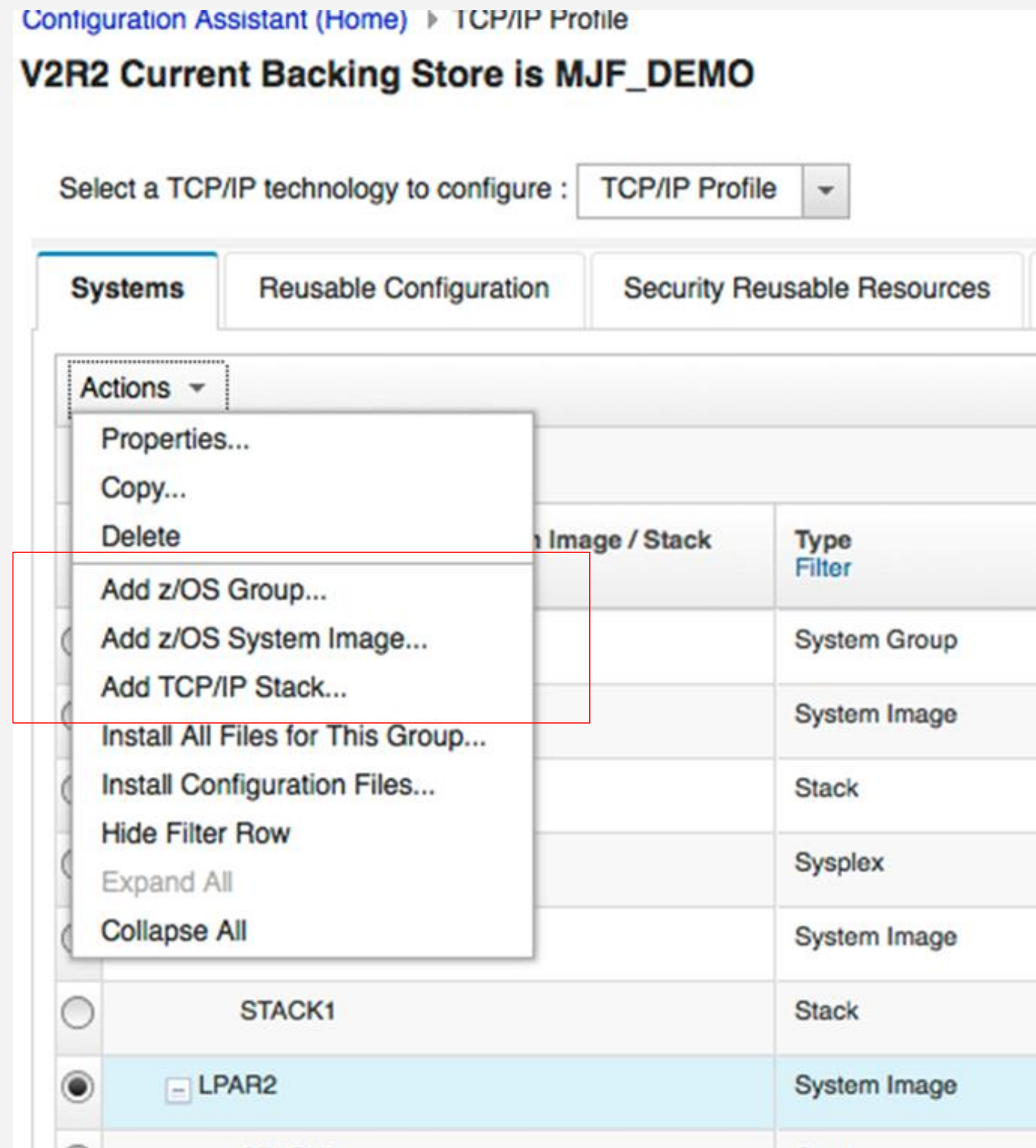
The screenshot shows the IBM Z Configuration Assistant interface. At the top, there are tabs for 'Welcome' and 'Configuration Assistant (Home)'. Below the tabs, the breadcrumb 'Configuration Assistant (Home) > TCP/IP Profile' is visible, along with a 'Help' link. The main heading is 'V2R2 Current Backing Store is MJF_DEMO'. Below this, there is a dropdown menu to 'Select a TCP/IP technology to configure' set to 'TCP/IP Profile', and a 'Tools' button. The 'Systems' tab is selected, showing a table of system elements. The table has columns for 'System Group or Sysplex / System Image / Stack', 'Type', and 'Status'. The 'Default' system group is selected. Below the table, it says 'Total: 10 Selected: 1'. At the bottom, there are 'Home' and 'Save' buttons.

System Group or Sysplex / System Image / Stack	Type	Status
Default	System Group	Complete
DEFIMG	System Image	Complete
DEFSTK	Stack	Complete
PLEX1	Sysplex	Complete
LPAR1	System Image	Complete
STACK1	Stack	Complete
LPAR2	System Image	Complete
STACK2	Stack	Complete
LPAR3	System Image	Complete
STACK3	Stack	Complete

The systems tree defines the layout of your system... sysplexes, z/OS images, and TCP/IP stacks

- You create this by adding elements using the **Actions** pull-down menu.
- This tree is shared by all of the technologies that are configured in the backing store.
- To configure a stack, sysplex, or image, you select it and select **Actions->Configure**.
 - Which configuration options are then available depends on what technology you are configuring (i.e., TCP/IP Stack, AT-TLS, QoS, etc)

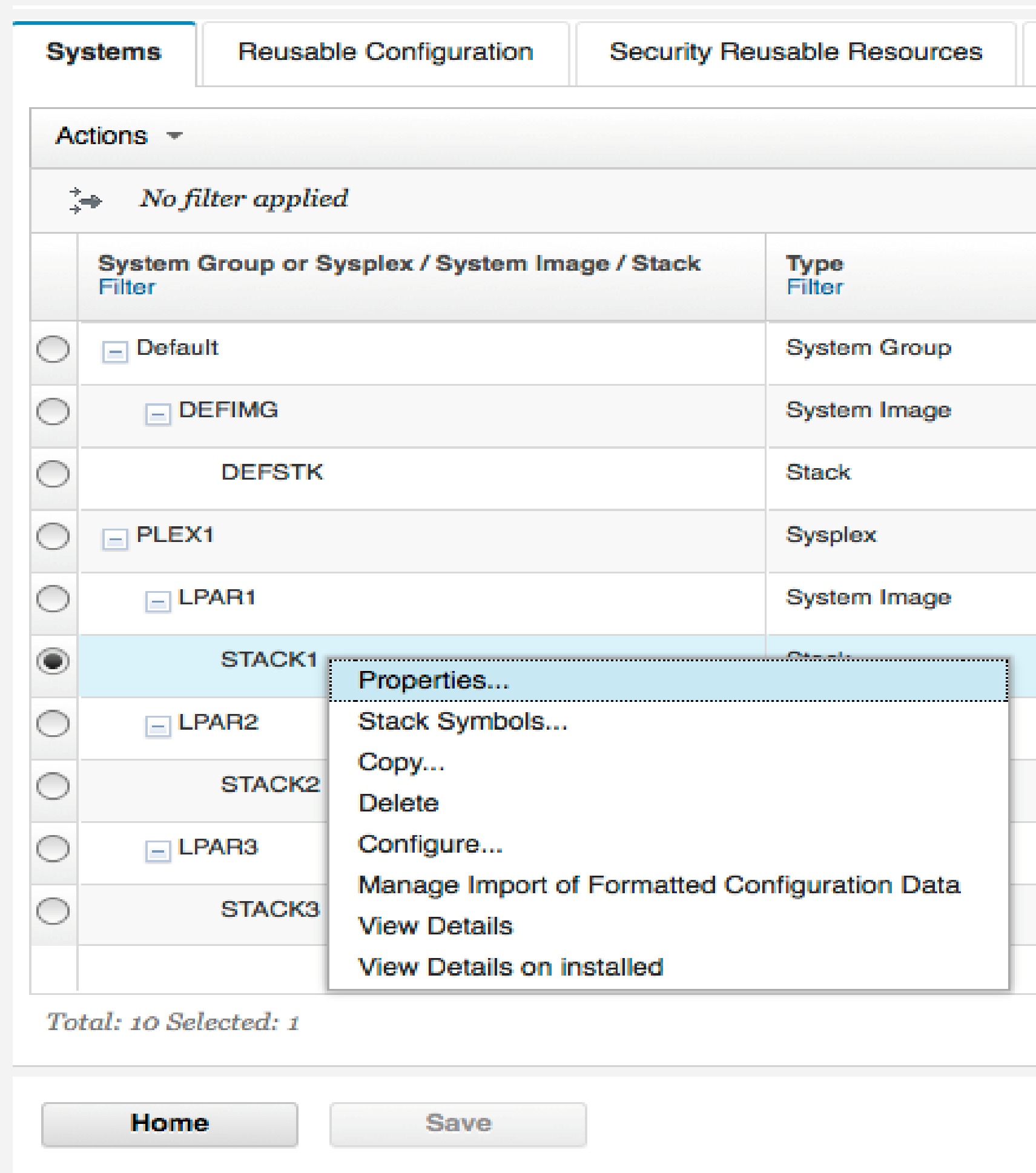
Systems tree, continued



In the example to the left, z/OS image LPAR2 is selected, and then the **Actions** menu is pulled down. From here the user can:

- Create a new sysplex (“z/OS Group”)
- Create a new z/OS image in the sysplex that LPAR2 belongs to
- Create a new stack on LPAR2

Systems tree, continued



In this example, the user has selected STACK1 on LPAR1. He or she can then either pull down the **Actions** menu or, as in this example, right-click on the stack, to take specific actions.

- Other actions will be discussed later, but clicking “Configure” here will allow the user to edit the stack’s configuration
 - This logic works in all technologies. In TCP/IP technology, the stack’s profile would be configured. In IPSEC technology, the stack’s filter rules would be configured, etc.

Getting help

Welcome x Configuration Assistant x

Configuration Assistant (Home) > TCP/IP Profile

V2R2 Current Backing Store is MJF_DEMO

Select a TCP/IP technology to configure : TCP/IP Profile Tools

Systems Reusable Configuration Security Reusable Resources Change Sets

Actions

No filter applied

System Group or Sysplex / System Image / Stack Filter	Type Filter	Status Filter	Install Status	Release Filter
<input type="radio"/> Default	System Group	Complete		
<input type="radio"/> DEFIMG	System Image	Complete	Not applicable	V2R2
<input type="radio"/> DEFSTK	Stack	Complete	Needs install	V2R2

IBM Knowledge Center

Enter search terms

Table of Contents

z/OS Management Facility 2.2.0

Welcome

Getting started with z/OSMF

Notifications

Workflows

Workflow Editor

Cloud Provisioning

Links

Performance

Problem Determination

Software

z/OS Classic Interfaces

z/OSMF Administration

z/OSMF Settings

Tools and techniques for troubleshooting

z/OSMF messages

Configuration Assistant task

Search Results

TCP/IP Systems Actions

Click Select Technology to change technology perspective to configure policies.

Click Tools to manage backing store files, set preferences, view history or set the log level.

Click Actions > Add z/OS Group to create a new z/OS group.

Click Actions > Add z/OS System Image to create a new z/OS image.

Click Actions > Add TCP/IP Stack to create a new TCP/IP stack.

Click Actions > Stack Symbols to work with stack symbols for a selected stack.

Click Actions > Configure to configure the TCP/IP Stack resources for the selected stack or manage reusable configuration.

Click Actions > Configure sysplex networking to configure the TCP/IP sysplex resources for the selected stack.

Click Actions > Manage Import of Formatted Configuration Data to import an exported TCP/IP profile into the selected TCP/IP stack, possibly including one or more Reusable Configurations to associate with the selected TCP/IP Stack.

Click Actions > View Details for the selected group or stack.

Click Actions > View Details on Installed to display details for the installed TCP/IP resources.

Click Actions > Install All Files for This Group to transfer the configuration files for TCP/IP for all images and stacks to a z/OS system for the selected group.

Click Actions > Install Configuration Files to transfer the configuration files for the selected image or stack to a z/OS system.

Click Actions > Properties to modify the selected group, image or stack.

Welcome

Getting started with z/OSMF

Notifications

Workflows

Workflow Editor

Cloud Provisioning

Links

Performance

Problem Determination

Software

z/OS Classic Interfaces

z/OSMF Administration

z/OSMF Settings

Tools and techniques for troubleshooting

z/OSMF messages

Configuration Assistant task

Welcome

Creating or transferring a new backing store

What's New In This Release

Overviews

Tutorials

Frequently Asked Questions

Perspectives

Saving Backing Stores

Preferences

Import Policy Data

Discover Stack Local Addresses

History

Collect Problem Determination Information

Tutorials

Getting Started

AT/TLS: Getting Started

IPSec: Getting Started

IDS: Getting Started

QoS: Getting Started

PBR: Getting Started

NSS: Getting Started

TCP/IP: Getting Started

Cloud: Getting Started

Configuration Assistant - Additional Tutorial

AT-TLS - Additional Tutorials

IDS - Additional Tutorials

IPSec - Additional Tutorials

QoS - Additional Tutorials

PBR - Additional Tutorials

TCP/IP - Additional Tutorials

Frequently Asked Questions

TCP/IP - Additional Tutorials

How to find and configure resources?

page 2 – Locating resources

page 3 – Configuring global properties

Importing your existing TCP/IP profile in

page 2 - Exporting an existing TCP/IP co

page 3 - Importing formatted TCP/IP co

pages 4 - Actions that might be required

page 5 - CA System Symbols and impor

How to configure interfaces?

page 2 – Configuring IPv4 Ethernet LAN

page 3 – Configuring IPv4 Ethernet LAN

How to configure ports?

How to configure routes?

How to configure IP filter reusable rule?

How to configure IP filter rules?

page 2 – Configuring a new IP filter rule

page 3 – Configuring IP filter rule using

Why did Manage Reusable Configuratio

Introduction to CA system symbols

page 2 - Creating CA System Symbols

page 3 - Resolving and managing CA sy

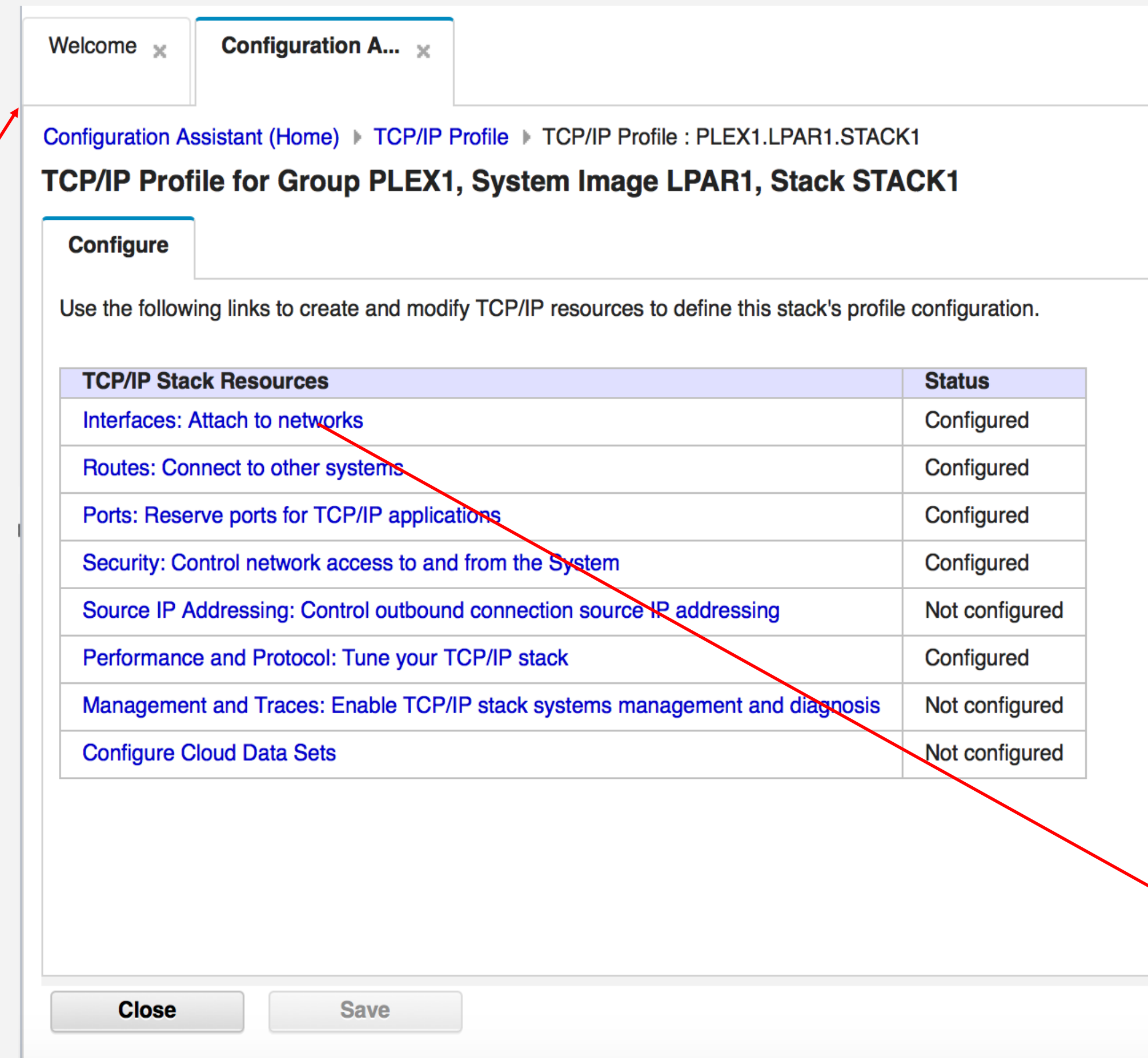
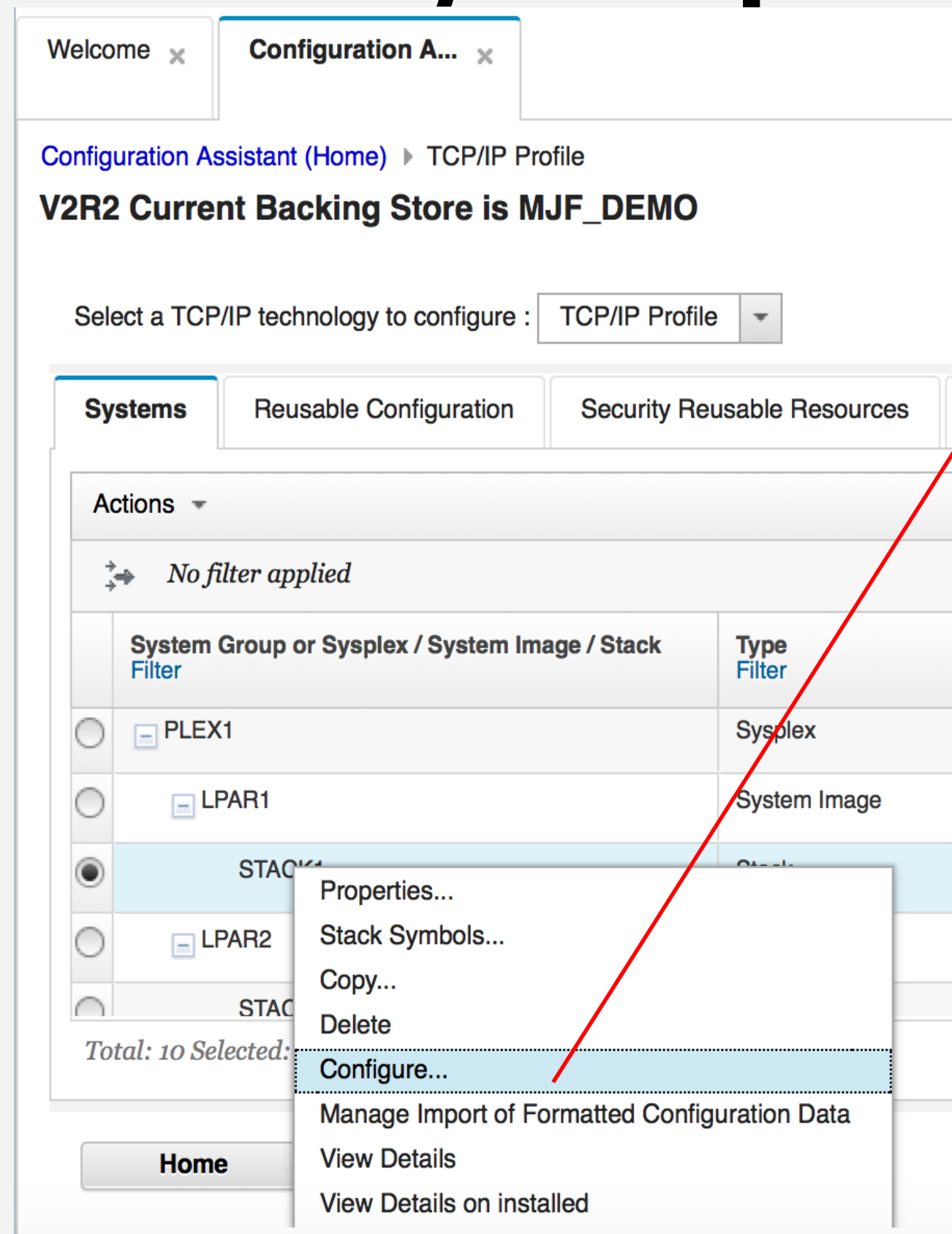
page 4 - Managing CA system symbols

Extensive tutorials are provided in the helps for Network Configuration Assistant.



TCP/IP PROFILE TECHNOLOGY

TCP/IP profile basics



- The TCP/IP profile technology allows you to configure a complete TCP/IP profile.
- The configuration tasks are grouped into logical task areas.
- In this example you will see how to define an OSA ethernet interface to a stack.

This path allows you to configure stack-specific resources. Sysplex and reusable resources will be discussed later.

Next page

TCP/IP profile example: defining a TCP/IP interface

Welcome xConfiguration A... x

Configuration Assistant (Home) > TCP/IP Profile > TCP/IP Profile : PLEX1.LPAR1.STACK1 > Network Interfaces

Define Network Interfaces

Interfaces

Actions

View Details

Modify...

Copy...

Delete

Show Where Used

New...

Hide Filter Row

Clear Sorts

	Origin Reusable Configuration Filter	Type Filter	IP Address Filter	Source VIPA Filter	VLAN ID Filter	Status Filter
<input type="radio"/>	SVIPAS	VIRTUAL	4.4.4.1 (4.4.4.&HOST.)			✓
<input type="radio"/>	OSA1	IPAQENET/OSD	5.5.5.1/24	VIPA1		✓
<input type="radio"/>	VIPA7	SVIPAS	1.11.7.5 (1.11.7.&SYM1.)			✓

Total: 3 Selected: 0

Close

Save

Select **Actions** and select **New** to create a new TCP/IP interface definition.

Next page

TCP/IP profile example: defining a TCP/IP interface

The image displays two sequential screenshots of the IBM Z Configuration Assistant (CA) interface, illustrating the process of defining a new TCP/IP interface.

Left Screenshot: New Network Interface

- Navigation:** Configuration Assistant (Home) > TCP/IP Profile > TCP/IP Profile : PLEX1.LPAR1.STACK1 > Network Interfaces > Interface
- Section:** New Network Interface
- Left Panel:** Name and Type (selected), Connectivity, Additional Properties
- Form Fields:**
 - Name:** OSA11 (circled in red)
 - Description:** (empty text box)
 - Select the type of network interface:**
 - ☐ Static Virtual IP Address (VIPA)
 - ☒ Ethernet LAN (OSA CHPID type OSD) (circled in red)
 - ☐ HiperSockets
 - ☐ Intra-Ensemble Data Network (OSA CHPID type OSX)
 - ☐ MPCPTP - High Performance Data Transfer (HPDT)
 - ☐ Channel-to-Channel (CTC)
 - ☐ LAN Channel Station (LCS)
 - Select the IP address type of network interface:**
 - ☒ IPv4 interface (circled in red)
 - ☐ IPv6 interface
- Buttons:** < Back, Next > (highlighted with a red arrow), Finish, Cancel

Right Screenshot: New Network Interface OSA11

- Navigation:** Configuration Assistant (Home) > TCP/IP Profile > TCP/IP Profile : PLEX1.LPAR1.STACK1 > Network Interfaces > Interface
- Section:** New Network Interface OSA11
- Left Panel:** Name and Type (checked), Connectivity (selected), Additional Properties
- Form Fields:**
 - Connectivity:**
 - IPv4 address:** 9.34.56.11 (circled in red)
 - Subnet prefix length:** 24 (circled in red) (bits) Range is 0 - 32.
 - PORT name from the TRLE definition:** PORT11 (circled in red)
 - ☐ Virtual LAN Identifier (VLAN ID) (disabled)
 - ☐ The adapter should register this VLAN ID with the switch
 - Source VIPA interface:** No virtual interface selected
- Buttons:** < Back, Next > (highlighted with a red arrow), Finish, Cancel

Enter basic characteristics of the interface and its connectivity information.

Next page

TCP/IP profile example: defining a TCP/IP interface

Welcome x

Configuration A... x

Configuration Assistant (Home) > TCP/IP Profile > TCP/IP Profile : PLEX1.LPAR1.STACK1 > Network Interfaces > Interface

New Network Interface OSA11

✓ Name and Type

✓ Connectivity

➔ Additional Properties

Additional Properties

Use the Advanced Settings link to set interface properties for:

- Virtualization
- Performance
- Other miscellaneous settings

IBM provides the recommended, best practice configuration for these properties.

[Advanced Settings...](#)

☒ The interface should be automatically started

< Back

Next >

Finish

Cancel

Define Network Interfaces

Interfaces

Actions							
No filter applied							
	Name Filter	Origin Reusable Configuration Filter	Type Filter	IP Address Filter	Source VIPA Filter	VLAN ID Filter	Status Filter
<input type="radio"/>	VIPA1	SVIPAS	VIRTUAL	4.4.4.1 (4.4.4.&HOST.)			✓
<input checked="" type="radio"/>	OSA11		IPAQENET/OSD	9.34.56.11/24			✓
<input type="radio"/>	OSA1		IPAQENET/OSD	5.5.5.1/24	VIPA1		✓
<input type="radio"/>	VIPA7	SVIPAS	VIRTUAL	1.11.7.5 (1.11.7.&SYM1.)			✓

After you click **Finish** on the interface definition wizard, you can see the new interface in the interface table.

TCP/IP profile example: default local host

Welcome x Network Configu... x

Network Configuration Assistant (Home) TCP/IP Profile TCP/IP Profile : PLEX1.LPAR1.STACK1 Network Interfaces

Define Network Interfaces

Global Settings and Configuration Status

Settings	Status
Global Interface Properties	Configured
Define Loopback Addresses (IPv4 or IPv6)...	Not configured
* Default local host...	Incomplete (Only required when an IPv4 interface is defined)

Interfaces

Actions

No filter applied

Name Filter	Origin Reusable Configuration Filter	Type Filter	IP Address Filter	Source VIPA Filter	VLAN ID Filter
<input type="radio"/> OSA1		IPAQENET/OSD	5.5.5.1/24	VIPA1	
<input type="radio"/> VIPA1	osas	VIRTUAL	4.4.4.1 (4.4.4.&HOST.)		

Welcome x Network Configu... x

Network Configuration Assistant (Home) TCP/IP Profile TCP/IP Profile : PLEX1.LPAR1.STACK1 Network Interfaces Default Local Host

Default Local Host

Specify which interface is to be designated as default local host:

No interface selected

No interface selected

OSA1

VIPA1

VIPA7

OK Cancel Reset

If there are IPv4 interfaces defined, you must choose which one is the default local host. This is the interface whose address is returned by gethostid() calls. Until you make this selection, the configuration will be incomplete and not installable.

This is required because unlike with the flat file TCP/IP profile, there is no “first” interface in the profile that can serve as the default.

Welcome x

Configuration A... x

Configuration Assistant (Home) ▶ TCP/IP Profile

V2R2 Current Backing Store is MJF_DEMO

Select a TCP/IP technology to configure : TCP/IP Profile ▾

Systems

Reusable Configuration

Security Reusable Resources

Actions ▾

Properties...

Stack Symbols...

Copy...

Delete

Configure...

Manage Import of Formatted Configuration Data

View Details

View Details on installed

Add z/OS Group...

Add z/OS System Image...

Add TCP/IP Stack...

Install All Files for This Group...

Install Configuration Files...

Hide Filter Row

Expand All

Collapse All

	Type	Filter
<input type="radio"/>	System Group	
<input type="radio"/>	System Image	
<input type="radio"/>	Stack	
<input type="radio"/>	Stack	
<input type="radio"/>	Stack	
<input type="radio"/>	Stack	
<input type="radio"/>	Stack	
<input type="radio"/>	Stack	
<input type="radio"/>	Sysplex	
<input type="radio"/>	System Image	
<input checked="" type="radio"/>	STACK1	Stack
<input type="radio"/>	LPAR2	System Image
<input type="radio"/>	STACK2	Stack

Total: 15 Selected: 1

Home

Save

Configuration Assistant (Home) > TCP/IP Profile > Configuration Files

List of Configuration Files for Stack STACK1 In Group PLEX1

List of Configuration Files for Stack STACK1 In Group PLEX1

Actions ▾

Stack	Configuration	File Name	Host Name	Last Install
● STACK1	TCP/IP Profile...	'USER1.TCPPARMS(STACK1)'		2017-02-14 12:41:18

Show Configuration File...
Install...

Total: 1 Selected: 1

Close Save

Installing the configuration means generating the TCP/IP profile and putting it in place, to be read next time the stack starts. You can either save it to the file system of the image that z/OSMF is running on, or FTP it to another image.

Welcome x

Configuration Assistant x

Configuration Assistant (Home) > TCP/IP Profile > Configuration Files > Install

Install File

* Install file name:

'USER1.TCPPARMS(STACK1)'

Select installation method

☒ Save to disk

☐ FTP

FTP information

* Host name:

* Port number:

21

* User ID:

* Password: ☒ Save password

☐ Use SSL

☐ Create the directories if they do not exist

Data transfer mode

☒ Default ☐ Passive ☐ Active

Comment for the configuration file prologue (optional)

Selecting the GO button will do an automatic save of the backing store before the install.

Go

Close

View FTP Log



Viewing the generated configuration

Welcome x Configuration A... x

Configuration Assistant (Home) > TCP/IP Profile > Configuration Files

List of Configuration Files for Stack STACK1 In Group PLEX1

List of Configuration Files for Stack STACK1 In Group PLEX1

Actions

Show Configuration File...
Install...

	ation	File Name	Host Name
<input checked="" type="radio"/>	STACK1	TCP/IP Profile	'USER1.TCPPARMS(STACK1)'

Total: 1 Selected: 1

Close

Save

Welcome x Configuration A... x

Configuration Assistant (Home) > TCP/IP Profile > Configuration Files > Configuration File

Configuration File

Close

Printable page

```
..
..
:: TCP/IP Profile Configuration file for:
::   Image: LPAR1
::   Stack: STACK1
..
:: Created by the IBM Configuration Assistant for z/OS Communications Server
:: Version 2 Release 2
:: Backing Store = MJF_DEMO
:: Install History:
:: 2017-02-14 12:41:18 : Save To Disk
:: 2017-02-09 16:15:02 : Save To Disk
:: 2017-02-02 10:59:19 : Save To Disk
:: 2017-02-02 10:41:54 : Save To Disk
:: 2017-01-27 17:47:00 : Save To Disk
:: 2017-01-27 17:25:21 : Save To Disk
:: 2017-01-26 15:48:56 : Save To Disk
:: 2017-01-11 16:28:17 : Save To Disk
:: 2017-01-03 17:18:15 : Save To Disk
:: 2016-12-01 12:15:38 : Save To Disk
:: 2016-11-14 12:34:39 : Save To Disk
:: 2016-11-09 08:46:12 : Save To Disk
:: 2016-11-08 16:50:39 : Save To Disk
:: End of Configuration Assistant information
INTERFACE VIPA1
DEFINE VIRTUAL
IPADDR 4.4.4.1
:: END OF INTERFACE STATEMENT
INTERFACE VIPA7
DEFINE VIRTUAL
IPADDR 1.11.7.5
:: END OF INTERFACE STATEMENT
INTERFACE OSA11
DEFINE IPAQENET
CHPIDTYPE OSD
PORTNAME PORT11
IPADDR 9.34.56.11/24
INBPERF DYNAMIC NOWORKLOADQ
VMAC ROUTEALL
SMCR
SMCD
READSTORAGE GLOBAL
NOMONSYSPLEX
NODYNVLANREG
NOOLM
NOISOLATE
:: END OF INTERFACE STATEMENT
START_OSA11
INTERFACE OSA1
DEFINE IPAQENET
CHPIDTYPE OSD
PORTNAME PORT11
```

Close

Back to Top

This example shows how to view the generated TCP/IP profile from the install panel for a stack. The OSA11 interface we created earlier is highlighted.

Where can I find <TCP/IP profile statement> in the NCA panels?

Table of Contents

Configuration Assistant task

Welcome

Creating or transferring a new backing store

What's New In This Release

Overviews

Tutorials

- Getting Started
- AT/TLS: Getting Started
- IPSec: Getting Started
- IDS: Getting Started
- QoS: Getting Started
- PBR: Getting Started
- NSS: Getting Started
- TCP/IP: Getting Started
- Cloud: Getting Started
- Configuration Assistant - Additional Tutorial
- AT-TLS - Additional Tutorials
- IDS - Additional Tutorials
- IPSec - Additional Tutorials
- QoS - Additional Tutorials
- PBR - Additional Tutorials
- TCP/IP - Additional Tutorials**

Table of Contents

PBR - Additional Tutorials

TCP/IP - Additional Tutorials

- How to find and configure resources?
- page 2 – Locating resources**
- page 3 – Configuring global properties
- Importing your existing TCP/IP profile in
- page 2 - Exporting an existing TCP/IP co
- page 3 - Importing formatted TCP/IP cor
- pages 4 - Actions that might be required
- page 5 - CA System Symbols and impor
- How to configure interfaces?
- page 2 – Configuring IPv4 Ethernet LAN
- page 3 – Configuring IPv4 Ethernet LAN
- How to configure ports?
- How to configure routes?
- How to configure IP filter reusable rule?
- How to configure IP filter rules?
- page 2 – Configuring a new IP filter rule

Search Results

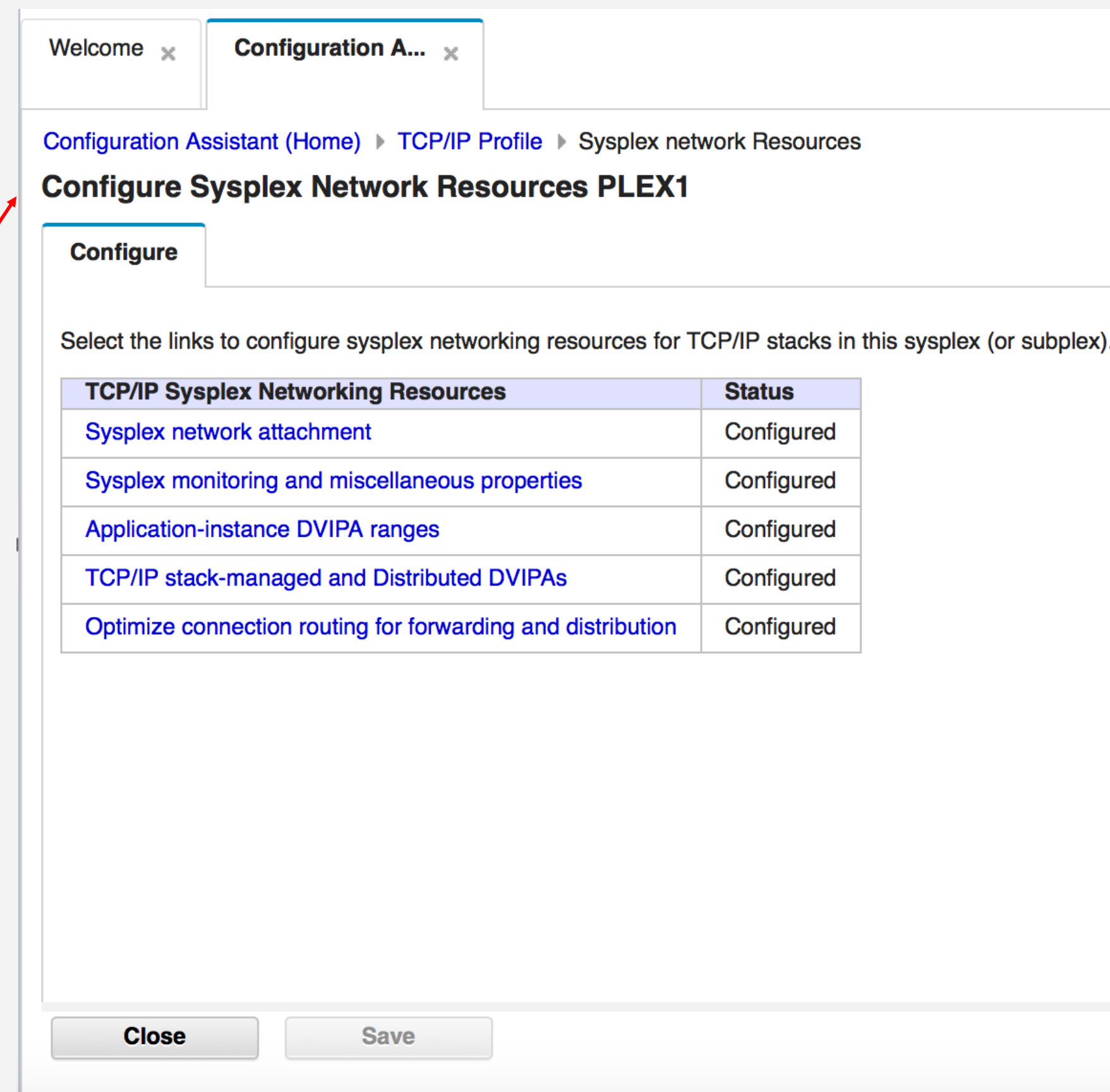
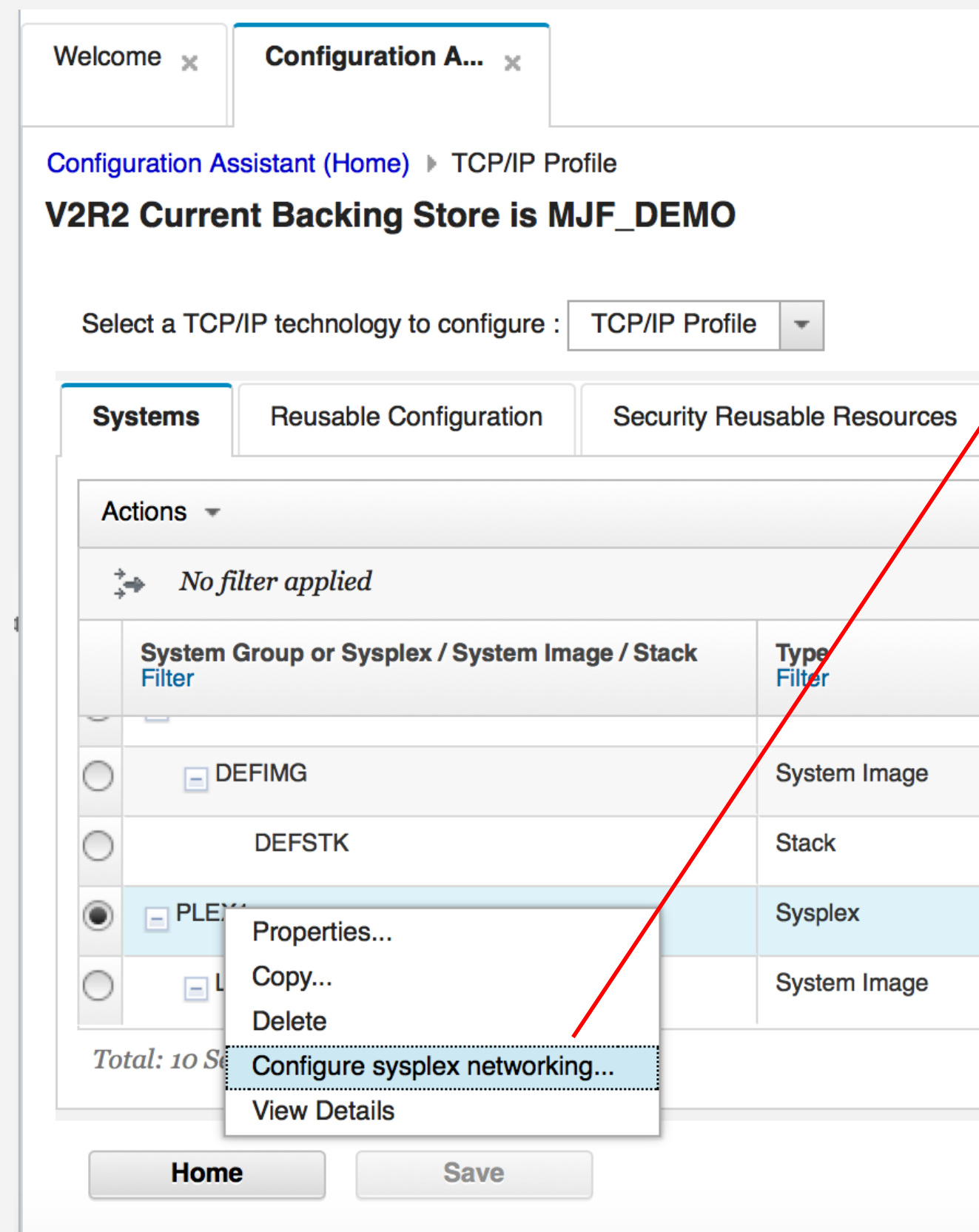
This is an example of one of many tables in this help panel that you can use to find where the resource you’re looking for is located within the Network Configuration Assistant.

• Additional Settings link

Table 2. Panel location for the GLOBALCONFIG statement

Parameter	Panel location
AUTOIQDX	Global Interface Properties > Ensemble Settings
ECSALimit	Performance and Protocol > TCP/IP Storage tuning
EXPLICITBINDPORTRANGE	Source IP Addressing > Source IP Addressing Selection Rules
IQDMULTIWRITE	Performance and Protocol > Global network device
MAXRECS	Management and Traces > Additional Settings
MLSCHKTERMINATE	Security Advanced Settings
POOLIMIT	Performance and Protocol > TCP/IP Storage tuning
SEGMENTATIONOFFLOAD	N/A
SMCGLOBAL	Performance and Protocol > stack only
SMCR	Performance and Protocol > stack only
SYSPLEXMONITOR	Sysplex monitoring and miscellaneous properties (common and custom) > AUTOREJOIN, DELAYJOIN, MONINTERFACE, NOJOIN, RECOVERY, TIMERSECS
SYSPLEXWLMPOL	Sysplex monitoring and miscellaneous properties (common and custom)
TCPIPSTATISTICS	Management and Traces > Additional Settings
...	...

Sysplex single-system representation



- Network Configuration Assistant implements the “single system image” concept of the z/OS sysplex
- Sysplex networking parameters are configured as one task for all stacks in the sysplex and Network Configuration Assistant pushes the necessary configuration to each stack
 - Simplifies the coordinated definition that’s required for flat file sysplex definition

Sysplex example – Dynamic XCF network

Welcome x Configuration A... x

Configuration Assistant (Home) > TCP/IP Profile > Sysplex network Resources

Configure Sysplex Network Resources PLEX1

Configure

Select the links to configure sysplex networking resources for TCP/IP stacks in this sysplex (or subplex).

TCP/IP Sysplex Networking Resources	Status
Sysplex network attachment	Configured
Sysplex monitoring and miscellaneous properties	Configured
Application-instance DVIPA ranges	Configured
TCP/IP stack-managed and Distributed DVIPAs	Configured
Optimize connection routing for forwarding and distribution	Configured

Close **Save**

Welcome x Configuration A... x

Configuration Assistant (Home) > TCP/IP Profile > Sysplex network Resources > Sysplex Network Properties

Define the DynamicXCF Network Properties

Complete the following steps to attach TCP/IP stacks to the DynamicXCF network

Step 1: In the following table, define the subnet and common properties for the DynamicXCF network that all stacks will use:

Global Sysplex Subnet Properties

Common Subnet Properties for the DynamicXCF network

Actions						
Type	IP Subnet Address	Subnet Prefix Length	VLAN ID	Cost Metric	Security Class	
<input type="radio"/> IPv4	1.1.1.0	24		0		
<input type="radio"/> IPv6	2001:DB8:1:1::	64				

Step 2: Attach stacks in the sysplex to the DynamicXCF network:

[Attach stacks in the sysplex to the DynamicXCF network...](#)

Close **Save**

Next page

- First you define the Dynamic XCF subnet for the sysplex, using these panels
- Then you attach individual stacks to Dynamic XCF, on the next panel

Dynamic XCF continued

Welcome x Configuration A... x

Configuration Assistant (Home) > TCP/IP Profile > Sysplex network Resources > Sysplex Network Properties

Attach Each Stack to the DynamicXCF Network

IPv4 DynamicXCF Network Subnet Properties

Subnet address/Prefix: 1.1.1.0/24
VLAN ID: Cost Metric: 0 Security Class:

Attach stacks in the sysplex to the IPv4 DynamicXCF network

Name	Type	IP Address	Subnet prefix	VLAN ID
LPAR1	System Image			
STACK1	Stack		24	
LPAR2	System Image			
STACK2	Stack	1.1.1.2	24	
LPAR3	System Image			
STACK3	Stack	1.1.1.3	24	

Total: 6 Selected: 1

Close Save

Welcome x Configuration A... x

Configuration Assistant (Home) > TCP/IP Profile > Sysplex network Resources > Sysplex Network Properties > Attach Stacks > Stack Network Properties

Attach IPv4 DynamicXCF Network Interface Properties for TCP/IP Stack LPAR1.STACK1

Subnet address/Prefix: 1.1.1.0/24

* IPv4 address: Prefix length: 24 Range: 1 - 32

Source VIPA interface
No source vipa is defined in this stack

Virtual LAN Identifier (VLAN ID)
Range is 1 - 4094.

* Cost Metric:
0 Range is 0 - 14. Tip: Can be overwritten by a dynamic routing daemon

Classify this interface for use with the traffic descriptor security class property of an IP Filter rule:
Range is 1 - 255. Default is 255.

☒ This dynamic XCF interface over HiperSockets is eligible for Shared Memory Communications - Direct Memory Access.

OK Cancel

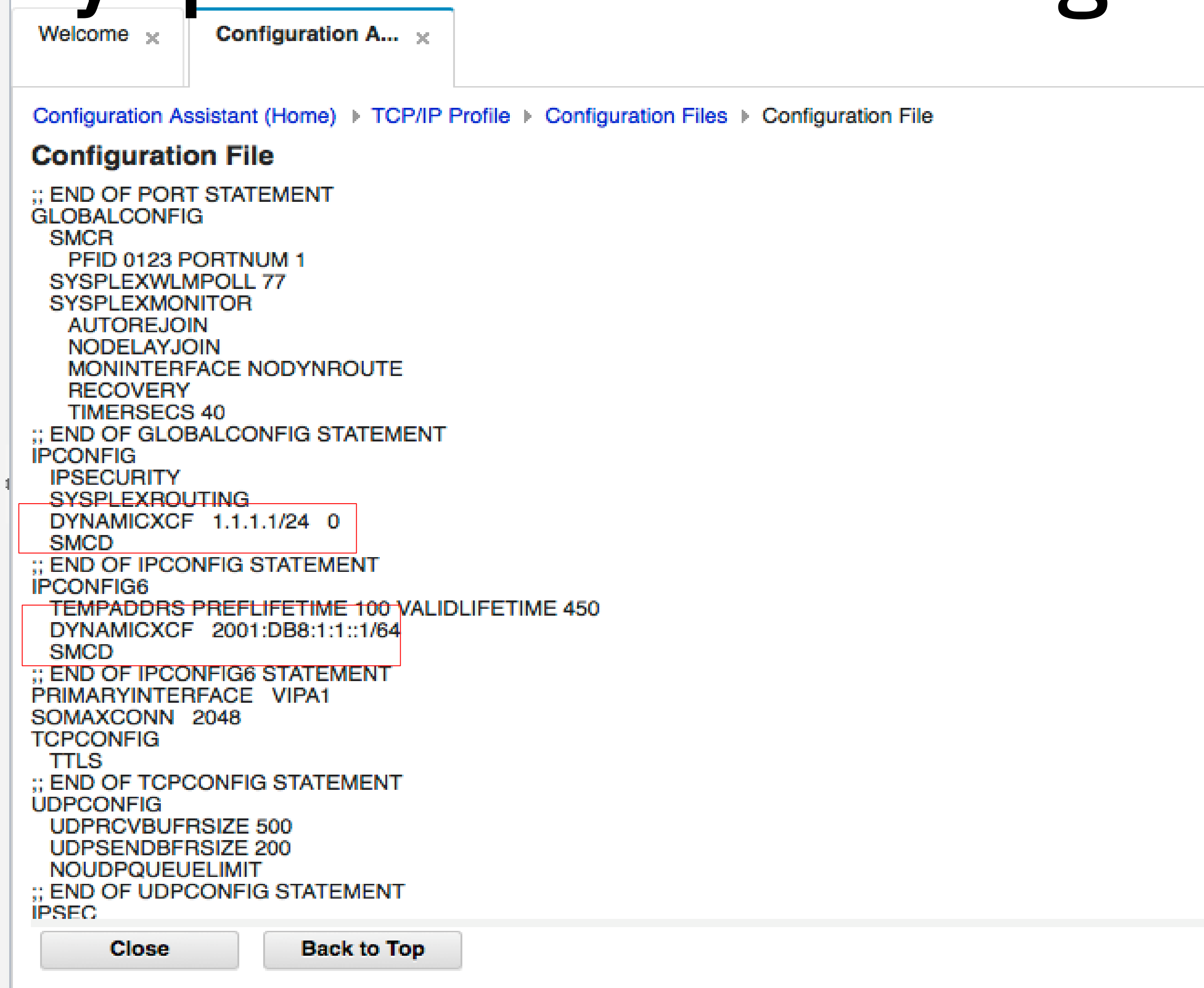
On this panel, NCA reminds you of the dynamic XCF subnet and warns you if your attachment address is outside that subnet.

- On this panel you attach a stack to the sysplex by specifying its Dynamic XCF IP address and any other Dynamic XCF characteristics
- Similar steps for IPv6 Dynamic XCF

Dynamic XCF example continued

- Once all the stacks have been attached to the sysplex, Network Configuration Assistant pushes the correct DYNAMICXCF statement to each stack in the sysplex
 - Other sysplex resources such as Dynamic Distributed DVIPAs, VIPARANGE DVIPAs, and VIPAROUTE routing work similarly
- Since all the sysplex resources for a sysplex are configured in a central place, this reduces coordination between stack configurations and errors that can result from mis-coordination.

Sysplex resources in generated configuration



The screenshot shows the Configuration Assistant interface with two tabs: 'Welcome' and 'Configuration A...'. The 'Configuration A...' tab is active, displaying a breadcrumb trail: 'Configuration Assistant (Home) > TCP/IP Profile > Configuration Files > Configuration File'. Below the breadcrumb, the title 'Configuration File' is shown. The main content area displays the configuration file text, which includes various network settings. Two specific lines are highlighted with red boxes: 'DYNAMICXCF 1.1.1.1/24 0' and 'DYNAMICXCF 2001:DB8:1:1::1/64'. At the bottom of the window, there are two buttons: 'Close' and 'Back to Top'.

```
Configuration Assistant (Home) > TCP/IP Profile > Configuration Files > Configuration File
Configuration File
;; END OF PORT STATEMENT
GLOBALCONFIG
  SMCR
    PFID 0123 PORTNUM 1
    SYSPLEXWLMPOLL 77
    SYSPLEXMONITOR
    AUTOREJOIN
    NODELAYJOIN
    MONINTERFACE NODYNROUTE
    RECOVERY
    TIMERSECS 40
;; END OF GLOBALCONFIG STATEMENT
IPCONFIG
  IPSECURITY
  SYSPLEXROUTING
  DYNAMICXCF 1.1.1.1/24 0
  SMCD
;; END OF IPCONFIG STATEMENT
IPCONFIG6
  TEMPADDRS PRELIFETIME 100 VALIDLIFETIME 450
  DYNAMICXCF 2001:DB8:1:1::1/64
  SMCD
;; END OF IPCONFIG6 STATEMENT
PRIMARYINTERFACE VIPA1
SOMAXCONN 2048
TCPCONFIG
  TTLS
;; END OF TCPCONFIG STATEMENT
UDPCONFIG
  UDPRCVBUFRSIZE 500
  UDPSENDBFRSIZE 200
  NOUDPQUEUELIMIT
;; END OF UDPCONFIG STATEMENT
IPSEC
```

This example shows the DYNAMICXCF statements created in the generated profile for STACK1 after it's been attached to the sysplex.

TCP/IP profile multiple release considerations

The screenshot shows the 'Configure Network Management output' panel in the IBM Configuration Assistant. The breadcrumb trail is: Configuration Assistant (Home) > TCP/IP Profile > TCP/IP Profile : SYSPLEX.LPAR1.STACK1 > Security > Configure Network Management output. The panel has two tabs: 'SMF' (selected) and 'Real-Time Services'. It contains a list of 14 configuration items, each with a 'Default value' dropdown and a description. Two items are highlighted with red boxes: 'Shared Memory Communications-Direct (SMC-D) link events. Includes subtypes: 39-40 (Available beginning with V2R3).' and 'z/OS Encryption Readiness Technology (zERT) connection-level detail. Includes subtypes: 1 (Available beginning with V2R3).' At the bottom are 'OK' and 'Cancel' buttons.

Default value	Description
Default value	TCP/IP stack port interval statistics. Includes subtypes: 7.
Default value	TCP/IP stack and TN3270 profile configuration. Includes subtypes: 4.
Default value	Shared Memory Communications-Direct (SMC-D) link statistics. Includes subtypes: 38 (Available beginning with V2R3).
Default value	Shared Memory Communications-Direct (SMC-D) link events. Includes subtypes: 39-40 (Available beginning with V2R3).
Default value	Shared Memory Communications-Remote (SMC-R) group statistics. Includes subtypes: 41.
Default value	Shared Memory Communications-Remote (SMC-R) link events. Includes subtypes: 42-43.
Default value	TCP/IP connection initiation event. Includes subtypes: 1.
Default value	TCP/IP interval statistics. Includes subtypes: 5.
Default value	TCP/IP stack activation and termination events. Includes subtypes: 8.
Default value	TCP/IP connection termination event. Includes subtypes: 2.
Default value	TN3270 client initiates and terminates a connection. Includes subtypes: 22-23.
Default value	TCP/IP UDP socket is closed. Includes subtypes: 10.
Default value	z/OS Encryption Readiness Technology (zERT) connection-level detail. Includes subtypes: 1 (Available beginning with V2R3).

There are always three releases of TCP/IP supported by Network Configuration Assistant: the current z/OS release and the previous two (n-2). V2R2 is the earliest release with TCP/IP profile support in NCA.

- Release-only parameters are noted on the panels but can still be configured for downlevel stacks.
 - However they will not generate configuration when installed for downlevel stacks
 - If you later change the release to the level that supports the parameters and reinstall, the parameters will then be generated



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