

Understanding and Enabling Software Functions (cnfswfunc) on IGX 8400 Switches

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Introduction

This document describes software functions, features, on Cisco IGX 8400 switches. Use the **cnfswfunc** command to enable or disable software functions. Software functions are password-protected. To enable or disable software functions, see the Before You Contact Technical Support section of this document.

Prerequisites

Conventions

For more information on document conventions, refer to the Cisco Technical Tips Conventions.

Requirements

There are no specific prerequisites for this document.

Components Used

The information in this document is based on these software and hardware versions:

- All IGX 8400 hardware platforms including the 8410, 8420, and 8430.
- WAN switch software release 9.3 and later. Earlier releases may not have all the software functions described in this document.

Before You Contact Technical Support

Software functions are licensed features. Some need to be purchased per node or card before you can activate or enable them. Your Cisco Sales or Account representative is your major point of contact when you need to enable or disable a software function.

You need a special password, which is confidential to Cisco personnel only, to enable any software function. Choose one of these methods to enable or disable a software function:

- Ask your Cisco representative to enable or disable the function. The Cisco representative needs local or remote access to your switch to enable or disable software functions.
- If it is not possible to contact your Cisco representative, Contact Technical Support. To enable or disable software functions, the Cisco Technical Support engineer needs:
 - ◆ Remote access to the node.
 - ◆ If the software function requires purchasing, provide either the contact information of your Cisco representative or proof of purchase for the software function (for example, the Purchase Order details).

IGX Software Functions

This section describes the software functions available for IGX 8400 switches.

Use the **cnfswfunc** command on the IGX to enable the software functions, which are shown in this command output:

```
g4static      TRM   Cisco          IGX 8420  9.3.20   Oct. 9 2001  07:30 GMT

Index Status   Function
-----
1      Enabled   Data Frame Multiplexing
2      Disabled  Adaptive Voice
3      Enabled   Frame Relay
4      Enabled   Configuration Save/Restore
5      Disabled  ForeSight
6      Disabled  Frame Relay Network-to-Network Interface
7      Disabled  Multiple VTs (1 session enabled)
8      Disabled  Interface Shelf
9      Disabled  Virtual Trunks
10     Enabled   ABR standard with VSVD
```

Access the CCO ordering tool for IGX 8400 license codes. In the event of discrepancies, the CCO ordering tool has precedence over this document.

The software functions identified in the **cnfswfunc** command output for the IGX above are described in the next sections.

Data Frame Multiplexing

The Data Frame Multiplexing software function enables and disables the use of data compression for a data connection using the **cnfchdfm** command. These options are available:

- Enabled = Allows suppression of repetitive patterns to reduce traffic loading on a network. It is also known as the Repetitive Pattern Suppression (RPS) algorithm.

Use this table to determine which part number you need to purchase to enable this software function:

IGX Hardware Platform	Part Number
IGX 8410	IGX8410-LIC-RPS
IGX 8420	IGX-LIC-RPS
IGX 8430	IGX-LIC-RPS
IGX 8450	IGX-LIC-RPS

- Disabled = No error message is generated when you use the **cnfchdfm** command. Although the channel is seen as configured with Data Frame Multiplexing, the RSP algorithm does not take effect.

Access the CCO ordering tool for part numbers, pricing information, or to order the Data Frame Multiplexing software function.

Adaptive Voice

The Adaptive Voice software function is currently listed in the **cnfswfunc** command output, but it is no longer supported. Cisco highly recommends that you do not enable this feature. For the purpose of information, Adaptive Voice was developed as a feature to allow the voice channel to dynamically upgrade to a higher data rate, in order to produce better voice quality. The dynamic adaptations would be triggered by feedback from trunk bandwidth availability.

Frame Relay

The Frame Relay software function enables or disables the provisioning of Frame Relay ports on Frame Relay Module (FRM) and Universal Frame Relay Module (UFM) cards. These options are available:

- Enabled = Allows the provisioning of Frame Relay ports.
- Disabled = The Frame Relay is not available error message is displayed when you try to add a Frame Relay connection.

The Frame Relay software function is provided to you without purchase.

Configuration Save/Restore

The Configuration Save/Restore software function is advantageous only when the Cisco WAN Manager (CWM) management system is used for operation, administration, and maintenance of a WAN-multiservice network. These options are available:

- Enabled = The configuration stored in the nonvolatile memory of the WAN switch can be transferred to the CWM workstation, and the previously-saved configuration can be restored.

Purchase this license to enable this software function:

IGX Hardware Platform	Part Number
All IGX hardware platforms	IGX-LIC-CSR

For detailed save and restore configuration procedures, refer to Saving and Restoring Configurations on IPX, IGX, and BPX Nodes.

- Disabled = The Configuration Save/Restore is not available error message is displayed when you try to save configurations.

Access the CCO ordering tool for part numbers, pricing information, or to order the Configuration Save/Restore software function.

ForeSight

The ForeSight software function allows you to enable or disable the Cisco proprietary mechanism for network congestion control and bandwidth optimization. These options are available:

- Enabled = Enables ForeSight a dynamic closed-loop, rate-based, congestion management feature that yields bandwidth savings, compared to non-ForeSight equipped trunks, when transmitting bursty data across cell-based networks.
- Disabled = The Foresight is not available on this system error message is displayed when you try to add a connection with ForeSight.

The ForeSight software function is provided to you without purchase.

Frame Relay Network to Network Interface

The Frame Relay Network to Network Interface software function allows you to enable or disable the provisioning of Frame Relay ports as Network-to-Network (NNI) on FRM and UFM cards. These options are available:

- Enabled = Allows the provisioning of Frame Relay ports as NNI on FRM and UFM cards.
- Disabled = Frame Relay ports can be configured as User-Network Interface Local Management Interface (UNI LMI) or no LMI only; you cannot configure the ports as NNI.

The Frame Relay Network to Network Interface software function is provided to you without purchase.

Multiple VTs (1 Session Enabled)

The Multiple Virtual Terminals (VTs) software function allows you to enable or disable the ability to access a node from any other node in the network. These options are available:

- Enabled = Allows you to use the `vt` command to enable up to six simultaneous VT sessions so you can access a node from any other node in the network.

Purchase this license to enable this software function:

IGX Hardware Platform	Part Number
All IGX hardware platforms	IGX-LIC-MUC-

- Disabled = Allows one VT session to be established to a node.

Access the CCO ordering tool for part numbers, pricing information, or to order the Multiple VTs software function.

Interface Shelf

The Interface Shelf software function enables or disables the ability to use the IGX switch as a feeder. These options are available:

- Enabled = Allows the IGX switch to act as a feeder.
- Disabled = Allows the IGX to is act as a normal routing node (the most common scenario).

The Interface Shelf software function is provided to you without purchase.

Virtual Trunks

The Virtual Trunks software function allows you to enable or disable the ability to configure multiple virtual trunks on the same physical port and connect different nodes. A virtual trunk is a trunk defined over a public ATM service. The trunk does not exist as a physical line in the network and, because of that, does not need a dedicated physical line to connect two nodes. For more information on virtual trunking, refer to Chapter 4: Setting Up Trunks of the Cisco WAN Switching Command Reference. These options are available:

- Enabled = Allows virtual trunks in a network.
- Disabled = The Virtual trunking feature is not enabled error message is displayed when you try to add a virtual trunk.

The Virtual Trunks software function is provided to you without purchase.

ABR Standard with VSVD

The Available Bit Rate (ABR) standard with Virtual Source Virtual Destination (VSVD) software function is the ATM Forum standard for network congestion control, as opposed to the Cisco proprietary ForeSight congestion control mechanism (see the ForeSight section of this document). It is standard practice to use either all ABR VSVD or all ForeSight on a network. These options are available:

- Enabled = Allows you to use the ABR standard with VSVD software function.
- Disabled = Does not allow you to use the ABR standard with VSVD software function.

The ABR standard with VSVD software function is provided to you without purchase.

Related Information

- [Saving and Restoring Configurations on IPX, IGX, and BPX Nodes](#)
- [IPX/IGX Installation Quick Reference Guide](#)
- [Voice Parameters and Tuning Guide for the IGX 8400, VISM, 3810, FastPAD, and VNS](#)
- [Understanding the Available Bit Rate \(ABR\) Service Category for ATM VCs](#)
- [Cisco WAN Switching Solutions – Cisco Documentation](#)
- [Guide to New Names and Colors for WAN Switching Products](#)
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