

SNA-CMPC

Cisco Enhances SNA Channel Support

Cisco is announcing Cisco MultiPath Channel (CMPC) support on the Channel Interface Processor (CIP). CMPC is a streamlined channel protocol for Advanced Peer-to-Peer Networking (APPN). The key benefit of CMPC is achieved when used in conjunction with High Performance Routing (HPR) to enable the highest availability for data center applications. CMPC support allows the Cisco CIP to transport HPR over the channel, enabling nondisruptive rerouting around failed data center resources. The CIP supports CMPC only when transporting APPN traffic over the channel. APPN can be running in the channel-attached router, or the CIP can connect a mainframe to APPN nodes across a local-area network or a wide-area network.

Streamlined Channel Processing

Currently, the CIP appears as an External Communications Adapter (XCA) when transmitting SNA across a channel. Virtual Telecommunications Access Method (VTAM) allows XCA nodes to communicate to the mainframe over a single, half-duplex subchannel; the CIP can either read or write but cannot do both concurrently. When using CMPC, the CIP opens two communication subchannels for each adjacent SNA device, with one subchannel dedicated to reading and the other dedicated to writing. This technique makes optimal use of the channel and can improve channel throughput in many environments.

High Data Center Availability

The key interest in CMPC, however, is for its potential to improve availability in the data center. By using CMPC in conjunction with HPR, users can eliminate catastrophic single points of failure and enable nondisruptive recovery from the loss of a channel or channel gateway.

HPR is an advanced APPN protocol that supports nondisruptive rerouting around link failures. HPR has two components. Rapid Transport Protocol (RTP) establishes a reliable connection between two nodes and is similar in concept to TCP. Automatic Network Routing (ANR) provides fast intermediate node routing and is similar in concept to IP. Both components are available with the SNA Switching Services (SNASw) feature set. With CMPC support in the CIP, the Cisco router can transport ANR traffic across the channel, and hence it supports nondisruptive recovery of any component between the RTP endpoints.

The CIP in an IBM Parallel Sysplex Environment

The highest availability is possible in an IBM Parallel Sysplex environment. An IBM Parallel Sysplex environment is a multisystem environment that acts as a single system. Using a coupling facility and software products, all systems in the Parallel Sysplex can share the same workloads and resources. If users lose one system, their other systems pick up the work from the system that is not available. For example, users could have multiple processors running Customer Information Control System (CICS) applications.

Transaction requests are directed to generic resources such as CICS and VTAM automatically spreads the processing workloads across the multiple systems. If one system is down due to a planned or unplanned outage, other systems automatically pick up the additional work. In addition, VTAM has a facility known as Multi-Node Persistent Sessions (MNPS) that allows one application to nondisruptively recover for another. MNPS requires HPR running in VTAM and across the channel, making Cisco's CMPC and APPN/HPR features ideal choices for this environment (see Figure 1).

Figure 1 Parallel Sysplex Environment Using Cisco Solutions for High Availability

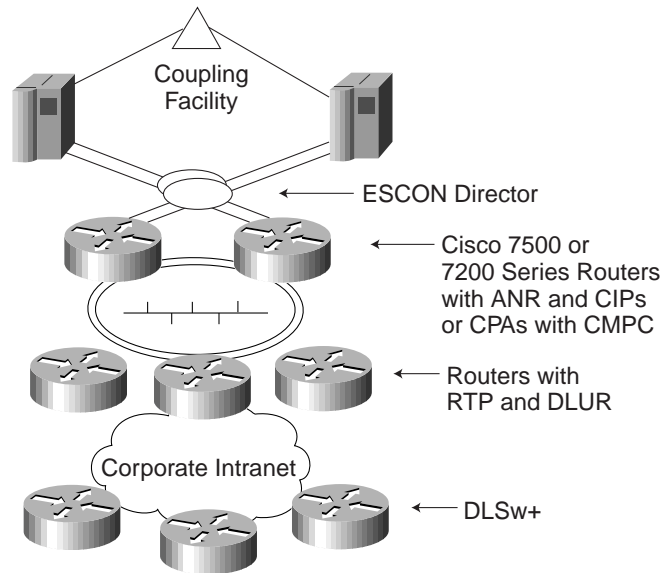


Figure 1 shows a well-designed parallel Sysplex environment that takes advantage of the availability features of HPR while allowing the corporate backbone to migrate to TCP/IP. It requires no changes to the end systems in the branch. They can be legacy 3270 devices or emulators. In this figure, Cisco routers at each branch transport SNA traffic over a corporate IP backbone using data-link switching plus (DLSw+), enabling nondisruptive recovery from link failures. At the data center, Cisco 4700 or 7200 routers provide Dependent LU Requester (DLUR) functionality along with HPR. DLUR enables 3270 traffic to take advantage of the high-availability characteristics of HPR. The channel-attached Cisco 7500 routers support ANR, which enables nondisruptive recovery from the loss of a channel-attached router or Escon Director. VTAM also runs HPR. With MNPS, this network will nondisruptively recover from the loss of an application. This design maximizes availability and scalability while minimizing cost. CMPC will ship with the CIP SNA feature and TN3270 server feature. HPR ships with the SNASw feature set. With this announcement, Cisco demonstrates its continued commitment to provide best-of-breed solutions to IBM data centers.



Corporate Headquarters
Cisco Systems, Inc.
170 West Tasman Drive
San Jose, CA 95134-1706
USA
<http://www.cisco.com>
Tel: 408 526-4000
800 553-NETS (6387)
Fax: 408 526-4100

European Headquarters
Cisco Systems Europe
11, Rue Camille Desmoulins
92782 Issy Les Moulineaux
Cedex 9
France
<http://www-europe.cisco.com>
Tel: 33 1 58 04 60 00
Fax: 33 1 58 04 61 00

Americas
Headquarters
Cisco Systems, Inc.
170 West Tasman Drive
San Jose, CA 95134-1706
USA
<http://www.cisco.com>
Tel: 408 526-7660
Fax: 408 527-0883

Asia Headquarters
Nihon Cisco Systems K.K.
Fuji Building, 9th Floor
3-2-3 Marunouchi
Chiyoda-ku, Tokyo 100
Japan
<http://www.cisco.com>
Tel: 81 3 5219 6250
Fax: 81 3 5219 6001

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