Product Announcement

C I S C O **S** Y S T E M S
®

The Cisco 2501CF and Cisco 2502CF Frame Relay Access Devices (CFRADs) allow customers to migrate their branch-to-SNA host access from dedicated Synchronous Data Link Control (SDLC) links to Frame Relay services with a cost-effective, reliable solution based on Cisco's Internetwork Operating System™ (IOS). Unlike FRADs, the Cisco 2500CF series CFRADs support advanced SDLC features such as SDLC Transport, SDLC-to-LAN conversion (SDLLC), Systems Network Architecture (SNA) traffic prioritization, and CiscoWorks™ Simple Network Management Protocol (SNMP) and monitoring. Cisco 2500CF CFRADs can be upgraded with software and memory to support full Cisco 2500 router functionality, protecting customers' investments in hardware and training.

New Members of the Cisco 2500 Family

The Cisco 2501CF and 2502CF are existing Cisco 2501/2502 hardware configurations bundled with a software image that supports only serial-to-Frame Relay connectivity. Local-area network (LAN) interfaces are built into the Cisco 2501CF and 2502CF but are not functional with the 2501CF/2502CF software. The LAN interfaces can be enabled by purchasing an upgrade to a standard Cisco 2500 IOS™ feature set and additional memory as required.

Features at a Glance

- Two fixed-configuration hardware models: the Cisco 2501CF and 2502CF

- Bundled software to support serial-to-Frame Relay access

- Cisco advanced SDLC features: SDLC Transport, SDLC-to-LAN conversion (SDLLC), local acknowledgment, and SNA address prioritization

- Upgradable to full LAN router support

- SNMP management

Benefits Summary

- Cost-effective migration from SDLC-to-Frame Relay

- Elimination of SDLC session time-outs due to network delays

- Cost-effective host access through Ethernet or Token Ring mainframe interfaces

- Flexible migration from SDLC to LAN-based SNA access

- Protection of investments in hardware and training

- Remote configuration, monitoring, and control

## Money-Saving Applications

SDLC-to-Frame Relay Migration

Most remote branches in large enterprises are connected to their host sites via dedicated point-to-point or multidropped SDLC links. Converting these SDLC links to a Frame Relay service offers the following benefits:

- Cost savings—Frame Relay links can offer up to 70 percent savings compared with leased lines.

- Any-to-any connectivity—Frame Relay can support client/server migration topology requirements.

Equipment costs can be a major concern when migrating from SDLC to Frame Relay. In branches where LANs are not currently deployed, a simple FRAD represents a lower initial investment than a router. In most cases, LAN deployment is planned and full routing capabilities will be required in the future, however, the cost difference between a full-function router and a simple FRAD can become a deterrent. The Cisco 2500CF series solves this dilemma by providing a low-cost entry solution for SDLC-to-Frame Relay access that can grow to support future LAN requirements. An example of this solution is shown in Figure 1 below.

Figure 1. The Cisco 2501CF and 2502CF can be upgraded to

support LAN-attachment and multiprotocol routing.
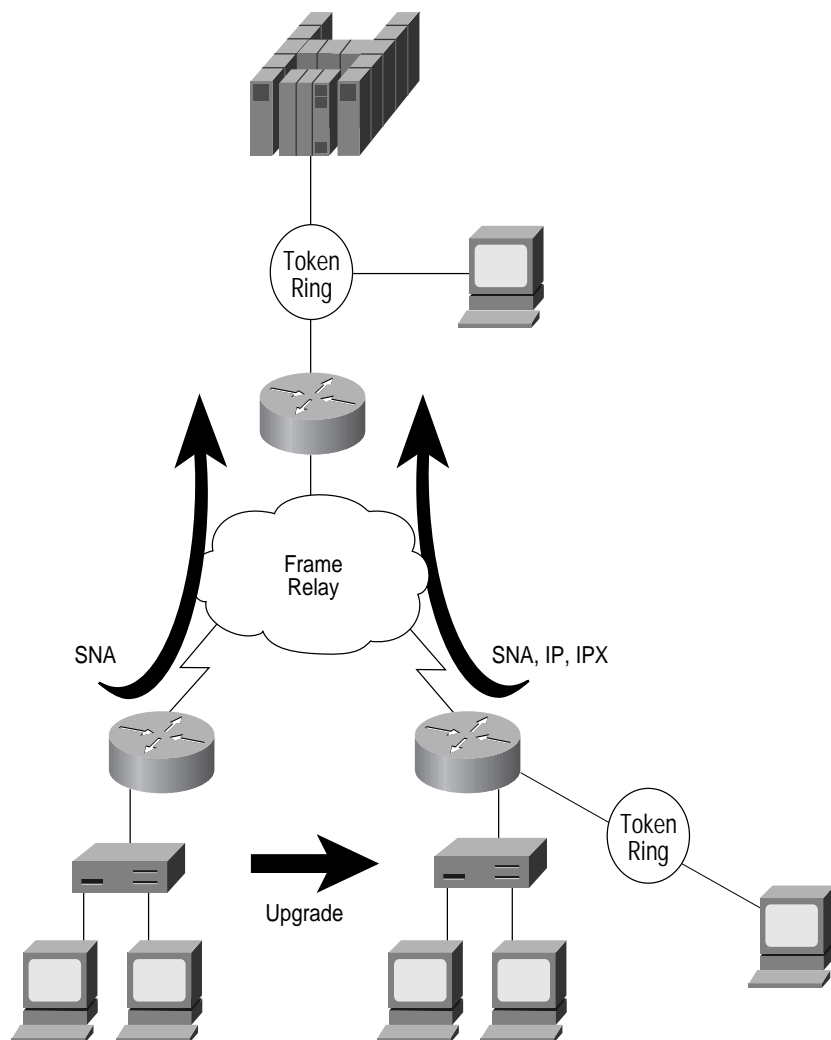
The Cisco 2500CF can be deployed for SNA host access in the
two basic network configurations outlined in Figure 2 and
Figure 3 below.

Figure 2. Cisco 2500 CFRADs provide host access over Frame Relay through a Cisco router at the host site.
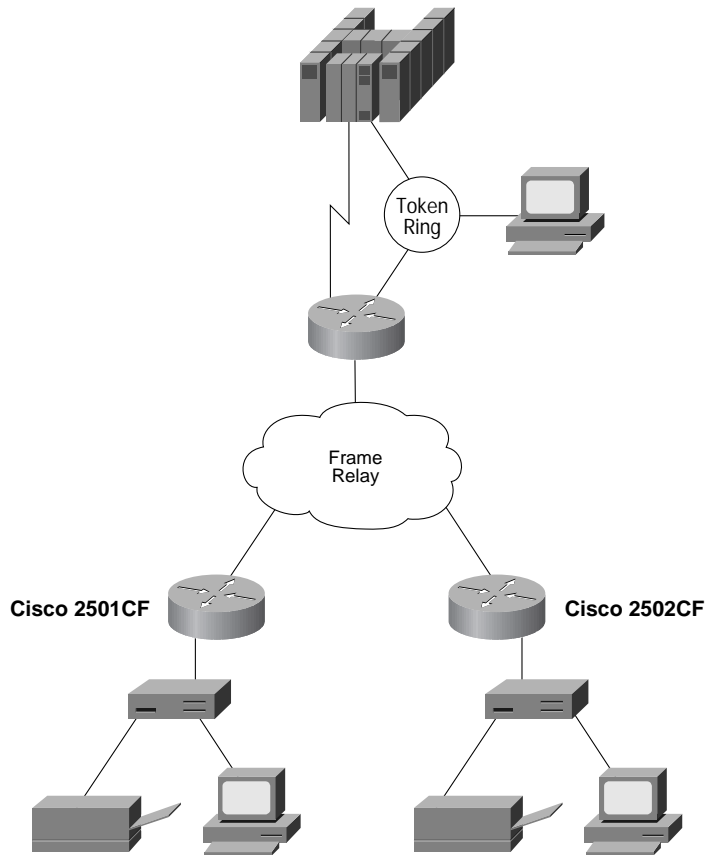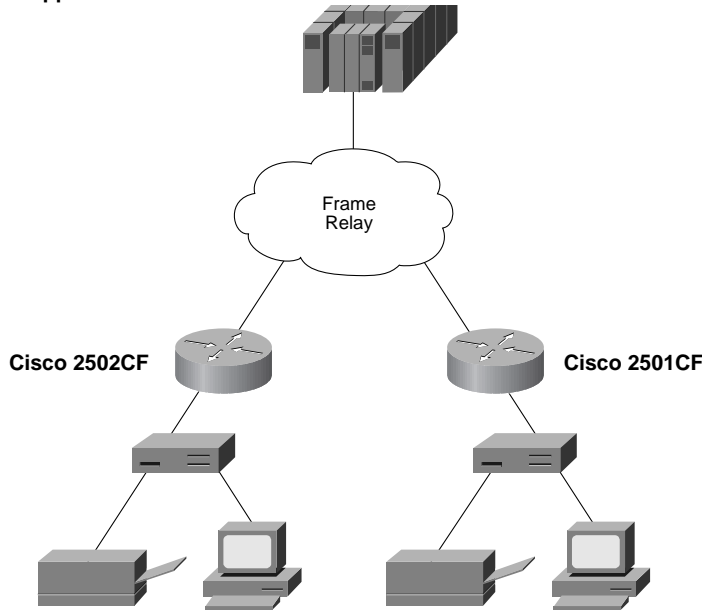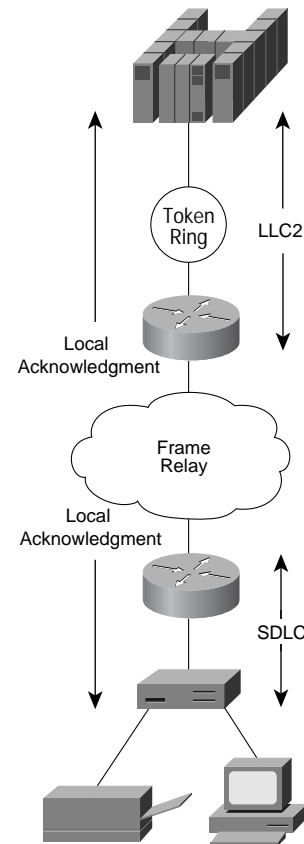
Figure 3. Cisco 2500 CFRADs connect directly to an IBM front-end processor (FEP) over Frame Relay using RFC 1490 support for SNA


As shown in Figure 4 below, a Cisco 2500CF in a branch connected to a Cisco router at the central site offers the benefits of Token Ring connectivity to the FEP for performance improvement and cost savings and local acknowledgment of the SDLC sessions for increased reliability and session availability.

Figure 4. CFRADs support SDLC to Token Ring conversion and local acknowledgment of SDLC and Token Ring sessions

With Cisco's RFC 1490 support for SNA (planned availability in 1Q95) a Cisco 2500CF in a remote site can connect directly to an IBM FEP over Frame Relay. In Figure 5 below, the customer can avoid 3174 microcode upgrades required for Frame Relay operation. For more information on Cisco's RFC 1490 support for SNA, see the RFC 1490 product announcement.

Figure 5. Cisco's RFC 1490 support for SNA will provide direct encapsulation in Frame Relay and allow CFRADs to interoperate with IBM controllers.
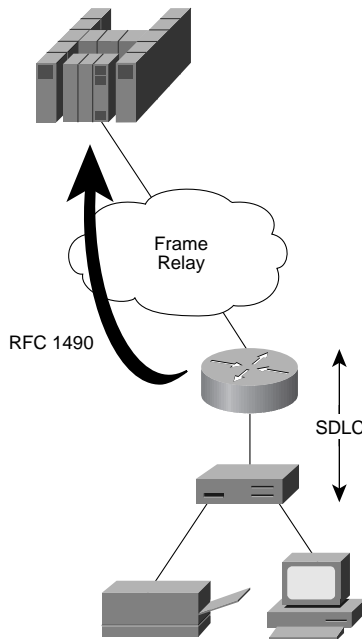
Both models include the Cisco 2500CF IOS feature set, which includes Cisco's advanced SDLC support. The specific Cisco 2500CF features are summarized in the following table:

Category	Protocol/Feature
LAN	No LAN protocols or features are supported
WAN	Frame Relay
IP Routing	RIP, IGRP, OSPF, BGP, EGP
IBM	SDLC Transport, SDLC-to-LAN Conversion (SDLLC), SDLC Local Acknowledgment, SDLC Address Prioritization, PU and LU Address Prioritization
Management	SNMP, Telnet

Both models come standard with 2 MB of Flash EPROM memory and 2 MB of DRAM memory. The memory configuration of both models are expandable using standard Cisco 2500 memory upgrades.

Users can enable the LAN port on either model by ordering one of the standard Cisco 2500 IOS feature sets described in the following product information table. Upgrading to the IOS Enterprise feature set is required in order to retain all SDLC features. Upgrading the Cisco 2500CF to another IOS feature set may require memory expansion.

Product Information

Model	Interface Configuration
Cisco 2501CF	Two synchronous serial interfaces and one software-disabled Ethernet interface
Cisco 2502CF	Two synchronous serial interfaces and one software-disabled Token Ring interface
The synchronous serial interfaces on both models support full-duplex and half-duplex operation, as well as Non Return to Zero (NRZ) and Non Return to Zero Inverted (NRZI) encoding.	

Category	Protocol/Feature	IP	DT	EN
LAN	IP, Bridging, LAN extension host	•	•	•
	IPX, AppleTalk Phase I and Phase II, DECnet IV		•	•
	DECnet V, OSI, XNS, Banyan VINES, Apollo Domain			•
WAN	Dual Synchronous Serial, Compression	•	•	•
	HDLC, PPP, X.25, Frame Relay, SMDS,[1] ISDN	•	•	•
IP Routing	RIP, IGRP, OSPF, BGP, EGP	•	•	•
	ES-IS, IS-IS			•
IBM	RSRB, Proxy Explorer, SNA Local LU Address Prioritization, Local Acknowledgment, Administrative Filtering, NetBIOS Name Caching, Access Control Filtering	•	•	•
	Serial Tunneling or SDLC Transport, SDLC Link-Level Support, SDLLC			•
Management	AutoInstall, SNMP, Telnet	•	•	•
Protocol Translation	Telnet, LAT, rlogin, TN3270, X.25 PAD			•

1. SMDS is only in EN as of Release 10.0. SMDS will be in all three feature sets as of Release 10.2(2).

Orderability and Availability

The Cisco 2501CF and Cisco 2502CF are both
available immediately for order and shipment in IOS Release
10.2 (1).

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