CHAPTER 1

Introduction

Cisco Transaction Connection Overview

Cisco Transaction Connection (CTRC) is a Cisco IOS Software feature that enables access to host resident operational data in Customer Information Control System (CICS) and IBM relational database management system (DB2). It became available in then Cisco IOS Release 12.05(XN).

CTRC is available on the following platforms:

- Cisco 7200 Series routers
- Cisco 7500 Series routers

CTRC and DB2

The CTRC, previously called Cisco Database Connection (CDBC), enables access to IBM's DB2 database resources from TCP/IP desktops and servers. It supports the Distributed Relational Database Architecture (DRDA).

CTRC provides a gateway between client workstations using DRDA requestors on TCP/IP networks and IBM DB2 databases on Systems Network Architecture (SNA) networks. Many of the available workstation-based DRDA requestors are Open Database Connectivity (ODBC) clients. ODBC is a call-level interface developed by Microsoft. It allows an application to use a single interface to access database management systems from different vendors.

CTRC accepts DRDA client requests over TCP/IP, and either converts the messages to SNA before sending them to DB2, or passes TCP messages on to DB2 across TCP/IP. On the reply, CTRC converts the SNA messages to TCP/IP and sends them across the network, back to the client.

CTRC supports TCP/IP pass through to DB2 systems that support direct TCP/IP access. In this case, TCP/IP can be used instead of SNA for connection between the router and the host database.

CTRC supports Workload Manager for OS/390. For more information on Workload Manager, refer to the document *OS/390 MVS Planning: Workload Management (GC28-1761).*

CTRC also supports Password Expiration Management (PEM) in SNA networks where PEM is supported to match functionality provided in DRDA over TCP/IP.

CTRC and CICS

CTRC enables access to CICS from TCP/IP clients and servers. It allows Cisco routers to use the Intersystem Communication Protocol, and provides a gateway between CICS common clients running under Windows or UNIX on TCP/IP networks and CICS online transaction monitoring systems on IBM Multiple Virtual Storage (MVS) hosts running SNA.

Note The IBM CICS Universal Client is also known as IBM CICS Common Client or the CICS Client. The terms are used interchangeably. In this document, CICS by itself refers to the CICS Server unless otherwise indicated.

CTRC supports the IBM CICS Universal Client using the Extended Call Interface (ECI) and the Extended Presentation Interface (EPI). The ECI lets non-CICS client applications invoke CICS transaction programs. The EPI lets distributed applications call CICS transactions that were originally accessed via 3270 terminals.

CTRC also supports clients that use the Microsoft Common Object Module Transaction Interface (COMTI), IBM TXSeries running as clients, and other standard ISC-TCP based requestors.

CTRC supports route configuration for a CICS transaction. Each transaction can be routed to a specific CICS region.

CTRC Network Topologies

Figures 1 through 3 show a few of the network topologies in which the CTRC router can be deployed. The Sample Router Configurations appendix provides a sample router and host configurations.

Figure 1-1 Cisco Router Configured with the CTRC Feature for CICS Communications

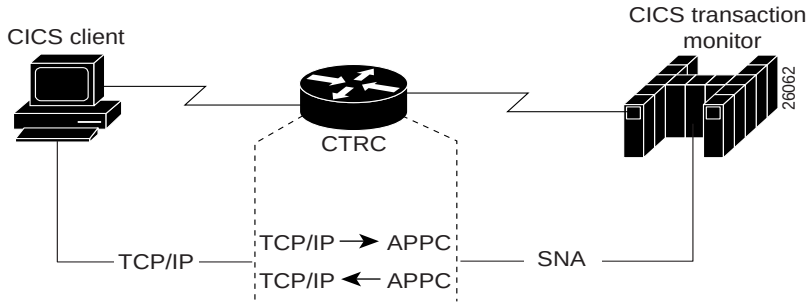


Figure 1-2 Cisco Router Configured with the CTRC Feature for DB2 Communications (SNA Host Network)

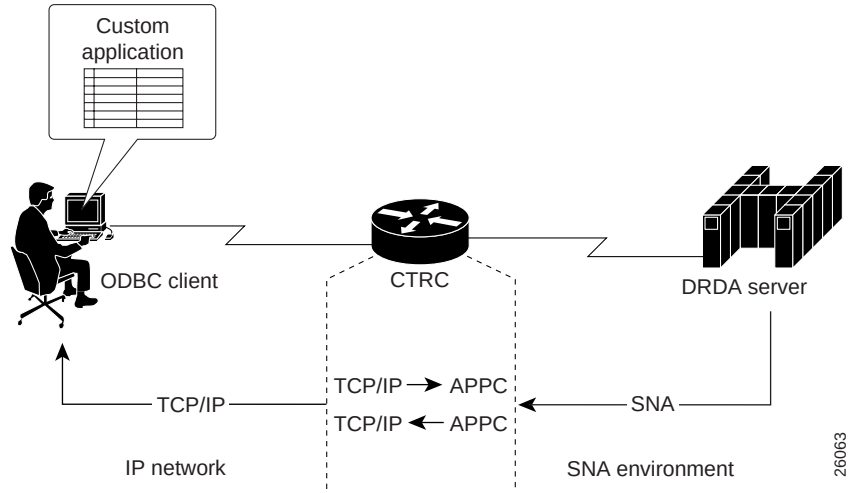
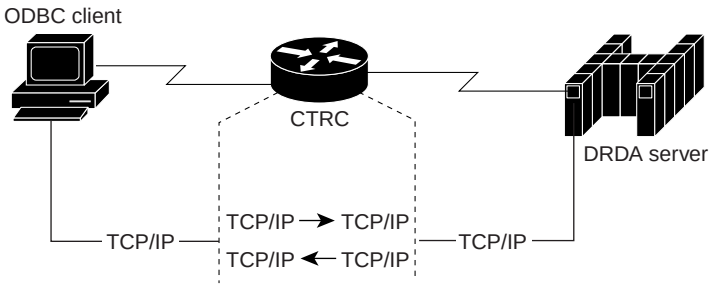


Figure 1-3 Cisco Router Configured with the CTRC Feature for DB2 (TCP/IP Pass Through)



Note Licensing of the CTRC router is based on the cpname assigned to the router in the SNA Switching Services configuration. You must install and start SNA Switching Services with at least a minimal configuration to support the TCP/IP connections. Refer to the "Configuring Cisco Transaction Connection" section of the *Cisco IOS Bridging and IBM Networking Configuration Guide* for more information about configuring the CTRC license and the switching services that CTRC requires.

Supported Servers and Clients

The following sections describe the hosts and clients that CTRC currently supports for access to CICS and DB2.

Supported DB2 Versions

CTRC accepts database requests from end user workstations and servers running an ODBC driver using the DRDA protocol to communicate with IBM databases.

CTRC supports the following DB2 versions:

- DB2 for OS/390 (DB2/MVS) 2.3 and later
- DB2/400 2.2 and later

- DB2/UDB 2.2 and later
- DB2 for VM/VSE (SQL/DS) 3.3 and later

Supported CICS Servers

CTRC supports the following CICS servers:

Note Versions marked with an asterisk (*) have limited server support. These versions support ECI but they do not support EPI or the Terminal Emulation function.

- CICS Transaction Server for OS/390
- CICS/400 Version 3.1
- CICS on Open Systems and NT (TXSeries)
- CICS/ESA Version 3.3*
- CICS/ESA Version 4.1
- CICS/MVS Version 2.12.*
- CICS/VSE Version 2.3
- CICS/VSE Version 2.2*
- CICS for OS/2 Version 2.01 or later

Supported CICS Servers as Clients

CTRC supports the following CICS Servers connected as clients:

- TXSeries for AIX version 4.2 or later
- TXSeries for NT version 4.2 or later

Supported DB2 Clients

CTRC supports connectivity to DB2 from clients that use the following standard interfaces:

- Open Database Connectivity (ODBC)
- Java Database Connectivity (JDBC)
- Object Linking and Embedding (OLE)
- Remote Data Objects (RDO)
- Call Level Interface (CLI)

Supported CICS Clients

CTRC supports connectivity to CICS from the following clients:

- IBM Universal Client, version 2.0 or later, using EPI or the ECI
- IBM TXSeries running as clients
- Microsoft COMTI

Migration Issues

The following are known issues when migrating from CDBC (CTRC Version 1.0) to CTRC Version 2.0:

- Replacement of Cisco Advanced Peer-to-Peer Networking (APPN) feature by SNA Switching services (SNASw) requires reconfiguration of SNA resources in the Cisco IOS Software.
- CTRC allows up to two connections without a license key.
- CTRC support is not available in the Cisco 4500 or 4700 series routers.

Included in this Manual

The remaining chapters and appendix in this document describe the following steps required to configure CTRC:

- Preparing the Host for DB2
- Preparing the Host for CICS
- Setting up DB2 and CICS Clients
- Sample Router Configurations for DB2 and CICS

Refer to the "Cisco Transaction Connection" sections of the *Cisco IOS Bridging and IBM Networking Configuration Guide* and the *Cisco IOS Bridging and IBM Networking Command Reference* for more information about configuring CTRC and using the CTRC commands.

For More Information

The following documents, published by IBM, provide additional information that you may find helpful when setting up CTRC. The document titles and part numbers, which are provided in parentheses, were current when these lists were prepared but are subject to change by IBM.

IBM CICS Documentation

- *CICS Family: Communicating from CICS on System/390* (SC33-1697-01)
- *CICS Server Support for CICS Clients* (SC33-1779-00)
- *CICS Transaction Server for OS/390 V1R2 CICS Intercommunication Guide* (SC33-1695)
- *CICS/MVS Intercommunication Guide* (SC33-0519)
- *Communicating from CICS for MVS/ESA and CICS for VSE/ESA* (SC33-0825)

- *TXSeries: CICS Administration Guide* (SC33-1174)
- *TXSeries: CICS Administration Reference* (SC33-1563)
- *TXSeries: CICS Intercommunication Guide* (SC09-3900)
- *Revealed! CICS Transaction Gateway with More CICS Clients Unmasked* (SG24-5277)

IBM DB2 Documentation

- *DB2 UDB for OS/390 Version 6 Installation Guide* (GC26-9008)
- *DB2 for OS/390 Version 5 Installation Guide* (GC26-8970)
- *DB2 for MVS/ESA Version 4 Installation Guide* (GC26-3456)
- *DRDA Connectivity Guide* (SC26-4783)
- *WOW! DRDA Supports TCP/IP: DB2 Server for OS/390 and DB2 Universal Database* (SG24-2212)
- *OS/390 Workload Manager Implementation and Exploitation* (SG24-5326)
- *Distributed Relational Database Cross Platform Connectivity and Application* (SG24-4311)
- *OS/390 MVS Planning: Workload Management* (GC28-1761)