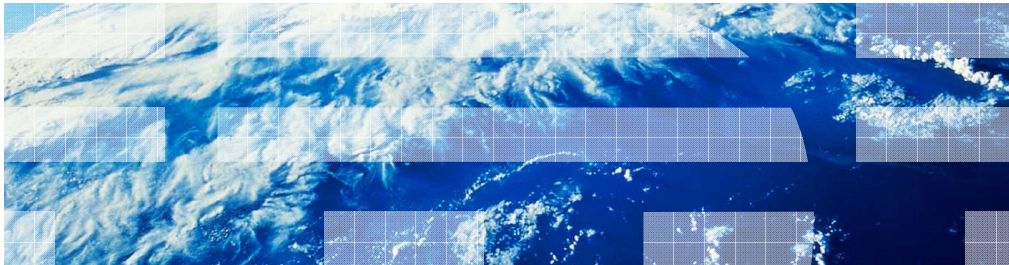

Introduction to IPIC



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Hello and welcome to this introduction to the IPIC protocol introduced with CICS®
Transaction Gateway Version 7.1
and CICS Transaction Server Version 3.2.

Overview

- What is IPIC
- Advantages
- Basic setup
- Further reading

In this presentation we will look at what IPIC is, the advantages that can be gained from using it over the existing CICS

protocols. We will then look at what is required at a high level to connect to a CICS region from the supported CICS TG topologies. Finally we present details of where further information can be found.

What is IPIC

- New CICS communication protocol
- Introduced in CICS TS 3.2 and CICS TG 7.1
- TCP/IP based communications
- Alternative to LU6.2/SNA for distributed program calls

The IPIC protocol was introduced in CICS Transaction Server Version 3.2 and is supported by CICS Transaction Gateway Version 7.1 or higher. It is a new communications protocol that is based on TCP/IP and is an alternative to LU6.2 or MRO for Inter Systems Communications, initially supporting Distributed Program Link. IPIC communications might be used between CICS Transaction Gateway and CICS TS, or between CICS TS regions.

Advantages

- Support for calling CICS Channel applications
- Support for XA transactions
- Secure connections direct to CICS

Using the IPIC protocol provides certain advantages over the existing CICS communication protocols.

The first advantage is support for CICS Channel applications. The use of Channels and Containers provides relief from the constraints of a 32KB COMMAREA by allowing much larger and structured application data to be passed between CICS programs. A channel can contain any number of containers, and each container can contain up to 2GB of data.

The second advantage of using the IPIC protocol is full support for the XA protocol. The CICS Transaction Gateway for z/OS has supported calling a CICS program as part of a two phase commit transaction for a number of releases. With IPIC connections this support is also available to J2EE applications running in local mode on Windows®, Linux®, and UNIX®.

Finally there is support for secure connections directly to CICS using SSL from local mode applications. This adds authentication and encryption to the connection between the CICS Transaction Gateway and the CICS region. If client authentication is enabled, an identity known to the local security manager can be mapped from the client's certificate for use on the connection.

Required CICS setup

- Define and install TCPIPService
- Required parameters
 - TCpipservice: <Name of the service>
 - PROtocol: IPIC
 - POrtnumber: <Port to listen on>
- By default uses autoinstall for IPIC connections (IPCONN)

In order to connect to a CICS server using IPIC, setup is required in the CICS region and the CICS Transaction Gateway. First we will look at what is required in the CICS region.

Create and install a new TCPIPService definition for the port number to receive IPIC connection requests. Specify the name of the TCPIPService, set the protocol to IPIC, and define the port number that this service will listen on. The remaining parameters can be left to the default values.

When an IPIC connection is established an IPCONN resource is used to manage that connection. An IPCONN resource is automatically created and installed for each IPIC connection, if the IPCONN has not be predefined.

CICS TG remote mode setup

- Create IPICSERVER definition in Gateway configuration file
- Need to know:
 - Hostname or IP address
 - Port number

When connecting to a CICS server from a Gateway daemon, the details of how to connect to the CICS server are stored in the Gateway daemon configuration file. A new section type of "IPICSERVER" has been introduced to the Gateway daemon configuration file, allowing a meaningful 8-character CICS server name to represent IPIC connection details. The main information then required is the hostname or IP address, and the port that the TCPIPService has been opened against.

When this configuration has been saved, restart the Gateway daemon to make it active, and then the name given to the IPIC connection can be used by client applications in the same way as CICS server definitions using other protocols.

CICS TG local mode setup

- Setup for J2EE application
- Custom properties in connection factory
 - ConnectionURL: local://
 - ServerName: tcp://mycicsserver.com:12345

If you want to connect to CICS directly from a resource adapter running in a J2EE application server, the configuration is contained in the connection factory custom properties. The ConnectionURL field is set to local:// because we want to use local mode. The servername field is set to the host name and port in the form of a URL. In the example here, the CICS server is on machine mycicsserver.com and is listening on port 12345.

Further reading

- Scenarios in CICS TG V7.2 Information Center
 - Configuring a secure autoinstalled IPIC connection
 - Configuring a secure predefined IPIC connection
- CICS TG for z/OS
 - <http://publib.boulder.ibm.com/infocenter/cicstgzo/v7r2/index.jsp>
- CICS TG for Multiplatforms
 - <http://publib.boulder.ibm.com/infocenter/cicstgmp/v7r2/index.jsp>

For further information about using IPIC see the CICS Transaction Gateway Version 7.2 Information Center online. This contains step-by-step instructions for further ways of configuring your system.



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