

# CA CPT™ CICS Programmers' Toolkit for TCP/IP r6.1

CA CPT™ CICS PROGRAMMERS' TOOLKIT FOR TCP/IP PROVIDES CICS PROGRAMMERS WITH AN EASY TO USE SET OF DEVELOPMENT AND MANAGEMENT TOOLS. IT OFFERS A SIMPLIFIED APPLICATION PROGRAM INTERFACE (API) WITH FULL TCP PEER-TO-PEER HIGH PERFORMANCE SOCKETS CAPABILITY INTEGRATED INTO A CICS ENVIRONMENT.

## Overview

Businesses need an easy-to-use method of passing information bi-directionally between heterogeneous hosts on a network. CA CPT CICS Programmers' Toolkit for TCP/IP provides out-of-the-box tools, a programming interface and a management interface to quickly develop and support communication between internet connected hosts.

## Benefits

IT organizations today need the ability to quickly design and deliver flexible communication solutions. Many times it is difficult, if not impossible, to make everything fit into a web server format. CA CPT CICS Programmers' Toolkit for TCP/IP allows you to quickly and reliably enable remote hosts to pass data when and how you want. It is easy to manage and highly integrated into CICS, enabling CICS programmers to easily use and understand it. Quickly enable your mission critical legacy CICS applications to fully function across internet communications.

## The CA Advantage

Programming TCP BSD sockets is typically very complicated and confusing. Consequently, most of the development world has moved to using a web server and Java style applets. However, using a web server often requires additional work and overhead to wrap application data in HTML or XML. CA CPT CICS Programmers' Toolkit for TCP/IP provides an easy-to-use sockets compatible solution that enables you to easily pass data between two TCP/IP hosts. It stands alone in the MVS and CICS environment to provide a powerful yet simple set of development and management tools providing full TCP peer-to-peer high performance sockets capability.

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## CA CPT CICS Programmers' Toolkit for TCP/IP Provides CICS Programs with Internet Connections to All Application Types

Businesses today need to be flexible in designing their communication solutions and they require the ability to develop these solutions quickly. Don't be confined to what is available today using web server based communications. Reach the full potential of the internet by allowing your CICS legacy applications to communicate with any application on any internet-connected host.

### CICS Development Challenges

Sockets are a unique communications architecture used by CICS programmers. To properly code sockets you really have to understand TCP/IP networking at a detailed level. This skill is rather rare to a CICS programmer, and not really important to them for performing their job.

There are numerous tools in the market that make it easy to develop a web server interface, but these solutions are not necessarily a good fit, when all you really need is to pass data, not develop a web page. A web server can force your application to perform additional work and overhead to wrap its data in HTML or XML. This not required by the application.

What is needed is an easy-to-use method of passing information bi-directionally between heterogeneous hosts on a network.

### CA CPT CICS Programmers' Toolkit for TCP/IP Solution

CA CPT CICS Programmers' Toolkit for TCP/IP enables you to quickly and reliably enable your mission critical legacy CICS applications to fully function across internet communications. It is highly integrated into CICS in a way CICS programmers can easily use, understand and manage. CA CPT CICS Programmers' Toolkit for TCP/IP is a high speed interface that does not require the high overhead of a web server on either side, providing true peer-to-peer internet communications.

CA CPT CICS Programmers' Toolkit for TCP/IP offers an extensive set of programming tools and management features, including:

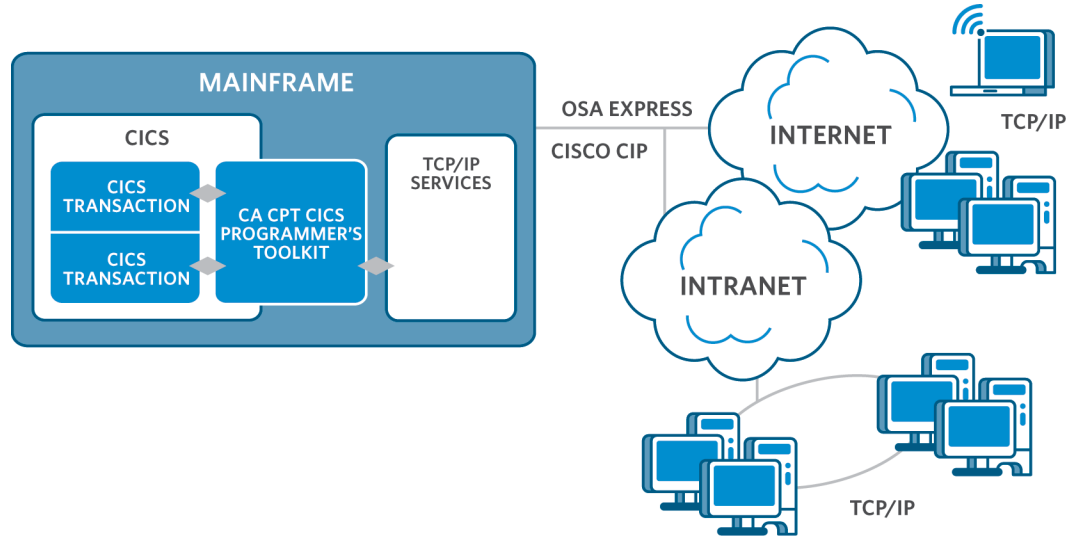
- Greatly simplified sockets API
- Powerful management interface
- Extensive logging and tracing of activities and errors
- Ability to dynamically add new services

By implementing an interface between TCP/IP LANs and mainframes, CA CPT CICS Programmers' Toolkit for TCP/IP allows both new and existing CICS applications to interoperate TCP/IP network applications. Based on open network protocols, it includes a set of automated CICS transactions and an API, which provides CICS programmers with a simple group of calls to communicate with networked applications.

FIGURE A

Extend the flexibility of your CICS applications and provide an easy-to-use interface to the internet's native application layer interface — sockets.

SOLUTION ARCHITECTURE — CA CPT™ CICS PROGRAMMERS' TOOLKIT FOR TCP/IP



## Key Capabilities

Three major components of CA CPT CICS Programmers' Toolkit for TCP/IP:

### Tools

- Receive Tool and Send Tool
  - Provides the ability to communicate to a remote sockets application without writing a single socket call by simply reading and writing to CICS TDQs.
- Listen Tool
  - Delivers robust diagnostics during failure — one of the most complicated parts of socket coding.
  - Uses CPT API to provide the utmost in flexibility and ease of coding.
- Select Tool
  - Replaces the complex matrix processing required by the sockets select call. CA CPT CICS Programmers' Toolkit for TCP/IP just hands you the endpoint when activity is detected.
  - Reduces the number of long running transactions.
- FTP Client
  - Passes data gathered in native to CICS TDQs or CICS TS to a file on any remote TCP host with ease.

### Application Programmer Interface (API)

- Thirty-nine BSD Socket Calls are consolidated down to six CA CPT CICS Programmers' Toolkit for TCP/IP API service calls and yet still fully compatible, and fully functional
- Connection Management: Listen and Connect calls
- Data Transfer: Receive; Send; Receive From; Send To calls
- Data Records
  - Takes care of all the work involved to stream data in TCP applications
  - Eliminates need for cumbersome and difficult receive and send loops in your programs
  - Inserts or removes record separators such as CRLF up to two characters
  - Inserts or removes record length fields
- UDP and TCP support
- Termination (Close) and Translation calls

### Management Facilities

- CA NetMaster® Socket Management for CICS
  - Offers extensive management and diagnostic tools for IBM CICS sockets API applications
  - Provides centralized command and control of integrated network and CICS management interface via CA Mainframe Network Management solutions
  - Allows CICS and Network Support personnel to easily talk back and forth using terminology with which they are comfortable.
  - Fully supports IBM CICS sockets API applications
  - Provides all command functions mentioned in section CPT Administrative Interface below in a centralized location
- CPT Administrative Interface
  - CICS terminal native application
  - Easily scrolls back and forth through active endpoints and listener servers
  - Filters by ports or IP address or ranges
  - Stops and starts listeners and endpoints
  - View current: CPT and socket state; byte counts
- Multi-CICS Region Support
  - Simplifies operations
  - Moves listeners outside of CICS regions
  - Provides CICS external server support for MRO-like processing of inbound connections based on workload manager; round robin or manual definitions
- Diagnostic Tools
  - Provides comprehensive error messaging, which enables operations and programmers to quickly react to problems and changing environments before they become unmanageable
  - Offers extensive easy-to-read diagnostic tracing at all levels including CPT API and tool calls, as well as EZASOCKET calls
  - Integrated inline with rest of network tracing

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## The CA Advantage

CA CPT CICS Programmers' Toolkit for TCP/IP provides an easy-to-use interface to the internet's native application layer interface, sockets. It allows programmers to avoid the unnecessary presentation services required with a web server to provide true full TCP peer-to-peer high performance sockets capability.

As a key mainframe solution, CA CPT CICS Programmers' Toolkit for TCP/IP is also an integral part of the CA's Enterprise IT Management vision to unify and simplify enterprise IT management. To maximize the performance, reliability and efficiency of your overall IT environment means tightly integrating the control and management of additional functions, including operations, storage, security, life cycle and services management. CA's comprehensive portfolio of modular IT management solutions helps the enterprise unify, simplify and secure IT to better manage risk, costs and service — helping ensure that IT meets the business needs of the enterprise.

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## Next Steps

CA CPT CICS Programmers' Toolkit for TCP/IP extends the flexibility of CICS applications and increases programmer productivity. CA continues to advance this product as a comprehensive mainframe solution, delivering new enhancements and integration with other CA products, continuing to seek opportunities to add value for our customers and partners.

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To learn more, and see how CA software solutions enable organizations to unify and simplify IT management for better business results, visit [ca.com/products](http://ca.com/products).