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ICCP Toolkit for MMS-EASE

Description

The ICCP (IEC60870-6-TASE.2) Toolkit for MMS-EASE is a ***field-proven*** implementation of the Intercontrol Center Communication Protocol (ICCP) that works with SISCO's popular MMS-EASE API for MMS.

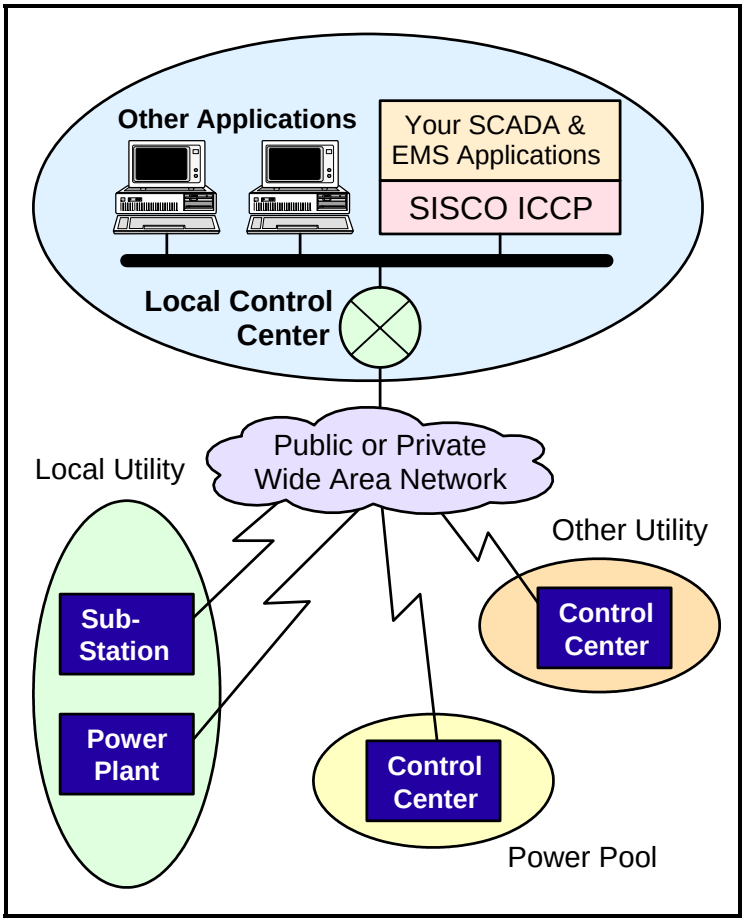
SISCO's ICCP Toolkit for MMS-EASE is a comprehensive development environment for building ICCP- TASE.2-based applications. The ICCP implementation layers on top of the MMS functions provided by SISCO's MMS-EASE product. MMS functions are also available to applications for integration with other MMS and IEC61850 (UCA™) applications and devices.

For OEMs

For the SCADA/EMS, supplier SISCO's ICCP Toolkit for MMS-EASE allows you to get ***products to market fast*** and with minimal risk. The ICCP Toolkit for ICCP represents many man-years of development efforts by both SISCO and a leading EMS supplier. You can gain the benefit of this continuing investment by adding ICCP-TASE.2 to your existing products with a greatly reduced development effort.

For End Users

SISCO works with many of the leading SCADA/EMS suppliers to provide you with the ICCP-TASE.2 products you need to comply with competitive and regulatory requirements for open transmission system access using up-to-date mainstream networking technology.



Benefits of the ICCP Toolkit

- Reduced time to market and development effort through the use of a high-level C language API
- Reduced technical risk using field-proven technology
- Can eliminate the configuration and maintenance of separate front-end processors by allowing tight coupling of ICCP-TASE.2 functions with existing SCADA and EMS applications on their native computers.

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About ICCP - TASE.2

Executive Summary

ICCP is an international standard (IEC 60870-6) for Telecontrol Application Service Elements (TASE.2). ICCP defines a model for control centers, including the various processes, operations and actions that can be performed. ICCP also provides a set of communication services, based upon the same MMS protocols (ISO9506) referenced in EPRI's Utility Communications Architecture (UCA™) and IEC61850, that can be used to exchange data values and data sets between control centers, substations, and devices in real-time. Because ICCP is supported by many of the leading EMS/SCADA vendors, it offers a wide range of interoperability with other EMS/SCADA systems. And, because ICCP is based upon MMS, other applications like power quality monitoring, substation automation, and process monitoring can share the same network infrastructure.

ICCP Conformance Blocks

ICCP consists of a broad range of functions from simple device control to real-time exchange of account information for real-time pricing and wheeling functions. The specific functions performed by a given implementation is dictated by the ICCP conformance blocks that the implementation supports. The following is a brief description of these ICCP conformance blocks and their associated objects and services:

Block 1 - Basic Services

Association Objects:
- Services to control communications sessions between ICCP clients and servers

Data Value Objects:
- Get/Set Data Value
- Get Data Value Name/Type

Data Set Objects:
- Create/Delete Data Set
- Get/Set Data Set Element Values
- Get Data Set Names/Element Names

Transfer Set Objects:
- Start/Stop Transfer
- Data Set Transfer Set Condition Monitoring (Interval time-out and operator request† conditions)

Next Transfer Set Object:
- Get Next Transfer Set Value

Block 2 - Extended DS Condition Monitoring

Object Change, Integrity Time-out and External Events† for Data Set Transfer Sets.

Block 3 - Blocked Transfers

Support for Transfer Reports with Block Data†

Block 4 - Information Message

Information Message Objects (operator messages) and services.

Block 5 - Device Control

Device Objects:
- Select/Operate
- Get/Set Tag
- Time-out†
- Local Reset†
- Success/Failure†

Block 6 - Programs

Program Objects†:
- Start/Stop/Reset/Resume/Kill
- Get Attributes

Block 7 - Events

Device Objects†:
- Success/Failure

Event Condition Objects†:
- Event Notification

Event Enrollment Objects†:
- Create/Delete Event Enrollments
- Get Event Enrollment Attributes

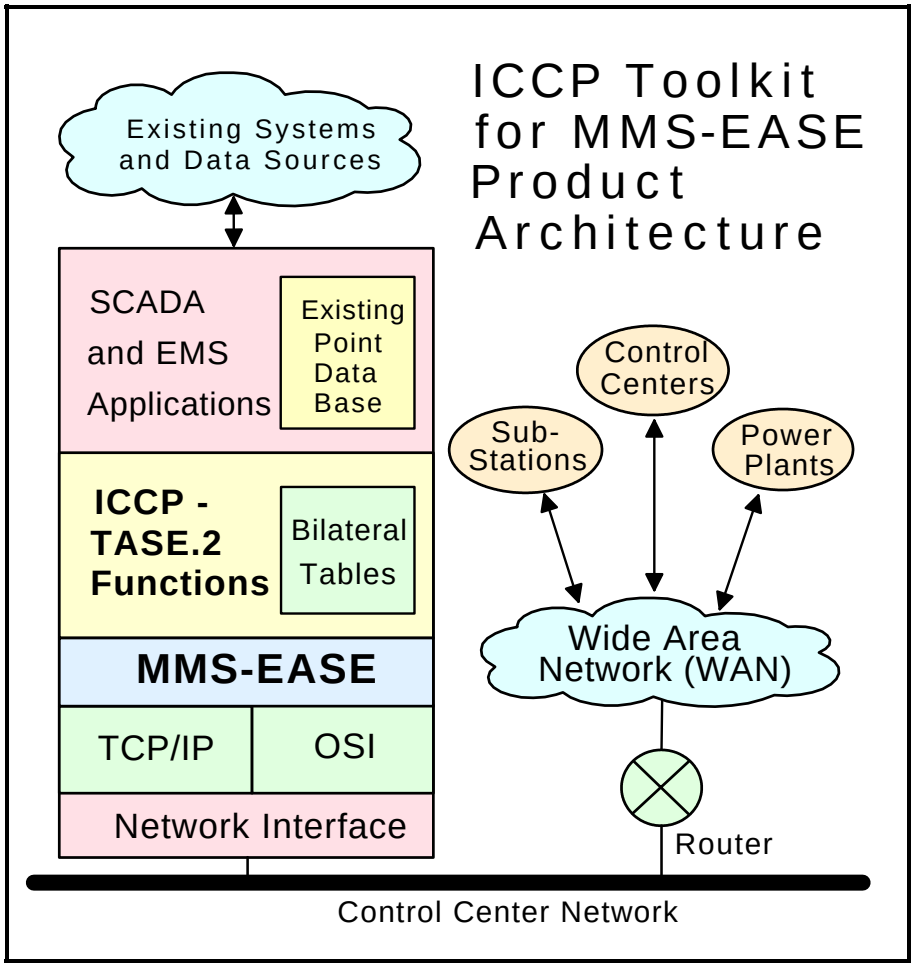
Block 8 - Accounts

Transfer Account Objects:
- Condition Monitoring and Reporting

Block 9 - Time Series

Time Series Transfer Set Objects†:
- Condition Monitoring and Reporting

† Not currently supported by the ICCP Toolkit for MMS-EASE



Product Architecture

The ICCP Toolkit for MMS-EASE handles most of the communications functions required to implement an ICCP based system. This significantly reduces the development effort required for SCADA/EMS vendors to build ICCP/TASE.2 functions into their products.

Integrating the ICCP Toolkit with an existing application package involves translating the existing point database of the application into ICCP Toolkit function calls, which define the bilateral tables. Once this is done, a function in the ICCP Toolkit is called to start and stop network data transfers. Data transfers between your application and the ICCP Toolkit take place using pre-named, user-defined "callback" functions. The ICCP Toolkit calls these functions in your application whenever data is needed by or received from a remote node.

Platform Issues

The ICCP Toolkit for MMS-EASE is available on a variety of the most popular computing platforms to allow you to integrate ICCP-TASE.2 with your existing systems. Portation to other environments is possible. Please contact SISCO for more information. The ICCP Toolkit for MMS-EASE is available on the following platforms:

- IBM® RS/6000® AIX
- Sun® SPARC® Solaris®
- HP® Alpha Tru64 Unix™
- PC Windows™ 2000/XP/2003
- others possible...contact SISCO for more details

Other ICCP-TASE.2 Products from SISCO

- **AX-S4 ICCP** ("access for ICCP") is an OPC (OLE for Process Control) server that allows "plug-in" access to ICCP-TASE.2 clients and servers for many off-the-shelf Windows NT based SCADA/HMI products supporting an OPC client interface.
- **ICCP-TASE.2 Extensions for MMS-EASE *Lite*** provides a compact and resource efficient implementation of the UCA and ICCP-TASE.2 protocols for embedding ICCP-TASE.2 directly into RTUs, Relays, and other intelligent electronic devices (IEDs).

ICCP Toolkit For MMS-EASE: Key Features

- Currently Supports the following conformance blocks:
  - Block 1 - Basic Services
  - Block 2 - Extended Data Set Condition Monitoring
  - Block 4 - Information Message
  - Block 5 - Device Control
  - Block 8 - Accounts
- Updates and enhancements are provided under support and maintenance.
- ICCP objects are built automatically as you define the Bilateral Tables.
- High-level ANSI C functions are provided for defining the ICCP objects and the transfer sets and for establishing and terminating connections between clients and servers.
- Once objects are defined and connections are established, data transfers can be handled by the Toolkit per the bilateral tables.
- Licensees benefit from maintenance performed on common ICCP code base.

About SISCO

SISCO, Inc. is a private company founded in 1983. SISCO has established itself as a leader in standards-based real-time integration and communications technologies serving the energy and automation industries. SISCO's products are widely used in many mission critical applications from electrical transmission systems to material handling. We work with both end users and OEMs serving those end users. SISCO's ability to partner with other OEMs and integrators allows us to deliver more capabilities at a lower cost resulting in better solutions for you. Today SISCO has demonstrated leadership and capabilities to provide solutions in the following areas:

- ❑ Model-driven integration technology based upon advanced publish/subscribe and object oriented technology for enterprise integration of heterogeneous applications in the utility environment.
- ❑ Real-time communications and networking based upon open, public, and international standards such as:
  - Inter-control Center Communications Protocol (ICCP) per IEC60870-6 TASE.2 for control center integration and power plant dispatching
  - Utility Communications Architecture (UCA®) per IEC61850 for substation automation.

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