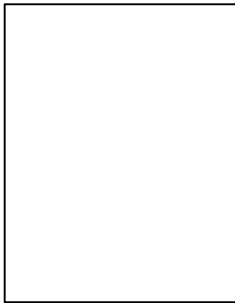


Future is today



Once again I would like to thank all of you, our customers and friends, for the confidence and trust that you have shown in SISCO by working with us to

help you deliver the best solutions in communications and automation systems. The future is exciting and we hope to be building even stronger relationships with you as we move into the 21st century.

A glimpse of our future can be seen here on these pages. SISCO is making exciting strides in applying the latest in communications and middleware technologies to make truly integrated real-time systems a reality. Our goal is to help you leverage these emerging integration and communication technologies to improve your products and operations by providing industry specific support and enhancements. The products and services you see here in this publication today are the future of both SISCO and the industry tomorrow. We look forward to working with you on making this exciting future happen.

Jon Martin
President and CEO

Inside...

- Vendor Feature: Telegyr
- AX-S4 ICCP - The latest advancement in ICCP TASE.2 technology
- AX-S4 MMS Update
- SISCO's Employee Edge

SISCO's Utility Integration Bus

Targeting unmatched price/performance

Scenario: A utility approaches your company and explains that it needs to rework its information system due to bottlenecks and performance issues. They say that their applications are written in Visual Basic and make use of DCOM. They then ask if you have a technology that can solve their problem using the latest integration technology. But before you can answer yes, they throw in that the system must be able to exchange 144,000,000 changes per day and that they desire unlimited deployments on a limited budget.

With performance, technology, and cost targets difficult to achieve with off the shelf technology, what would your response be?

SISCO's answer was the **Utility Integration Bus (UIB)**. The UIB is a technology that was designed and developed to address the functional needs of utilities and the requirements of this scenario.

"The SISCO UIB Toolkit product offers enhanced diagnostic and error recovery ability."

Advantages of using the Utility Integration Bus

- Low deployment and development risk
- High performance
- Lower integration costs
- Use of XML eases interface to third party adapters (e.g., SAP, Peoplesoft, etc.)

The UIB

The UIB is based upon concepts and architectures developed by SISCO to address the requirements identified by several public forums. These forums include the Electric Power Research Institute, International Electrotechnical Committee (IEC), Technical Committees 57 (TC57), Working Groups 13 and 14 (WG 13 and WG 14), Object Management Group (OMG), and the Open Application Group (OAG).

The UIB is designed to allow applications to make use of broker technology and has been optimized for the utility application domain.

See Utility Integration Bus, page 2

MMS-EASE Lite adds ICCP TASE.2 Extensions

The ICCP-TASE.2 extensions for MMS-EASE Lite is the latest advancement in ICCP-TASE.2 technology from SISCO. These extensions allow ICCP-TASE.2 to be applied in relays, meters, RTUs, and other IEDs cost effectively and with minimal engineering effort.

This development brings the internationally accepted ICCP-TASE.2 standard for real-time data exchange to the realm of intelligent electronic devices (IED) and other embedded systems.

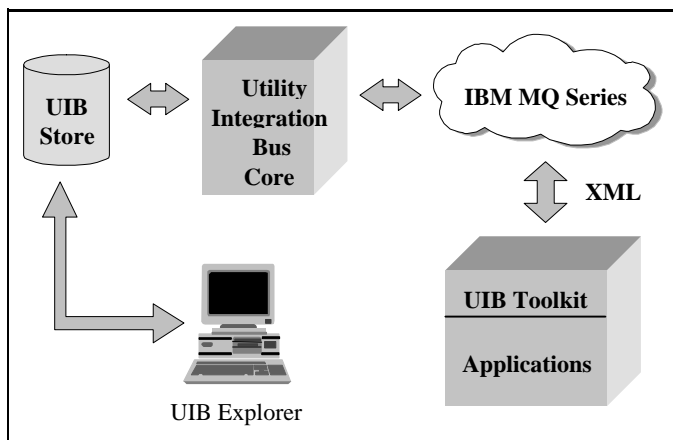
Contact SISCO for more information about this or any other product.

Utility Integration Bus

Continued from page 1

Optimizations have included performance, error recovery, diagnostic capability, the use of metadata to facilitate easier integration of information from dissimilar systems, and better data management for utility operational data.

IBM's Message Queue (MQ) Series product is used to transport UIB and user messages. These messages are encoded in eXtensible Markup Language (XML) whose definition is maintained in the metadata warehouse (UIB Store). The use of messaging and message classes allows the UIB to integrate with various technologies and thereby produce easier integration without the need to create gateways. The target technologies, to which the UIB Toolkit will provide interfaces, include COM/DCOM, CORBA, C/C++, and Java Messaging Service (JMS). Additionally, the UIB Store is constructed to be deployed using one of several databases (e.g., Oracle, SQL Server, and Powerdata) used and managed by utilities today.



SISCO's Utility Integration Bus Architecture

In order to decrease maintenance and configuration costs, a single utility, the UIB Explorer, is provided. This utility, coupled with Application Programming Interfaces (APIs) and Core Services, comprise the SISCO UIB Toolkit product and offers enhanced diagnostic and error recovery ability. The Core Services detect the health of an application and determine which information attributes are no longer being sourced if the application goes offline. Upon the determination that the application is offline, the Core Services alert other applications that the list of informational attributes is no longer being sourced. Redundant sources for the same information are known by the services, and in this instance, the services would not alert if one of the multiple sources was still online.

Pricing models for the UIB allow for leasing, CPU based, and site licensing. The site licensing option allows unlimited CPU deployment of the UIB core within a customer site.

Telegyr and SISCO team up for Paradise upgrade

When TVA (Tennessee Valley Authority) wanted to refurbish its Paradise power plant facility, project planners also saw it as a golden opportunity to upgrade real-time data communications. They found an enthusiastic partner in Telegyr Systems, Inc., a long-term, preferred supplier to TVA for operations-management solutions, including transmission and substation control systems. Telegyr, which has actively supported development of UCA specifications since 1992, relies heavily on SISCO as a development partner for communications.

The Paradise facility has 3,000 MW of generation capacity, supplied by three coal-fired units tied to 69, 161 and 500 kV switchyard buses. Project objectives included centralized dispatcher control over switchyard breakers and expanded data collection. The installed solution uses Telegyr's StationMANAGER as "substation host" networked via Ethernet to 18 Modicon PLCs serving as breaker controllers. StationMANAGER, an integration platform using an embedded PC, executes breaker commands and processes data gathered from station devices.

StationMANAGER supports UCA communications with both client and server functionality. In its client role, StationMANAGER acquires data from server devices. As a server, it responds to requests from client applications. Acquired data is used to populate ObjectBase, a repository of substation information within StationMANAGER. ObjectBase uses UCA/GOMSFE (Generic Object Models for Substation & Feeder Equipment) models to represent information about station devices like breakers, reclosers, and transformers.

Several SISCO products and development tools have been instrumental to realizing the new UCA communication capabilities within StationMANAGER. The **MMS Object Explorer**, an AX-S4 MMS application, allows users to interactively explore the content and structure of ObjectBase or any remote UCA/MMS device. It also supports network address and variable configuration. **MMS EASE Lite** facilitated the integration of MMS services, OSI and TCP/IP stacks, and Ethernet connectivity. The **MMS Object Foundry** tool provided strong support for the construction of ObjectBase.

At Paradise, UCA is TVA's first choice for integrating any new IED (Intelligent Electronic Device). This winter TVA will begin developing a corporate UCA communications strategy that encompasses enterprise issues such as security, reliability, new IEDs, and client access. They will be working closely with Telegyr Systems and its development partner, SISCO.

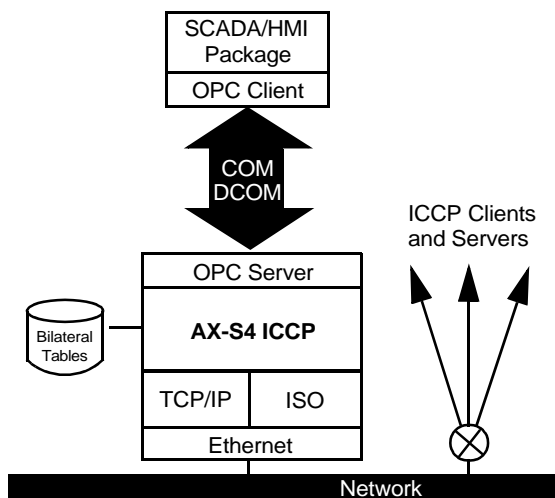
Telegyr Systems, Inc. is a global leader in the supply of innovative and cost-effective operations management solutions for the energy and utility industries. With more than 800 systems installed, Telegyr provides integrated network management solutions, from the control center to the substation. Telegyr Systems, Inc., is a member of the global Telegyr Systems AG group, headquartered in Zug, Switzerland. The company has R&D, sales, and service offices around the world and serves the Americas and Asia/Pacific regions from its San Jose, CA-based operations. For more information, call (408) 453-5222 or find our website at www.us.telegyr.com

AX-S4 ICCP - The latest advancement in ICCP TASE.2 technology

Combining two popular standards into a single product, AX-S4 ICCP is the latest advancement in ICCP-TASE.2 technology. SISCO's development of AX-S4 ICCP (Access For ICCP) will provide off-the-shelf ICCP-TASE.2 connectivity for many of the most popular Windows® NT™ SCADA/HMI packages available today.

AX-S4 ICCP is an OPC™ (OLE for Process Control) server that acts as a gateway between OPC client applications and ICCP clients and servers such as control centers or substation controllers. With AX-S4 ICCP, any Microsoft® Windows Software Application Package that supports OPC as a client can use the ICCP protocols to access real-time data in networked control centers and applications. AX-S4 ICCP allows these Windows applications to communicate with control centers and other applications over ICCP-based Ethernet networks.

With DCOM, Windows applications on other PCs can communicate with ICCP control centers and applications through AX-S4 ICCP.



SISCO's AX-S4 ICCP Architecture

Using AX-S4 ICCP

PLC International S.A., located in Santiago, Chile, is currently developing a system for a customer in Caracas, Venezuela in which AX-S4 ICCP is being used to interface a SCADA package called PCVUE (made by ARC Informatique in France) using the OPC interface. They are currently interfacing with substations and other equipment provided by ABB.

AX-S4 MMS adds OPC Information Reports and UCA Reporting

Previously featured in the HOST, the last release of the AX-S4 MMS product included an OPC interface, the emerging API standard for SCADA/HMI and other Microsoft Windows applications. Now, we have added support for Information Report Services and UCA Reporting to the AX-S4 MMS OPC Server.

Reporting Services

The new reporting services of AX-S4 MMS allow an OPC client to receive UCA Reports and generic MMS Information Reports from remote MMS servers. There are three reporting models included with this service:

Timed - AX-S4 MMS will update the OPC client with initial values for OPC group items and then wait for Information Reports. If a match is found on receipt of an Information Report, AX-S4 MMS will cache the new value and update the client with the change at the next expiration of the group poll timer.

Immediate - AX-S4 MMS will update the OPC client with initial values for OPC group items and then wait for Information Reports. If a match is found on receipt of an Information Report, AX-S4 MMS will immediately update the client with the change.

PollInfo - AX-S4 MMS will poll OPC group items as well as update the OPC client on receipt of Information Reports if the Information Report matches an item. By setting the poll rate properly, a periodic "integrity scan" function can be supported.

UCA Reporting

Enhancements for OPC UCA Reporting consist of the following two parts:

Additional Browsing

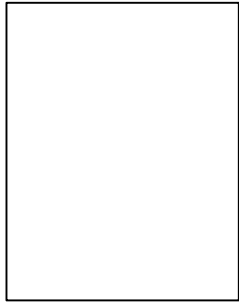
Additional browsing allows the user to manipulate UCA server report control blocks and select points contained in the report to monitor.

Mapping Incoming UCA Reports to OPC Variables

Once UCA reports have been received, any OPC client monitoring any of the points contained in the report will be alerted. The reason for the report will be passed to the OPC client using the OPC quality flag.

Employee Edge

Denise Patrishkoff, Technical Services Coordinator



Denise is one of the more seasoned members of SISCO, hired in 1987 to work in the administration department. Not long after her hire however, her skills dictated that she would be more of an asset working with

product coordinators and engineers devising technical documentation for SISCO products. Soon, the Technical Services Department was established and Denise was entrenched as a key participant in the development of training materials, product documentation, and technical support.

Denise eventually was named Technical Services Coordinator and since then has thrived in her role. "The position I hold is a great challenge in that it is very important for me to learn and know everything I can about SISCO products and how they are used by our customers," she said. "Being involved in the development of all technical documentation and administratively with training helps to keep me up to date with our software and its capabilities."

Today, overseeing all aspects of the department, Denise concentrates most of her efforts in areas of technical support and the responsibility of being the First Level Support Responder. In this role, she has emerged as a

reliable source of information and expertise with an unwavering willingness to help SISCO's customer base reach their objectives.

"SISCO has always strived to provide its customers with a high level of support assistance. We make a strong effort in responding to all inquiries within a short time frame and provide our customers with personalized assistance, not a fax machine of options or a computer activated touch tone approach to answers," Denise confidently said. "I believe that through personal communication comes growth and understanding on both sides as well as feelings of trust and security."

Denise's commitment to excellence in her job has not been overlooked and we feel fortunate to have her as part of our team as we move into the 21st century. Dedicated personnel along with a company vision to reach new heights will keep SISCO rooted as a main player in systems integration for years to come.

Asked about SISCO's future, Denise said, "As SISCO has branched out from manufacturing to utility and other important industries, we've continued in our tradition of providing diverse and accommodating solutions to our customer base. When I first started, MMS was only used in test labs and as a prototype. Now there are so many areas in which MMS is being used for real-time applications. How far we can go? As far as our imaginations, creativity, and hard-work will take us."

SISCO, Inc.

Systems Integration Specialists Company is a recognized leader of computer applications and real-time communications with end-users and OEM customers worldwide. SISCO is dedicated to 1) providing solutions that are based upon an understanding of our customer's needs and 2) providing solutions that are cost effective, open, interoperable, and maintainable.

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