

## Focus on Productivity



Any business that wants to continually improve itself must strive to increase the productivity of its employees. At SISCO, we not only need to look internally to

improve our own operations, but we must also concern ourselves with the productivity of our customers. After all, some of the primary value we deliver to our customers is a reduction in the cost of development by delivering robust off-the-shelf solutions for real-time communications. As the article to the right shows, we are proud of the role we are able to play in helping our customers get their products up and running quickly.

The new enhancement to MMS-EASE *Lite*, known as MMS Object Foundry, is a breakthrough for our customers that allows them to get their devices up and running with MMS connectivity more efficiently. The MMS Object Foundry demonstrates SISCO's continuing commitment to improve and help our customers improve at the same time.

Jon Martin  
President and CEO

### Inside...

AX-S4 MMS to support OPC  
UCA update

MMS Object Explorer adds  
support for multiple lan-  
guages

New England Power Grid  
SISCO's Employee Edge

## Users excited about MMS-EASE *Lite* and MMS Object Foundry

SISCO has introduced the MMS Object Foundry, an enhancement to the MMS-EASE *Lite* development tools designed to simplify the task of integrating the MMS protocol into our customer's products.

Electrotek Concepts, Inc., part of World Power Technologies, Inc., is one customer taking full advantage of MMS Object Foundry's ability. As a provider of power quality services, power quality systems integration, and application software for power quality monitoring, Electrotek has found that MMS Object Foundry meets their needs for a reliable and quick solution.

**"With MMS Object Foundry, I was able to produce a fully functional prototype of the UCA interface to our new product in just a couple of hours!"**

*Erich Gunther*  
Electrotek

MMS Object Foundry, a MMS-EASE *Lite* tool for creating MMS server objects (e.g., Types, Variables, Named Variable Lists, and Domains), greatly simplifies

### Other benefits of using MMS-EASE *Lite*

- **Field-proven implementation reduces development risk, minimizes development effort, and shortens time to market.**
- **Designed specifically for embedded environments to minimize CPU and memory requirements and to maximize performance.**
- **ANSI C source code is provided for all functions to facilitate portation to virtually any environment.**

the process of creating links between MMS objects such as variables and local program variables or processes.

Regarding the efficiency and reliability of MMS Object Foundry, Erich Gunther, a VP of Technology and Information Systems for Electrotek said, "MMS Object Foundry allows us to get a prototype MMS application, with simple or complex variable sets, up and running in only a few minutes."

To explain MMS Object Foundry in simple terms, it is an executable program that takes a text file (Object Definition File) as

*See MMS Object Foundry, page 2*

## Upcoming events at SISCO in '98

- The MMS-EASE *Lite* User's Group Meeting is scheduled for June 24-25.
- The MMS-EASE Implementor's Workshop (MIW) is scheduled to take place in the fall.
- A Utility Centric Security Seminar offered by SISCO and KEMA Consulting is scheduled to take place in the winter.

Contact SISCO for further details about training programs or check out our website for the 1998 Training Program Schedule at <http://www.sisconet.com/98course.htm>.

# MMS Object Foundry

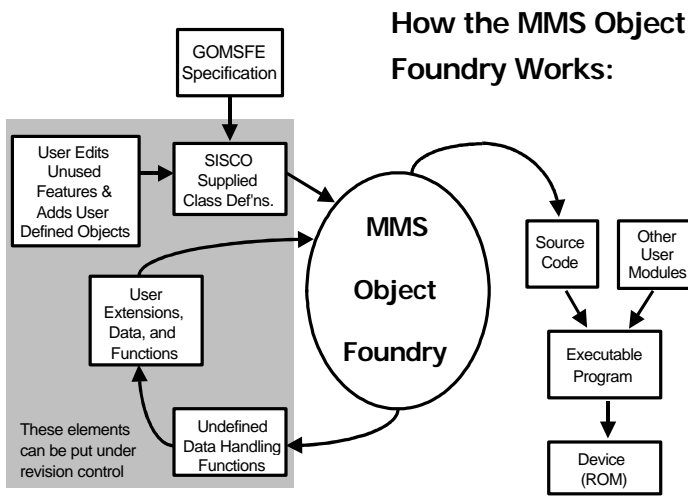
Continued from page 1

input and produces the C source code required to create the MMS objects described in the file.

Adding MMS server functionality to any application is simple because the C code provides direct linkages to variables and types in the application.

The following steps are all it takes to use MMS Object Foundry (See the *MMS Object Foundry Workflow Diagram* below):

1. Identify the C data types to be supported.
2. Identify the MMS Named Variables and associated C program variables.
3. Create the "Object Definition File" or use one of SISCO's supplied GOMSFE files.
4. Execute MMS Object Foundry.
5. Link the resulting object file with the target application.



*MMS Object Foundry Workflow Diagram*

Of course, MMS-EASE *Lite* and MMS Object Foundry provide for application specific programming needs with user definable processing functions and other programming hooks.

## UCA Support

MMS Object Foundry also includes UCA device model specific features that make it easier than ever to build UCA compliant devices, containing Generic Object Models for Substation and Feeder Equipment (GOMSFE) objects, by using the definition files included with the product.

With its time-saving advantages as well as its developmental ability, MMS Object Foundry provides Electrotek with just what it needs to get the job done when it comes to UCA implementation.

Gunther explained, "The UCA support in MMS Object Foundry allowed us to implement our new device using the UCA object model in far less time than originally estimated. With MMS Object Foundry, I was able to produce a fully functional prototype of the UCA interface to our new product in just a couple of hours!"

"MMS Object Foundry's pre-built type files (UCA GOMSFE models) saved us many hours of implementation and debugging and allowed us to concentrate on our specific implementation details."

## AX-S4 MMS to support OPC

In a continuing effort to improve our products and respond to customer demand, SISCO is adding support for OLE for Process Control (OPC) to its AX-S4 MMS ("access for MMS") product. OPC is a standard developed by the OPC Foundation for interfacing Windows™-based applications to device networks. OPC is based upon Microsoft's® COM/OLE Automation technology for Windows. Support for OPC has been widely announced by most of the major providers of Windows-based industrial software including WonderWare, Intellution, US Data, SISCO, and many others.

By adding OPC to AX-S4 MMS, SISCO will be able to provide MMS and UCA connectivity to any OPC enabled application without custom programming. With OPC, AX-S4 MMS is the only interface needed to retrieve data from any number of devices. Rather than having to develop custom software drivers or buy proprietary application programming interfaces for each vendor's devices, AX-S4 MMS packages all the tools needed for real-time communication between Windows applications and devices, as well as other applications over MMS-based Ethernet networks.

Because OPC provides actual plug-and-play interoperability between vendors, using AX-S4 MMS will give our customers an easy to use tool that provides real-time data integration for Microsoft Windows applications, enhanced with an industry standard that will allow for seamless integration of different vendor hardware and software products.

SISCO will have versions of the OPC enabled AX-S4 MMS product available for testing with existing licensees during the 3<sup>rd</sup> quarter of 1998.

## What's happening with UCA?

Recently, there have been a number of inquiries regarding the state of UCA (Utility Communications Architecture) and its direction. The lack of public technical meetings such as UCA and MMS Forums has caused some to question whether this was a reflection of the status of UCA. The answer to that question is NO. UCA is simply growing beyond its roots that originated at the Electric Power Research Institute (EPRI) to a global international standard.

Initially, IEEE and IEC both had visions of having UCA standardization within their respective organizations. However, this could have resulted in a US standard (IEEE), and potentially, a different international standard (IEC) as well. It is a testament to the core UCA work that both organizations deem UCA worthy of potential standardization. All parties agreed during the IEEE Winter Power Meeting that a single global standard should be the objective.

To that end, IEEE will be publishing the current UCA specifications as technical reports. IEC will attempt to harmonize UCA with some of the protocols sponsored within IEC TC57. The objective being, to achieve a single standard for electric utility communications. In the meantime, the momentum for UCA continues to gather as it gains more and more support from users and OEMs worldwide.

## MMS Object Explorer adds support for multiple languages

The MMS Object Explorer, part of the AX-S4 MMS product, will soon be adding support for multiple languages. This feature will provide you with the opportunity to choose the type of language the MMS Object Explorer uses and also with the flexibility to customize the labels and messages of its interface.

Simply put, the MMS Object Explorer comes with a text file containing all of the text strings displayed by the MMS Object Explorer such as menu labels, form labels, status messages, log messages, and error messages.

Using a text editor, each text string can be altered to read any way you would like, including being able to change the language of these text strings into a language not already included with the MMS Object Explorer.

You will have the option during the installation of the MMS Object Explorer to choose a different language set to replace English, the default language. Currently, support for German and French is being added. Other languages may be provided in future releases.

## ICCP controls New England

The New England electric power grid has become the first regional control area to implement ICCP as the sole intra-area communications protocol. As of February 1, 1998, all other data communication methods between the nine principal utility entities were permanently dismantled. This project is the first large-scale implementation of ICCP to go into everyday use.

ICCP (Inter Control-center Communications Protocol) is a specification that EPRI (Electric Power Research Institute) sponsored to provide utilities and vendors with a common protocol for data communications. EPRI chose to layer ICCP on the already established MMS standard in an effort to ensure interoperability.

ISO New England, the security control entity for New England, coordinated the efforts of eight utilities and four ICCP vendors to form an ICCP network over a Frame Relay WAN. All four vendor's products are layered on **SISCO's MMS-EASE** but use different hardware and operating system combinations.

- **Cegelec ESCA:** DEC Alpha, OpenVMS
- **ABB:** DEC Alpha, DEC UNIX
- **Munin Technologies:** Intel, Windows NT
- **Telegyr Systems, Inc. (Landis & Gyr):** Intel, Windows NT

ICCP development efforts by the four vendors had been going on for several years, but the New England network was the first large network that had rigorous deadlines for becoming operational.

The ICCP network was implemented using dual Frame Relay networks with PVCs (permanent virtual circuits) tying redundant routers together at the various sites. As per the ICCP committee's initial recommendations the network was implemented using OSI and IS-IS routing, although a change to IP and OSPF or EIGRP is being considered. Because the ICCP software is layered on **MMS-EASE**, few modifications are required in the software for this change.

Utilizing this network, the eight utilities share EMS/SCADA data and ISO New England generates AGC control signals to ensure sufficient electricity is produced for the region.

*This story was written by Scott Huston, a Senior Project Engineer with Cegelec ESCA Corporation.*

Questions regarding:

- ESCA's ICCP offering OpenAccess Gateway, or the New England ICCP network, can be directed to Scott Huston at (425) 822-6800 or by e-mail at [Scott.Huston@esca.com](mailto:Scott.Huston@esca.com).
- ABB's ICCP products can be directed to Stephen Winters at (408) 987-6486 or by e-mail at [Steve.Winters@ustra.abb.com](mailto:Steve.Winters@ustra.abb.com).
- Munin Technologies can be directed to Todd Leadbeater at (603) 882-6891 or by e-mail at [74512.3431@compuserve.com](mailto:74512.3431@compuserve.com).
- Telegyr Systems, Inc.'s ICCP Products can be directed to Bill Moore at (408) 452-5302 or by e-mail at [bill.moore@us.landis-gyr.com](mailto:bill.moore@us.landis-gyr.com).

# Employee Edge

## Rob Robinson, Quality Assurance Manager



Rob has been a part of SISCO from just about the beginning. In 1988, after having completed an undergraduate degree in Computer Science and spending a few years as a programmer of diagnostic monitoring systems, Rob joined SISCO's

team of Design Engineers. Since that time, Rob has stood out as a valued employee, having some contact in seemingly every product developed here at SISCO.

As a Design Engineer, Rob has worked mostly in the development of our MMS-EASE based products. He has become so entrenched in the product line with his knowledge of MMS and ability to help others that he has also taken on the responsibility of instructing our MMS Implementor's Workshop (MIW). MIW is a training program designed to give customers of our MMS-EASE products the knowledge and skills needed to write MMS-EASE programs.

"We offer training programs to our customers as an opportunity for them to better understand the full range of capabilities that our products offer. I think MIW training is essential in learning how to make a MMS-EASE application work properly."

Over the years, Rob has also been a resource for second-line support, ensuring that our customers' questions are answered and their needs are met. In doing so, he has shown a growing interest in the quality of our products. Targeting SISCO's product release process, Rob has spent a great deal of time and energy ensuring that this process provides greater product reliability and increased product accountability. As he proves to be a vital piece of our quality assurance efforts, SISCO recognizes the importance of having employees with Rob's influence and insight as part of our company.

Asked about the importance of our products' quality, Rob explained, "There's nothing more unsatisfying than purchasing software that doesn't install or work properly. Part of my job is to make sure the product we ship is the best possible product it can be. I do that by using testing procedures aimed to try and cause software malfunctions. The obvious goal is to find and eliminate any existing problem with our software before it gets to the customer."

Finally, as is customary of employees that have been featured in the Employee Edge, Rob candidly spoke when asked what his thoughts were on the future of SISCO. "I believe SISCO has positioned itself perfectly to become the clear leader in this type of niche market. With a heavy emphasis on quality, we'll continue to have the best products and the most satisfied customers."

### 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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