ends that tie together multiple systems will be as simple as building any other Web page. This is going to be huge; we're talking about rich, easy to build, system-independent front ends.

Being RESTful also means delivering events, such as alarms and changes of value, the way it is done in the Web. Take for example email: Most people think messages are magically pushed to the recipient's desktop but this is not so. The recipient is a client application that periodically polls its email server for new incoming messages. Really Simple Syndication (RSS) feeds, a technology for Web news delivery and portal aggregation, is also a client-polled mechanism. Thus, in oBIX eventing, the client tells the server what it is interested in and then regularly polls the server for new events. If there are none, nothing is returned. It is an elegant solution that side-steps a lot of complicated middleware issues and this is why it dominates the Web.

Lastly, because oBIX is a flexible modeling language, it has other uses beyond real-time integration. I am talking about device descriptions. In the company I work for, we created our own XML schema for device descriptions. To introduce new devices to our product, we create XML representations of these devices. A special compiler loads the XML and auto-generates the execution code needed by our product. We will switch to using oBIX for device descriptions and if others do too, then we can easily share them in a portable but machine-readable way.

I hope I have been able to convey some of the uniqueness of oBIX and show that it offers a powerful and practical solution for integrating M2M with the enterprise. I urge you to read and comment on the specification. Furthermore, it is not too late to join the OASIS oBIX Technical Committee and have a substantial impact on this important effort. Please visit http://www.oasis-open.org/committees/obix for more information.

Contact:
Aaron Hansen
ahansen@tridium.com

Technical Corner

Certified Programmable Controllers? But how?

What makes a LONMARK device so valuable to interoperability is the same thing that causes certification to be so unattainable for many products: the static interface. The interface being fixed is the core of the interchangeable networking side of the device, whilst the algorithms remain the purview only of the manufacturer of such a device. It's a grand concept that has worked fairly well for the past ten years. However, "fairly well" isn't enough anymore. The number of specifications and jobsites demanding LONMARK certified devices is increasing and that means many devices that provide the "glue" will be left out of the bids.

Though the effort to create a profile for what cannot be profiled has been attempted a few times in the past, success has been elusive. Programmable Controllers are, by definition, simply not tools with static interfaces; and yet, the LONWORKS community increasingly needs to find a way to differentiate such devices (those designed to the LONMARK Interoperable Guidelines and in full spirit of interoperability) from poorly designed devices of substandard quality and proprietary structure. But how? What's the approach to take?

First, we must decide on the definition of a LONMARK Certified Programmable Controller. What will it be? Will it be a device that can be programmed by any tool in the same way regardless of manufacturer, or will it simply be a device that can be managed by any tool but programmed the way it is done today?

For those unaware of the need for programmable controllers, take a moment to consider the applications that cannot be (or are not presently) covered by static, fixed-interface devices. Some people argue that gateways to/from other protocols cannot easily be handled with a fixed-application device. Others believe such things can and should be profiled. Some argue that programmable devices are needed for the native application cases that cannot be handled by configurable, fixed-interface devices. Others claim those applications should be specifically profiled.

The contradictions of purpose and need are seemingly endless. One thing most people agree upon however is that there is a need for … something. It is the "something" that seems to be difficult to pin-down.

Some time back, the LONMARK Controller Object profile (profile number 5) was made obsolete. It was a profile that defined absolutely nothing. The concept was that whenever something different was needed on a job or in a device, the Controller Object could be used; and was. This was great for getting a device certified but terrible for those integrating those devices into the systems, for those buying replacement devices, and for those who must maintain the systems.

The Controller Object was not interoperable in the least. So, how do we create a programmable profile – one that promotes the interoperable core of LONWORKS networks – without creating anything more than a generic loophole for the Guidelines and for interoperability? Why would anyone use a fixed-interface profile when they could have their device certified to the programmable controller profile for everything? Even if developers are restricted to using the programmable controller profile only for devices where no profiles already exist for the function needed, how does this help LONMARK expand the number of interoperable, statically defined profiles – the thing that gives LONWORKS its greatest advantage over other protocols on the interoperable front? →

The solution is a fine balance that will require the thoughts of all – manufacturers, integrators, buyers, specifiers, and end users. Thus, I urge you to get involved in the BAS Task Group (the home for this Programmable Controller effort): state your opinions, listen to others' ideas, and help LONMARK come to the ideal solution that works for all. Without your input, a decision will still be made – it just may be one that is contrary to your wishes.

Jeremy Roberts
Technical Director of
LONMARK International

Integrator's Perspective

Marketing the Added-Value of Building Automation

It is only through the development of LONWORKS technology that the term "system integrator" has become established in building automation. Up to then, system integrators were found exclusively in the field of IT . The tasks of a system integrator in either field are fundamentally the same, but the significance of their work for each respective field is very different.

System integrators develop individual solutions for their customers. The goal is to provide a system that will meet the customer's requirements. A system integrator possesses comprehensive technical knowledge, is up to date on the latest hardware and software available on the market and makes an independent choice on which technology and products should be used on a given project.

The system integrator is therefore able to provide the best possible solution for each project. Only an independent system integrator is free to choose the "best of breed" products. He/she reaches the best possible solu-tion by designing a system that exactly meets the needs of the customer. This is what separates the independent integrator from companies that also manufacturer system components. For such companies, the best possible solution is one that contains as many of their own products as possible.

IT versus building automation – a matter of image

Here is the comparison to the IT system integrator. The IT system integrator is signifcantly more successful in terms of his/her market image. IT integration projects always aim to strengthen a company's competitiveness, either by increasing productivity and efficiency or by introducing technological innovations. This is why it is important and advantageous for potential customers to invest in such projects. For building owners, tenants and users, however, the advantages of building automation are often too obscure. Indeed, some even regard building automation as a necessary evil whose implementation should be kept to a minimum.

Successful system integrators have understood this and have adopted a market position that is similar to the IT integrator. These system integrators also benefit from the increasing technological convergence towards Web-based technology, both in companies and buildings. Building automation is becoming part of IT, part of a company's network, part of the value-added chain.

The way ahead – getting the right message across

This claim needs to be heard and the similarities between the different fields of system integration needs to be emphasised in the market. Today's system integrators are companies that have not only automation specialists for the classic automation tasks but also programmers, network specialists and web-designers.

With this statement a system integrator can approach a project with more confidence. Issues such as which automation hardware should be installed for the HVAC and which for lighting are no longer occupying center stage. Instead, issues such as benefits, efficiency and Web integration are becoming the leading themes.

Which standardized protocol should the system integrator use to implement a project? The above mentioned convergence means that there is no longer room for classical building automation protocols above the automation level and between automation stations. No IT specialist wants to get to grips with BACnet. There will be an M2M communication via XML/SOAP, HTML and other Internet standards. This is supported by the current trend for new automation stations to be equipped with an integrated Web server.

This leaves the field level. When you consider systems such as HVAC, lighting, room automation, sun protection and collection of data on energy consumption, the only viable, comprehensive system is LONMARK via TP/FT-10 and LONMARK via IP-852. Otherwise you will have to rely on numerous sub-busses and the associated problems. Seamless and well-engineered integration with all prevelant IT standards is another factor in favour of LONWORKS.

Summary

What needs to be done in order to ensure greater success for system integrators:

- More aggressive use of the term "system integrator"
- Make clear that the system integrator is the guarantee for a successful project
- Highlight the fact that system integrators offer a competitive advantage for building owners, tenants and users.
- Highlight quality and independence

Contact:
HGI
Norbert Heger
info@hgi.de
www.hgi.de