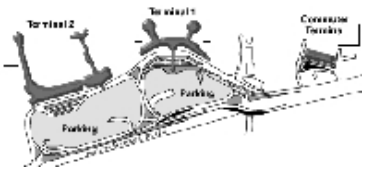

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LonWorks® System Soars at the San Diego International Airport

Charles Lindbergh would surely be amazed by the aviation technology and growing facilities of Lindbergh Field, San Diego International Airport. The airport, part of the Port of San Diego District, continues to expand and currently serves more than 14 million passengers with hundreds of daily flights year-round.Quark Communications Inc. recently deployed LonWorks networks to help the airport simplify HVAC integration and assure a future of smooth expansion and cost savings.

LonWorks System Turns Growth into Opportunity

The airport opened in 1934 and is comprised of three terminals and aircraft facilities. Most recently, the airport expanded Terminal Two by 20 percent. "The airport was happy with their building system, but was looking to the future," explains Adam Guzik, president of Quark Communications Inc. "I think the airport was ready to explore newer technologies," he says. By deploying a LonWorks system, the airport could keep their existing Siemens system and realize substantial new benefits. "I think the turning point for them was the ease of adding features and the flexibility of an open system," says Guzik. "It also brings competition to the airport, so they can go out with an open bid. The LonWorks system was the only system that enabled us to meet the proprietary requirements of the project and still be competitive."

A Special Technical Challenge – Concrete

Adapting to a legacy BAS infrastructure wasn't the only challenge for the LonWorks system. The new system faced a potentially formidable foe: It had to link with the rest of the airport facilities, which are, by the way, 900 feet away across the parking lot! According to Guzik, there was no way to put in new wiring due to the cost, distance, and the amount of traffic in the area. "However, we found that there was an existing computer network connecting with the remote central plant with fiber lines," says Guzik. Since the airport had chosen a LonWorks system, they could simply use the existing ethernet connection at the plant. Just like that – no jackhammers, no construction signs, no traffic problems, no new conduit, no hassle.

Perfect Integration and Universal Access

The LonWorks network is a superb unifying platform for the Siemens system. Maintenance personnel can still use their Siemens 600 Insight™ workstation at the physical plant to monitor and control all HVAC equipment in both old and new sections. But, more importantly, Echelon's *i*.Lon™ Internet Server delivers control and monitoring not only for Siemens nodes, but also for all new HVAC equipment. Personnel will be able to access the system with a web browser from any workstation on the airport ethernet or anywhere on the Port District's WAN. The LonWorks system uses Echelon's LNS™ 3.0 operating system and LonMaker™ for Windows and runs them on the same PC as the Siemens 600 Insight soft-

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ware. In addition, Quark Communications programmed a custom two-way translator gateway on this same PC to map Siemens HVAC points in the old airport areas to the LonWorks side, and LonWorks HVAC points in the new section to the Siemens side. The gateway is based on Echelon's Active-X control and translates LonTalk® protocols to the Siemens system, and Siemens protocols to the LonWorks network. "The mapping is done automatically, seamless to the user," says Guzik.

On the HVAC equipment level, Quark Communications installed several LonPoint® modules to monitor some of the points on an older air handling unit in a mechanical room in Terminal Two East. They also fitted the new Trane air handling units and VAV boxes in the new addition with Echelon's FTT - 10A free topology interface. Thanks to LonWorks networks and Quark's custom application, there is now one BAS universe at the airport.

Key Benefits

- Cut implementation and wiring costs
- Provides convenient access to multiple locations
- Simplifies BAS tools and staff training
- Enables flexible choice of BAS products and service vendors

Access from Anywhere

With the fresh installation of a LonWorks network, the airport is already seeing strong benefits like remote access to all buildings. "That was the biggest selling point for me," says John Kampe, Maintenance Supervisor, Buildings Section. "I'll be able to access the system from my office, about a mile and a half away from the airport. I can access it from anywhere in the Port District if need be. Now, when I'm paged, I won't have to run over there constantly to fix something. It also makes it nice for my people who are on duty and on call." If that wasn't enough, the system is also extremely easy to use says Guzik. "The airport is able to train their team on one network management software package. They are able to expand the LonWorks system with somebody else's hardware and keep the same training, the same tools and the same network management applications."

Not only that, but, the cost savings are great. Already, LonWorks made it possible to provide total BAS control from the physical plant without the need for more wiring or the installation of software packages on client workstations. In the long-term, LonWorks will reduce equipment costs as well as training time for personnel. Now, the airport is free to put bids out to several BAS vendors instead of being locked into one. "As a public agency, that's an important thing," says Kampe. "It's hard to sole source anything. We have to competitive bid, which is only right. We have to give everybody a fair chance at the money."

As the airport moves forward with LonWorks, new possibilities emerge such as integrating various building systems for HVAC, fire, and security into one front end. Kampe says that the Port District's administration building is due for an upgrade and that LonWorks will be one of the contenders. Whatever the future at the airport, LonWorks is sure to be there. It's impressive, even if you're not Lindbergh.

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