SkyFoundry Insider

The Community Issue: Focus on Complimentary Applications and Services

There is a reason software developers, service providers, engineers, and system integrators are building offerings on and around SkySpark – *it is the leading platform for turning data into money.*

Key to the growth of the community is the openness of the SkySpark® platform. This commitment to openness has enabled a growing community of partners to create complimentary applications and services to meet customer needs. Open API's, and support for standard protocols and data exchange formats enable SkyFoundry partners to develop value-added applications and integrate SkySpark with a wide range of software applications, data sources, enterprise applications, and "cloud" services.

In this issue of the Insider we focus on the value-add being generated by the community who are all contributing to the effort to help owners and operators get more value from their investments in smart devices.

Examples include: engineering tools to streamline project implementation, visualization applications to present analytic results and operational data on the desktop and mobile devices, data connection solutions, and SaaS applications for facility and device management.

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Integrated Building Performance Solutions

AtSite guides building owners, occupiers and operators with the design, construction, operation and optimization of buildings and spaces. The company utilizes Smart Building Technologies, Energy Management Tactics, Sustainable Best Practices and Integrated Building Strategies to deliver high quality, low cost and environmentally responsible buildings. By combining its talented building experts, open technology platforms and best-in-class global industry partners, AtSite delivers measurable results to building owners across many sectors, including healthcare, commercial office, and education.

Data and analytics are a cornerstone of the offering enabling AtSite to deliver their solutions cost effectively. AtSite utilizes SkySpark® to provide the automated, operational analytics element of their comprehensive Building Performance Platform.

"Our clients have a wide variety of data sources, needs, and operational parameters and using SkySpark allows us to see what is going well and where improvements can be made at each building using a single platform. SkySpark is a powerful tool that offers a unique combination of flexibility and scalability, which help us provide better insights faster."

Integrated Building Performance

Financial Optimization
Improve asset values, capital allocation, and financial controls through better alignment, visibility and decision making

Operations Optimization
Enhance O & M performance by better utilizing systems (BAS, CMMS, FDD, etc) and associated commissioning practices

Energy Optimization
Reduce energy use and costs by leveraging existing systems with new technologies, practices and engineering

Resource Optimization
Reduce resource and related costs while increasing environmental responsibility through better metrics and practices

Space Optimization
Increase space utilization factors to lower costs by improving visibility and management, leveraging CAFM and related systems

Capital Projects
Lower cost, increase quality and schedule reliability by improving procurement and execution of routine and specialized capital projects

Smart Building Technologies
Enhance efficiency, visibility and control by integrating systems and software that provide integrated technology platforms

Benchmarking/Certifications/Compliance
Create consistency across portfolios to increase practices, meet compliance requirements, and maintain necessary certfications

Greater Transparency into Building Performance
One of the key benefits provided to senior leaders and building teams is the knowledge and insight to mitigate problems and identify opportunities for improvement, quickly and cost effectively.

To create, optimize, and maintain high performing buildings, AtSite provides managed services in four key practice areas: Smart Building Technologies, Energy, Sustainability, and Integrated Buildings. With a strong foundation in the design, construction and operation of buildings, AtSite is able to deliver unbiased recommendations and smart, consistent, and measurable results. Find more information at: www.atsiteinc.com

SkySpark® LON® Connector
Connect to LNS-based Systems

±prodatacon

Now there is an LNS to SkySpark Solution. Prodatacon's new LON Connector for SkySpark enables you to directly access data from LNS-based LON systems without decommissioning existing LNS systems and adding network interface hardware and additional network controllers.

By supporting true LNS style LON bindings the Prodatacon connector allows you to simply choose the network variables you want to bind to SkySpark in LNS and go! Data is routed directly from the LON network via an i.LON 100 or i.LON SmartServer allowing you to visualize and analyze data as close to real time as possible.

LON Functional Profiles to Haystack
Take advantage of years of functional profile standardization as you use the Lon Connector to programmatically create and tag SkySpark equipment and points. Function blocks, network variable types, format descriptions and more are available as meta data so you can import LonWorks devices repeatedly and in record time.
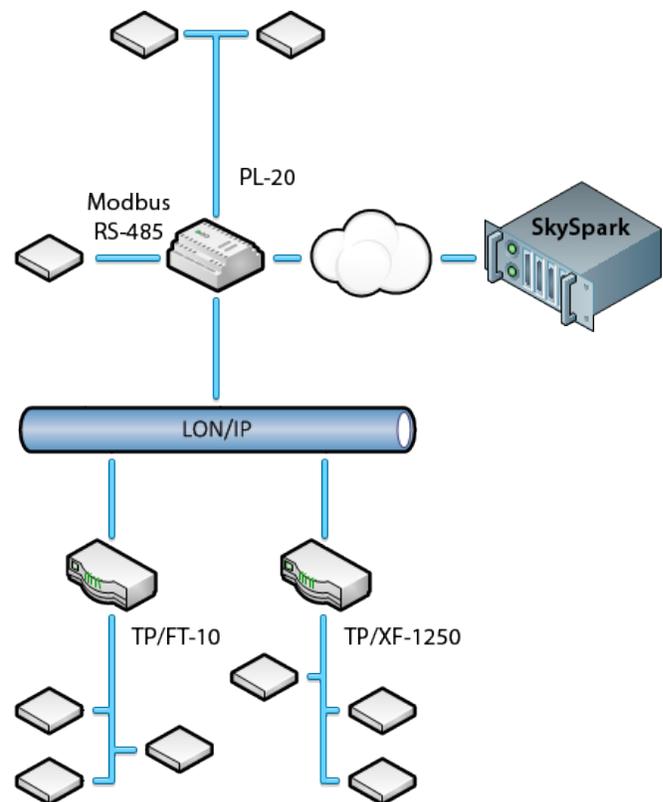
Network Architecture Diversity
LNS-based networks have the greatest flexibility in combining FT-10, XF-1250, PL-20 and IP-852 channels for sites large and small. In addition to these standard LonWorks channels, an i.LON SmartServer can be used to collect data from Modbus RTU over RS-485 when direct Modbus TCP into SkySpark is not an option. With optional 3rd party drivers, the i.LON SmartServer can even act as a BACnet Server or Client adding additional value to non BACnet/IP enabled sites.

New Life for LonWorks Networks
Many LonWorks networks installed in the last 15 years suffer from now ancient HMI's and a lack of reporting abilities. In contrast, the ever evolving SkySpark platform and community driven Haystack modeling standard is the epitome of modern web connected building analytics. With Prodatacon's SkySpark Lon Connector proving an ROI for upgrading these systems is now easier than ever.
Contact: http://prodatacon.com

LON, LNS, i.LON and LonWorks are registered trademarks of Echelon Corporation.

SkySpark Adds Support for Lightweight Directory Access Protocol – Enables Integration with Enterprise Security Platforms

LDAP

The Lightweight Directory Access Protocol (LDAP) is a protocol used for accessing and maintaining directory information services that are distributed across an Internet Protocol (IP) network. In general, directory services may provide any organized set of records, most often using a hierarchical structure. Examples could include a corporate email directory, or a telephone directory, which provides a list of subscribers with an address and a phone number.

The most common usage of LDAP, however, is to connect multiple software applications with a centralized user database so that passwords can be authenticated against a single, central repository instead of requiring each individual application to manage its own database of user credentials and privileges. In this way LDAP helps enable a "single sign-on" where one centrally managed user account is effectively shared between many software applications. LDAP support is a key requirement in many enterprise IT settings, where the use of centralized user databases is common.

With the addition of LDAP support, customers can now link SkySpark user accounts to those centralized managed user directories.

The LDAP standard is defined by the Internet Engineering Task Force (IETF). The latest specification is Version 3, published as RFC 4511.

Builder App Enhancements Streamline Project Implementation with Haystack Tagged Data

The Builder App has been enhanced to use all the tags discovered during the learn process. This new capability applies to the Haystack connector when the points in the remote system are already fully tagged in the external data source. An example is connecting to systems that support the NHaystack plug-in.

This enhancement significantly reduces the effort to build SkySpark databases by directly interpreting tags that were added during set up of the control system.

DGLogik
Visualization and Data Acquisition Solutions to Enhance SkySpark
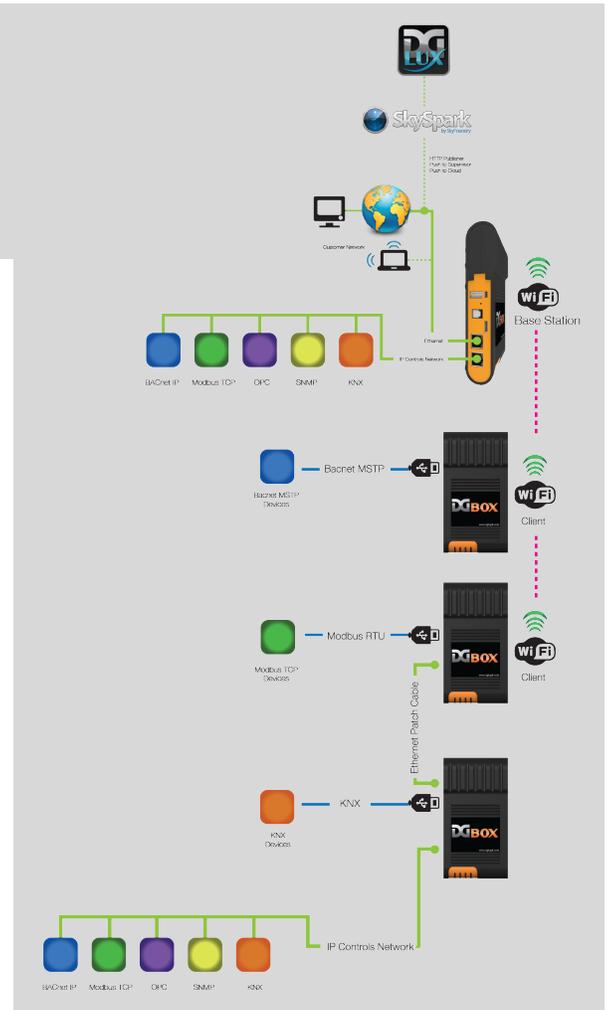

The 3 key ingredients to any successful information management solution are: data acquisition, data analytics, and data visualization. The DGLogik product line, fully integrated with SkySpark® analytics, delivers just the right technology mix to address each need, providing executives, tenants, facility managers and operators with the most advanced tools available to support efficient and effective management of operating costs and energy efficiency.

Data Acquisition with DGBox: Successful analytics are dependent on acquiring data from equipment systems. Communicating with as many devices as possible and gathering as much data as possible *as inexpensively as possible* is critical.

The DGBox from DGLogik is a powerful, cost-effective data acquisition solution, which, among many other functions, is capable of communicating with multiple devices via numerous industry-standard protocols such as BACnet, Modbus, SNMP, OPC, KNX, etc… (a full list of supported protocols can be found at: http://www.dglogik.com/dgbox). DGBox includes a high-efficiency, time-series, database to store data as often as every millisecond. With a full implementation of the Haystack API onboard every DGBox, any SkySpark installation can efficiently query the data from one or multiple DGBoxes.

Data Visualization with DGLux: While SkySpark enables users to *find what matters™*, being able to clearly visualize and interpret findings in order to communicate results and support corrective action is key. With the flexibility, power and scalability of DGLux, the best-of-breed visualization technology from DGLogik, users are able to take advantage of rich, expressive interfaces including dashboards, system and equipment graphics and

troubleshooting screens – all on their choice of platform – desktop and mobile. Use any browser on a desktop or one of DG's free apps for Android or iOS mobile devices. The ability to access analytics results anywhere, anytime, on any device is a reality with DGLux.

The native integration of DGLux with SkySpark allows users to bring complete analytics results, including sparks and all their associated data, to operators along with other system data. Any piece of information that can be queried through Axon is available for visualization. And because all DGLux-SkySpark visualizations are query-driven, the dashboards and graphics have the capability to automatically adjust to display the most relevant information at any time. As new data becomes available in SkySpark, DGLux will automatically get updated to show the new equipment graphic, trend on a chart, or event, all without added user configuration. To learn more about DGBox and DGLux, please visit http://www.dglogik.com

New Data-as-a-Service and SkySpark® Cloud Hosting Now Available

CONNEXX·iON

Over the past decade, enterprise data solutions have revolutionized how organizations collect data to help manage their finances, implement new supply chain strategies, and efficiently direct sales and labor to maximize their profitability. Yet, businesses fail to address how to maximize the efficiency and use of their building automation and energy management systems that control the largest line item on their balance sheet – their buildings and the equipment and assets contained within.

Building Automation and Energy Management systems collect an incredible amount of data from the smart devices that control and monitor equipment and assets. The questions commercial property managers expect system integrators to have answers for are where to store this data, how long to keep this data, and what can be done with this data. System integrators face additional questions in their own business decision process such as what third-party software solution will better serve their customers' needs and what will differentiate them from their competition. Do they need to hire an expert to implement these software solutions and help analyze the data and who owns the data collected by the third-party vendor when the relationship goes sour?

Connexx Energy in cooperation with Lynxspring has addressed these issues with the creation of Connexxion™, a new Data-as-a-Service (DaaS), cloud based hosting solution. Connexxion includes the first ever DaaS SkySpark application available as a hosted cloud solution making it easy for systems integrators and automation contractors that may not have in-house resources to deliver the benefits of analytics to their customers *with the system integrator retaining their primary relationship with their customer.*

The program is a win-win-win approach to bringing the value of operational analytics to building owners and operators to assist them in operating their facilities more energy efficiently and at peak performance levels.

Connexxion manages all of the details related to hosting the software, backups, security and high availability. In addition, professional services are available to quickly on-board customers. Connexxion provides a number of distinct advantages:

- Secured, hardware normalization layer
- Multiple choices of site data extraction hardware, including: Niagara, ZigBee, Cellular
- Lynxspring's new LYNX CyberPRO™ provides integrated cyber security solution.
- Normalized data based on the new Haystack standards
- Cloud based energy data warehouse
- SkySpark Integration
- Professional Services: Design, installation, configuration, training and support

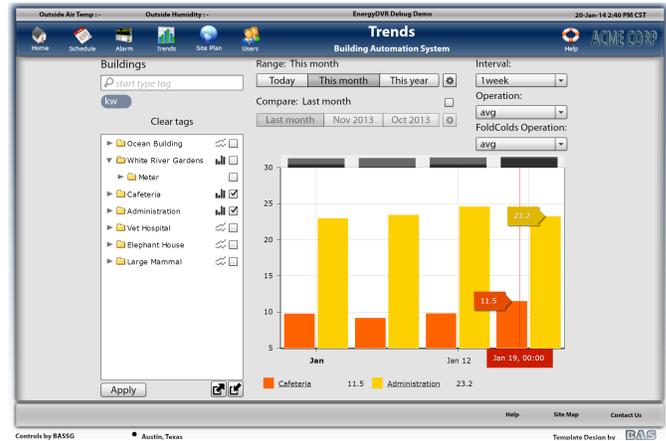For more information contact: anno.sholten@connexxenergy.com

Project Builder Plus is an application that speeds SkySpark database creation and the data mapping process. Data integration projects go faster and are more profitable with **PB+**.

Major Features of PBP

• Maintain multiple SkySpark projects in one common user interface
• Work on SkySpark projects offline – upload when ready
• Templates enable the user to take a snapshot of one record at a time.
• Assemble multiple tags into tag groups to simplify the tagging process
• "Pull" SkySpark folio db hierarchy with a few clicks – great for backups
• Push changes back to SkySpark from your workstation
• Never have to remember connection data, user name and password – saves time whenever you need to make a change to SkySpark.

Energy DVR – Seamlessly view and analyze historical and real time data – rewind, fast forward – drill into any time frame. Play back of equipment and meter run-time data even across multiple projects – all in a single view.
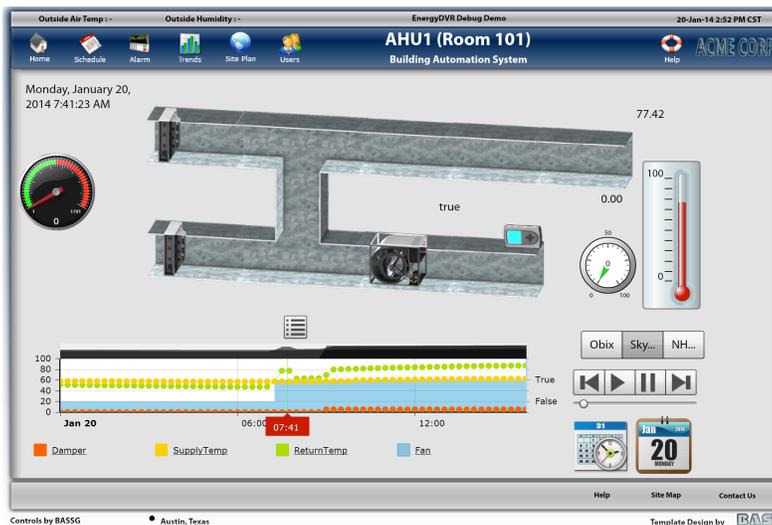

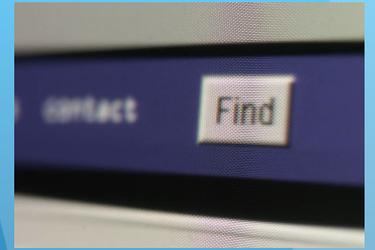PB+ tagging dialogs simplify the tagging process. Select one or more records to add tags to.

Simplify run-time analysis with a few clicks. See a whole day of data in seconds to review performance of:

• Floor Plans
• Chiller Plants
• Data Center and more...

Connect to multiple SkySpark instances to integrate energy and control data from multiple sites.

See PB+ and Energy DVR in action – videos available on www.baslearning.com

SkySpark® – Analytics for a World of Smart Devices

The past decade has seen dramatic advances in automation systems and smart devices. From IP connected systems to support for web services and xml data schemas, it is now possible to get the data produced by the wide range of systems and devices found in today's buildings and equipment systems.

Access to this data opens up new opportunities for the creation of value-added services to reduce energy consumption and cost, and to identify opportunities to enhance overall facility operations.

Access to the data is just the first step in that journey, however. The new challenge is how to manage and derive value from the exploding amount of data available from these smart and connected devices. *SkySpark directly addresses this challenge.*

The new frontier is to efficiently manage and analyze data to *find what matters*.

Momentum Builds with Educational Webinars, Industry Articles, Speaking Engagements, and Growing Membership

Project Haystack Supporter

One of the key challenges in utilizing data to drive efficiency improvements is the effort involved in integrating data from a wide range of sources that utilize different formats.

*"Recent technology, market and policy drivers (smart meters, energy performance disclosure laws, etc.) are resulting in a rapid increase in the generation of building and energy data... But this data is still hard to access, aggregate, share and utilize because it is housed in many decentralized databases, and in different formats. Stakeholders consistently reported that they spend more time on data formatting and cleaning than they do on conducting analysis. **The lack of standard data formats, terms and definitions is a significant ongoing barrier to realizing the full utility of empirical information about building energy performance.**"* (Building Energy Data Exchange Specification Scoping Report, August 2013, eere.energy.gov)

Project Haystack (www.project-haystack.org) was founded in 2011 specifically to address this challenge and make it easier for software applications to consume, analyze and present building system data. Project Haystack is an open source initiative to develop tagging conventions and taxonomies for building equipment and operational data.

The Haystack community continues to gain momentum with greater awareness, industry recognition and outreach. More and more professionals are joining the effort on a weekly basis and implementing the Haystack tagging methodology in projects and software applications. Consider joining to contribute your special expertise: www.project-haystack.org

New Overview Video Explains Project Haystack in 8 Minutes. Find it here:

http://youtu.be/5C6GwLbYqTw

YouTube