SkyFoundry Insider

SkySpark Release 34 – Major new features to help you *"Find What Matters"*

It's back to technology for this issue of the Insider as we look at the new features, Apps and tools in this major new release

We are excited to share the highlights of this major new release of the SkySpark analytics platform. Input from our customers and exciting new developments from the SkyFoundry team continue to advance the state of the art in operational analytics.

Buildings and the systems that support indoor environments are complex and extremely diverse. Equipment systems are designed, products chosen and control strategies implemented with the best of intentions, but tracking actual operational results has been virtually impossible to do – until now.

SkySpark has proven the feasibility and value of analyzing operational data to improve performance and increase asset value, and with each new release we enhance SkySpark tools to enable you to quickly see how your systems operate and identify opportunities to improve performance and reduce costs. *Lets take a look at what's new!*
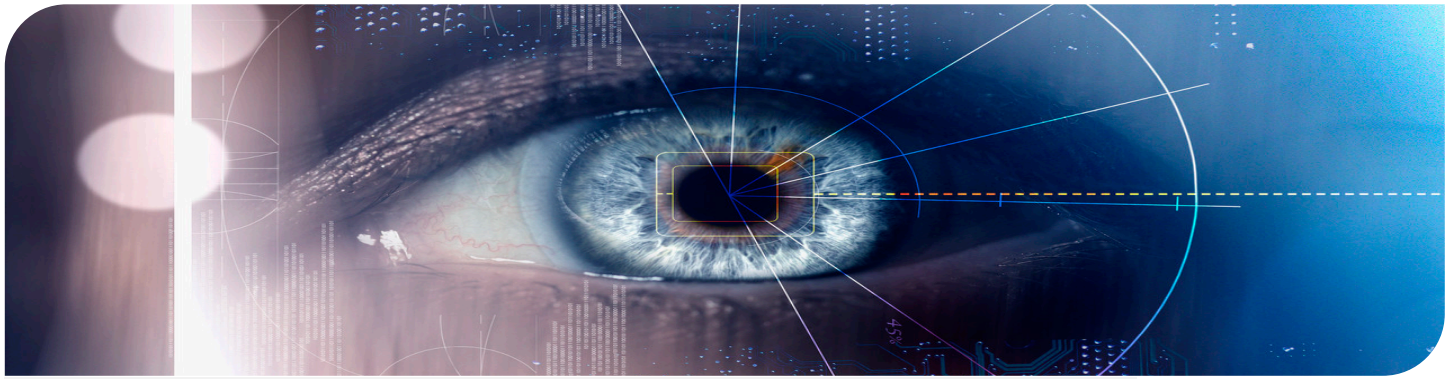
The KPI App

Now you can specify the metrics that matter to you and let SkySpark track them automatically

What metrics are critical to you? – is it watts per square foot for tracking vs ASHRAE 90.1, kw per square foot per degree day, or Power Utilization Effectiveness for your data centers?

The new KPI App lets you define virtually any metric desired for automatic calculation, tracking and easy viewing.

The KPI App – Tracking Performance Metrics for Easy Viewing of Ranges and Trends
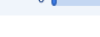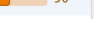
It's not just about finding problems and faults – analytics are about tracking and reporting of trends too. Take energy intensity as an example. SkySpark's analytic rules can watch energy intensity – *kw per square foot per degree day* – track it against a target value, and automatically generate a Spark showing us when we deviate from our target, for how long, and how much it costs. No hunting through dials, gauges and graphs – SkySpark shows us exactly when those conditions occur.

But sometimes we want to have a view on the range and deviation of a metric, and that's what the KPI App is for. Here's a view of energy intensity as a KPI:

Site	kW Norm (kW/ft^2/°daysF)
ⓘ Carytown	0.002 ▭ 0.005
ⓘ Gaithersburg	0.001 ▭ 0.003
ⓘ Short Pump	0 ▭ 0.001
ⓘ Woodley Park	0.001 ▭ 0.002

The "candles" show the range of values for each individual site (in dark blue) overlaid on the range for the entire group of sites selected (shown in light blue). The KPI App allows you to select Sites, Date ranges and the specific KPI's you want to view. In the example below we can quickly see our collection of KPIs for the month of November:

Site	kW		kW Norm (kW/ft^2/°daysF)	kWh		kWh Norm (kWh/ft^2/°daysF)	Spark Cost	Sparks Count	watts/sq ft	
ⓘ Carytown	49	380 kW	0.001 ▭ 0.093	▭ 98k	kWh	▭ 4.837	$198	25	15.6	121
ⓘ Gaithersburg	56	520 kW	0 ▭ 0.01	▭ 156k	kWh	▭ 1.53	$0	102	6.989	64.9
ⓘ Headquarters	47	679 kW	0 ▭ 0.004	▭ 171k	kWh	▭ 0.204	$0	21	0.334	4.823
ⓘ Short Pump	49	612 kW	0 ▭ 0.028	▭ 167k	kWh	▭ 1.45	$122	43	2.862	35.7
ⓘ Woodley Park	42	355 kW	0 ▭ 0.008	▭ 98k	kWh	▭ 1.088	$0	0	5.92	50

Sites: All | Group | Select   ◄ Nov–2011 ►   KPIs: Select | Info ⚙

KPI's are created by writing formulas to calculate the desired metric. *As always, SkySpark provides a range of popular KPI's as part of our standard library, so it's easy to get started.*

The Site Spark App
More Information in a Single View
Sites, sparks, cost, duration and targets all presented in a single screen

The new **Site Spark App** is the focal point of the SkySpark platform. It brings together all of the information related to sparks – from high-level summaries of spark activity to detailed timelines and listings of equipment – all in a single view that's easy on the eyes.
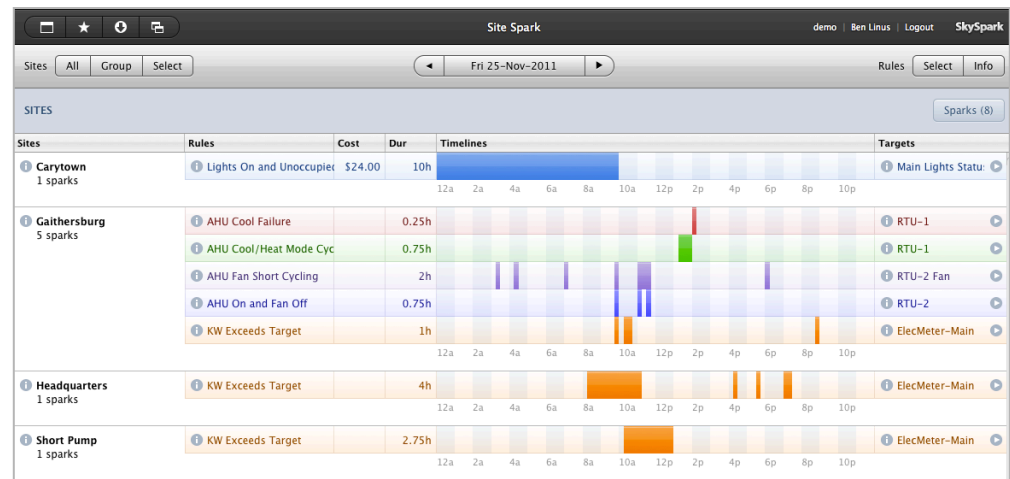
The left-most column provides a quick summary of sparks by site:

The next columns list the rules that created the sparks, the cost associated with the issues, the total duration of the issue and a detailed timeline:

The far right column presents the equipment that generated the sparks and provides the ability to drill down to the details by clicking on the right arrow:

With the new Site Spark App, you get a quick yet comprehensive view of sparks in a single screen.

Information that used to be contained in three separate views is now presented in a one, with options to choose date range, site, or equipment to be viewed.

And, to help streamline interaction with large numbers of sparks, the Rule filter lets you choose just the Rules you want to view at any time:

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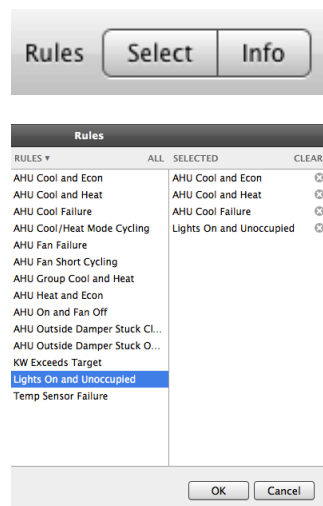
The All-new Site App – Easy Navigation of your Entire Portfolio
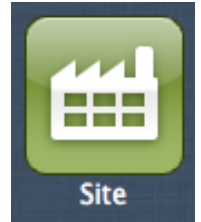
The all-new Site App makes it easy to navigate through your equipment systems, providing views that make it easy to understand the operation of your equipment and the interactions between systems. Best of all, the Site App automatically organizes your data into an easy to use hierarchy of Sites/Equipment/Points. Take a look at the example below:
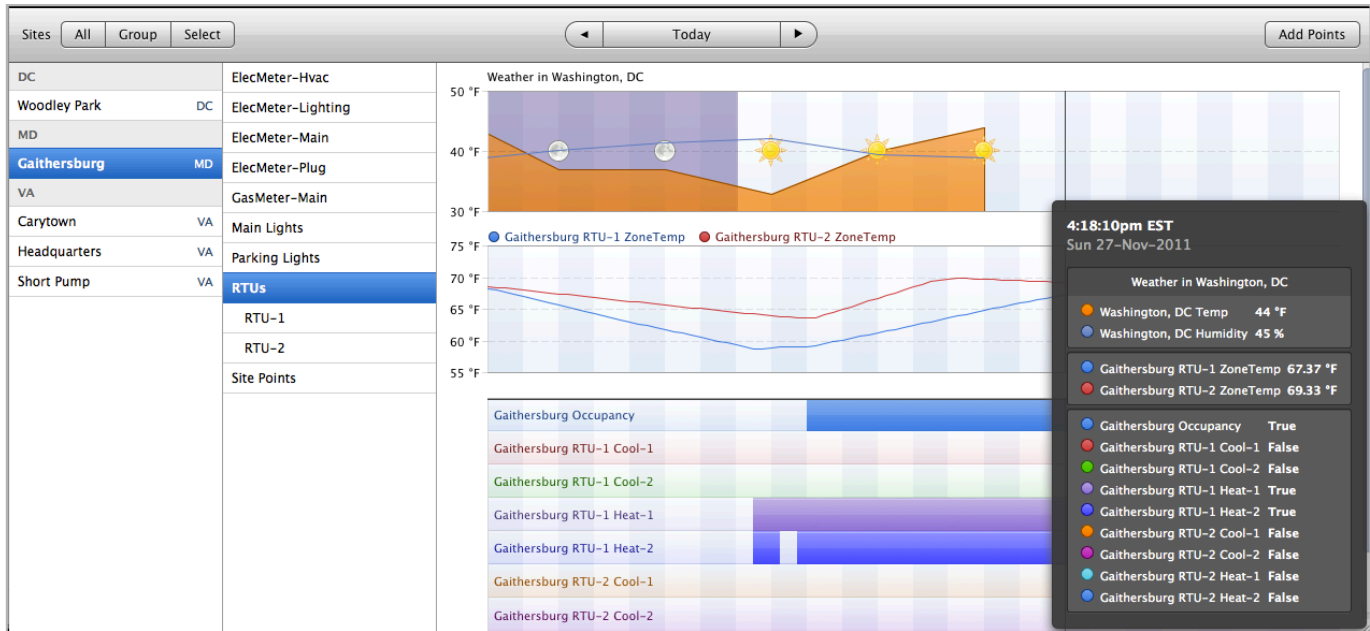
This auto-generation feature is perhaps the biggest benefit of the Site App – you get all of this navigation without devoting engineering effort to build graphics, navigation trees or links. The Site App does it for you, automatically creating the navigation tree simply by interpreting the meaning and relationships of the data in the SkySpark database.

Another key benefit of the Site App is its unique time-trend view, which provides a historical perspective on equipment operation. The last known values of all points are shown along with a historical view that provides the user with the ability to instantly assess operational trends. And the user can quickly select the time period shown from today's up-to the-minute data (as shown above), to monthly or weekly views like the one below:

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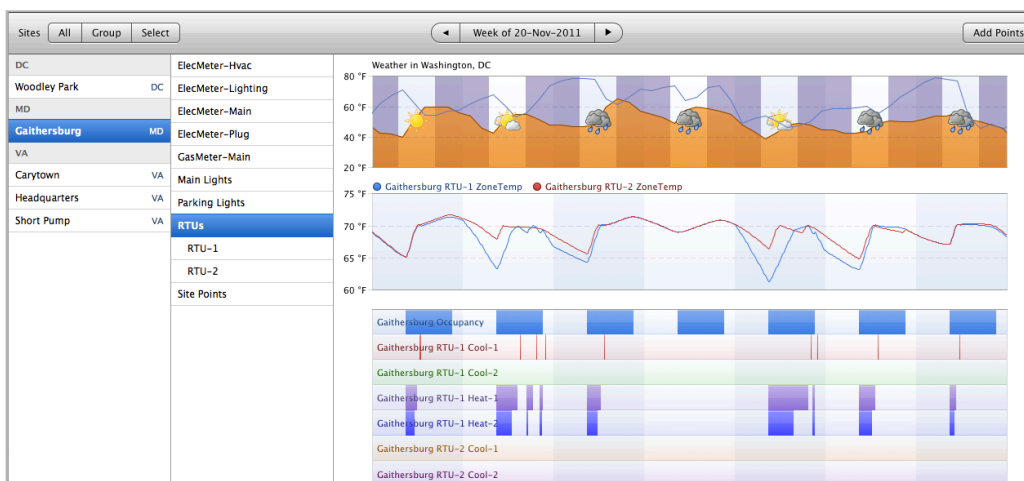
New Navigation and Selection Tools
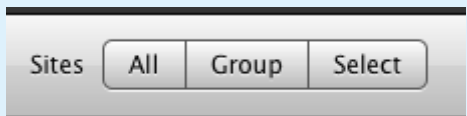
SkySpark now provides additional tools to streamline navigation. The Select tool continues to provide access to the Site Picker to enable quick selection of sites, but that has now been augmented with the ability to organize sites into groups based on filters such as state, region, manager, etc.

The view below shows our sites organized by state:

Filters can be set up on a per user basis to make it easy for individuals to navigate in the way most effective for their interests.
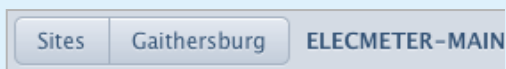
We've also made it easier to navigate backwards. When looking at sparks you can now move up to the site or to all sites with a single click on the path menu as show below:

While the Site App automatically organizes your data it also provides the flexibility to customize your views. The
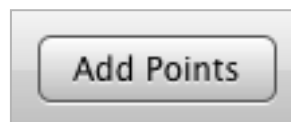
button lets you add additional points to any view to create even richer presentations. Just choose the desired points from the Add Points picker and they are added to your view:

And like every App in SkySpark, you can save any view as a "favorite" for even quicker access.

The Site App truly provides an all-new way to navigate the information from your smart systems and devices.

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 using a variety of standard protocols, 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 help businesses reduce energy consumption and cost and to identify opportunities to enhance operations through improved control, and replacement of capital equipment.

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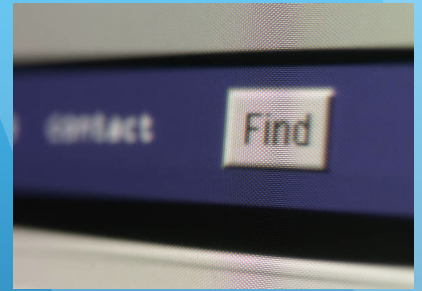
The new frontier is to efficiently manage and analyze data to *find what matters.*

Project Haystack Community Tackles Chiller Plants, Electric Meters and Tools to Simplify Tagging with Various BAS Systems –

Over 100 Industry Experts are Actively Contributing to Building an Open Source Data Modeling Standard - Join the process!

One of the challenges in managing and analyzing data from equipment systems and smart devices is to be able to interpret its meaning. Today most operational data has poor semantic modeling and requires a manual, labor-intensive process to "map" the data before analytics can begin. Standard naming conventions and taxonomies can dramatically reduce the costs of preparing data for analysis.

Project Haystack is an open source initiative to develop naming conventions and taxonomies for building equipment and operational data. The project defines standardized models for sites, equipment, and points related to energy, HVAC, lighting, and other systems.

The haystack community is actively developing models for major equipment systems and tackling other challenges to make it easy for control system data to encapsulate its meaning. Please consider joining the effort – its open to everyone. The standards process is moving forward every week!

Project Haystack