Closing the Loop from Identification to Resolution

Driving Value from Analytics with SkySpark's All New, Fully Integrated Workflow Application

Analytics *Finds What Matters™*, but we create financial value by addressing issues. That means there is a workflow process – from issue identification, through resolution, tracking and reporting.

SkySpark has included a core set of easy-to-use workflow tools since the beginning… But people need more…

Some integrate with conventional CMMS and work order systems They find that gets them part of the way – but its costly and complex.

Our customers tell us they need the ability to easily create workflows that fit their specific and unique project needs and *SkySpark now includes a full function workflow process system!*

Optimized for the management of data analytics results – these features take you beyond conventional asset management and workorder tools. And, as with virtually everything in SkySpark, these powerful workflow tools are fully customizable enabling you to meet your project-specific needs.

And the pricing for this major new application suite? – That's easy - all of this functionality is included with SkySpark. *Let's take a look!* →

Managing the Analytic Lifecycle with "arcs"

Think of the analytic lifecycle as a story – *the "arc of the story" takes us from initial issue identification to final resolution.* That's the concept behind SkySpark 's new workflow application.

SkySpark's new workflow features are built on a concept known as "**compound documents**" – *documents that can include text, actions, comments, state transitions, assignments, schedules, links to attachments and more.*

The Workflow system starts with three basic types of workflow documents – extensible by the user of course!

- **Notes.** A Note provides operators a method to add written documentation to issues detected by analytics, as well as add documentation to equipment system and device records. Notes are simple documents with no associated workflow steps. Notes can have attachments, and support discussion trails among users.

- **Workorders.** Workorders include all of the features of notes but additionally define a specific workflow process. They are designed for maintenance and other physical activities. Workorders include the concept of state transitions to support their status in the lifecycle workflow process.

- **Tickets.** Tickets are tailored to workflows applicable to software support type activities. Like Workorders, Tickets include the concept of state transitions, assignments and schedules to support the lifecycle process.

Those are the basics – next we will go into greater detail.

SkySpark Workflow Documents Provide:

- Full integration with SkySpark's distributed computing architecture - clustering, replication, and SkySpark views

- Customizable workflow management – use our standard library of workflows or easily create your own

- Integrated file attachments – including external file systems Dropbox™ and Google Docs™

- Links to spark views, data, equipment or devices relevant to the Workorder
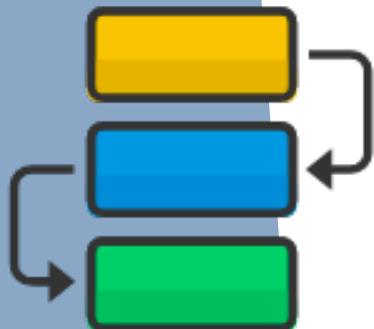
The Structure of SkySpark's Workflow Documents

SkySpark's workflow system is based on a concept known as **compound documents** that can include notes, actions, comments, state transitions, assignments, schedules, links to attachments and more. These attributes directly relate to the processes, actions and responsibilities involved in taking sparks through their lifecycle.

Notes

A Note provides operators a method to add written documentation to issues detected by analytics, as well as add documentation to equipment system and device records. Notes are simple documents with no associated workflow steps.

- **Display name** – a text field providing a description of the Note
- **Creation time**
- **Created by**
- Formattable text for body of note
- **Replies** with identification of the user providing the reply
- Ability to add attachments including attachments in replies
- **View link** – a link to a view of data, equipment or devices relevant to the Note
- **Attachments** to supporting documents
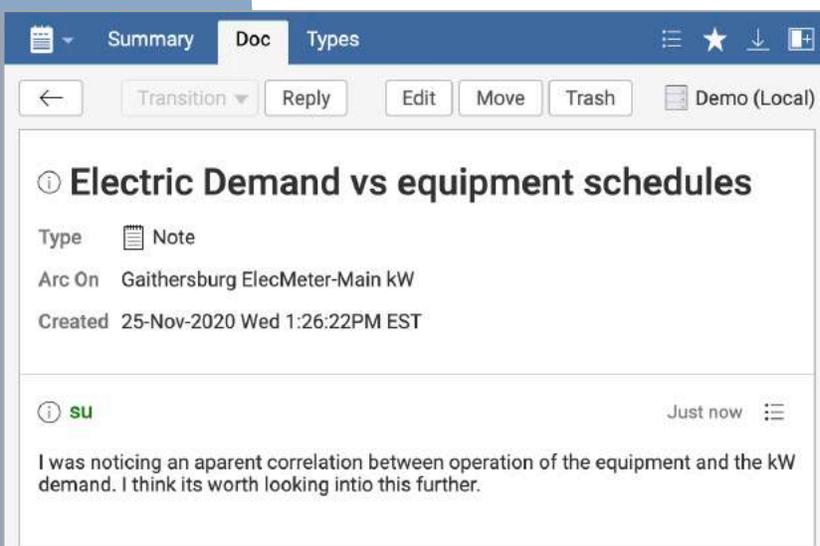
Workorders

Workorders include all of the features of Notes and additionally define a specific workflow process, including assignments, schedules and other attributes as shown below. They are designed for maintenance and other physical activities. Workorders include the concept of state transitions to support their status in the lifecycle workflow process.

- Display name – a text field providing a description of the Workorder
- Creation time
- Created by
- Formattable text for the body of the Workorder
- Replies with identification of the user providing the reply
- Ability to add attachments including attachments in replies
- View link – a link to a view of data, equipment or devices relevant to the Workorder
- Workorder State; i.e., New, Open, Resolved, Cancelled – note that these can be extended and customized.
- Priority Level with Critical, High, Medium and Low as minimum selections
- Subject of the Workorder (i.e., equipment, device or sensor)
- Assignee – a person
- Due Date
- Labels including the following as a minimum: Breakdown, Damage, Electrical, HVAC, Inspection, Maintenance, Plumbing, Safety, Support, Wish list. The system shall allow for the creation of custom labels beyond the minimum required labels.
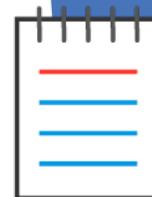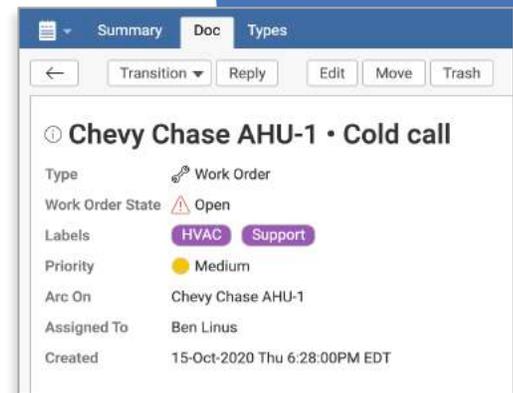
Tickets

- Display name – a text field description of the Ticket
- Creation time
- Created by
- Formattable text for body of Ticket
- Replies with identification of the user providing the reply
- Ability to add attachments including attachments in replies
- View link – a link to a view of data, equipment or devices relevant to the Ticket
- Ticket State; New, Open, Resolved, Cancelled. Allows for the creation of custom states.
- Priority Level with Critical, High, Medium and Low as a minimum
- Subject of the Ticket (i.e., equipment, device or sensor)
- Assignee – a person
- Due Date
- Labels, for example: Bug, Enhancement, Maintenance,
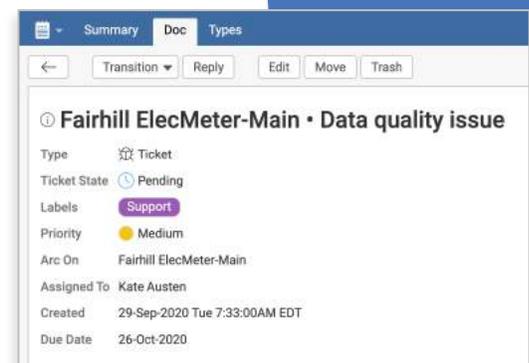
The Arc App –
Quick and Easy Creation, Assignment, Viewing, Filtering, Updating, and Lifecycle Management of Arc Workflows

The "Arc" App is where all the power and flexibility of the SkySpark workflow system come together for the user.

The application provides a graphical, point and click user interface for the entire workflow process including the creation of arc documents, assignment to users, management of their status and control of state transitions as well as viewing, filtering, reporting and sharing among users.

And all of these features are full integrated with SkySpark's highly flexible user access privilege system.

Filter arcs on any or all attributes

Attachments and Integration with Standard File Systems

The Workflow application provides the ability to attach files to Notes, Workorders and Tickets and includes the ability to work with file attachments stored on external file systems including **Dropbox™** and **Google Docs™**.

This means there is virtually no limit on the size of number of files that can be used as attachments a key benefit when using the Workflow features with small edge nodes that may have limited onboard storage!

Customization of Workflow Documents

This is where the extensibility and flexibility of the SkySpark Workflow engine really comes into play. The structure and attributes of Workflow Documents are fully customizable to allow creation of customized Notes, Workorders, Tickets with their own workflow process, state transitions, user permissions and other relevant attributes.

SkySpark provides a default set of standard document types (the Notes, Tickets, & Workorders described in this newsletter) that fit most applications **without requiring any additional effort**, but you always have the ability to extend and enhance your workflows to meet the exact needs of your application.

SkySpark's Arc workflow system provides users with a fully integrated solution to managing analytic results – from identification to resolution.

🐞 Ticket

Ticket tracks a software or help case

Tags

|		
Dis	ⓘ	Display name for an entity
Ticket State	ⓘ	Workflow state for a ticket
Priority	ⓘ	Priority level of the document
Arc On	ⓘ	Subject of the document
Assigned To	ⓘ	Person who is currently responsible for the workflow task
Created	ⓘ	The timestamp of when an entity was created
Due Date	ⓘ	Date expected for completion of the workflow task
Link	ⓘ	View name and state for linking to a saved view

Labels

Bug	ⓘ	Software defect causing improper behavior
Enhancement	ⓘ	Software request to add new functionality
Maintenance	ⓘ	Preventative or scheduled maintenance task
Support	ⓘ	Assistance required
Wish	ⓘ	Wish list for future enhancement

More Exciting New SkySpark Features – *Point and Click Tariff Entry!!*

The newest addition to the SkySpark Energy Suite is a view that allows users to easily create new energy tariff rates and define all of their associated charges.
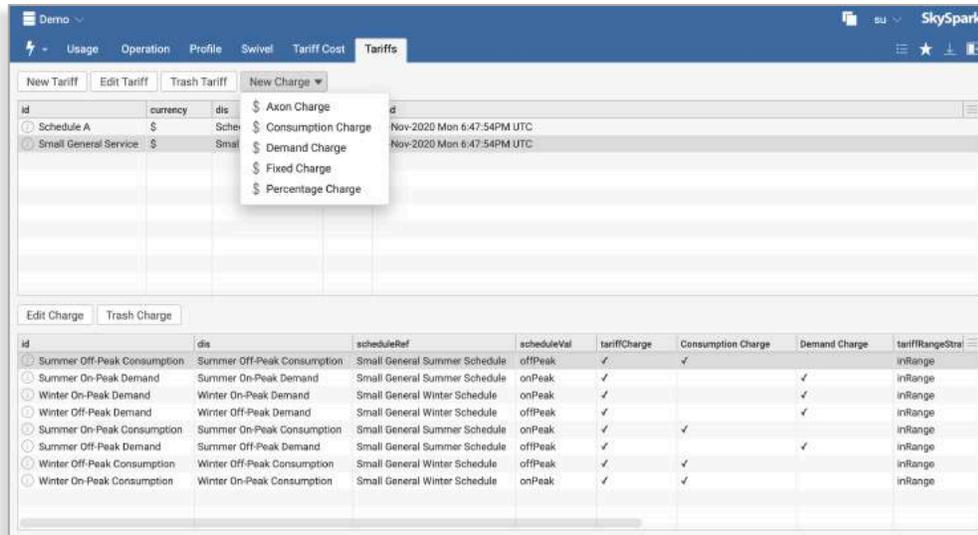
In order to address the need to calculate energy costs based on real world, complex energy rates SkySpark includes a Rate Modeler and Tariff Engine. This capability allows you to calculate the actual costs associated with electrical energy (and other metered resources) and apply those costs to analytic results – *"sparks"* - identified by SkySpark rules.

This new addition to the Energy App makes it easy to define rates and their charges – *with no programming required!* One very cool feature of the new Tariff View is that is that its available to operators to view the structure of the tariffs which is really helpful for energy analysts.

SkySpark's Rate Modeler and Tariff Engine have been tested with rates from around the world and is extremely flexible to address unique charges and structures. And, it supports rates where charges change over time by tracking charges as a history record and can also be used in conjunction with SkySpark's scheduling features to create schedule-aware tariffs that take into account Time of Day, and Monthly and seasonal tariff elements.

In addition, SkySpark's open API allows for direct integration with Tariff Rate services and databases offered by third party providers.
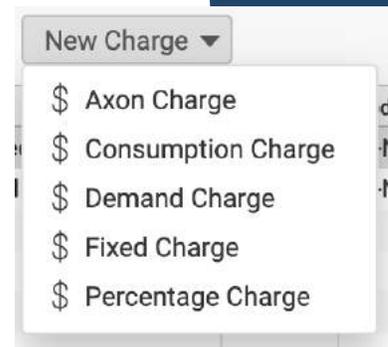
Just Point and Click – SkySpark Tables are Now Customizable!

Easily create customized tabular information presentations to meet user needs
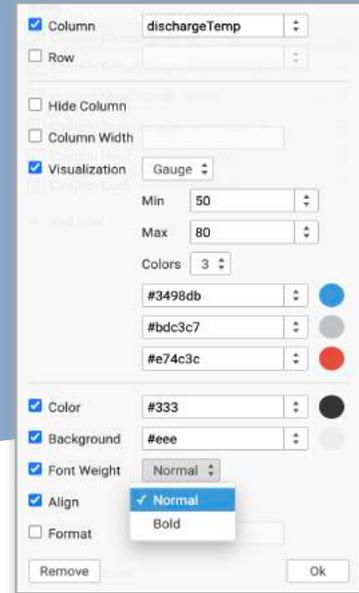
Tables Now Offer a Wide Range of Customization Options

With SkySpark's latest release you can now easily customize the presentation of tabular information views. Tables are customized using simple "styling rules" that are defined with a few mouse clicks (see image above right).

The table customization features allow you to control text and background colors, use bold text, fill cells, columns and rows with colors, define column widths **AND** choose from a range of graphical display widgets. And, tables export to pdf documents with all of their customizations.

Use Visualization Widgets in Tables

Select from bubbles, gauges, bars, and heat maps (with selectable colors and number of color transitions)

Here is a great example – customizing the presentation of the **Monitor App** provides a super easy way to view **real time** data flowing from sensors and equipment.

Customize Tables in SkySpark Apps and Tables Generated from Custom Queries

SkySpark's new table customization features work in virtually all tabular presentations in the product. Want your KPI's to display as gauges with selectable colors and transitions? It's easy with just a couple of clicks.
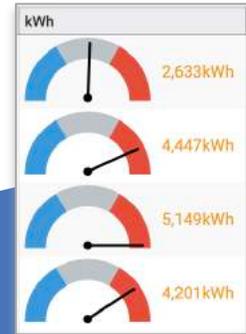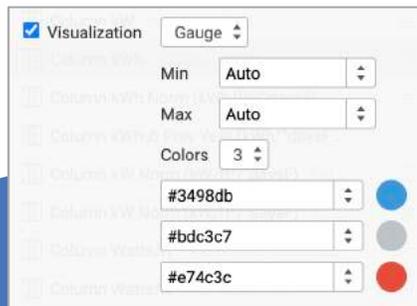
Customizing Tables Generated from Axon Queries

This example, from the Tools App shows a query for the list of Sites modified to show:

- The Site ID Name in bold type with a grey background
- The cell showing the Carytown Area tag displayed with white text on a red background
- The first row of the table highlighted with a green background
- The column showing the name of the city displayed with purple text

And when exported, the PDF document retains all of the customizations

As you can see, the new table customization features dramatically expand the range of visualizations SkySpark offers to the user.

Learn More About SkySpark® and How to Apply the Industry-leading Data Analytics Solution to Your Application

Join us for a comprehensive demonstration webcast

We publish our calendar of upcoming sessions and other events here: https://skyfoundry.com/calendar

Or contact us at: info@skyfoundry.com