Building Splunk Visualizations with the New Custom Visualization API

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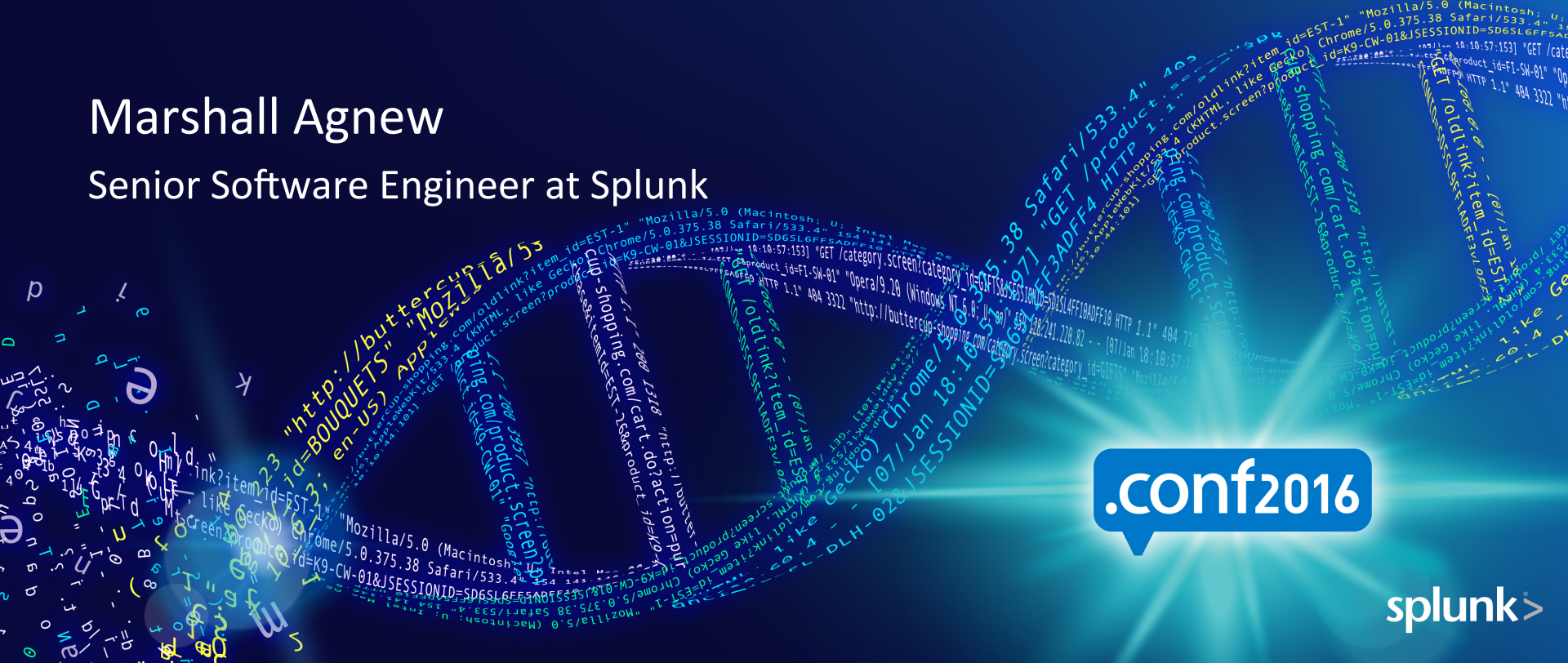
Senior Software Engineer at Splunk



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Agenda

- Why Use Custom Visualizations
- Custom Visualizations in Splunk
- Overview of the API
- Coding Demo
- Learning More

Why Visualization Matters

Splunk excels at understanding machine data

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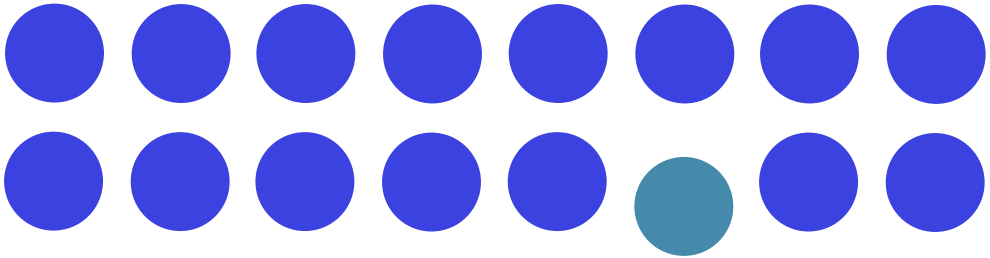
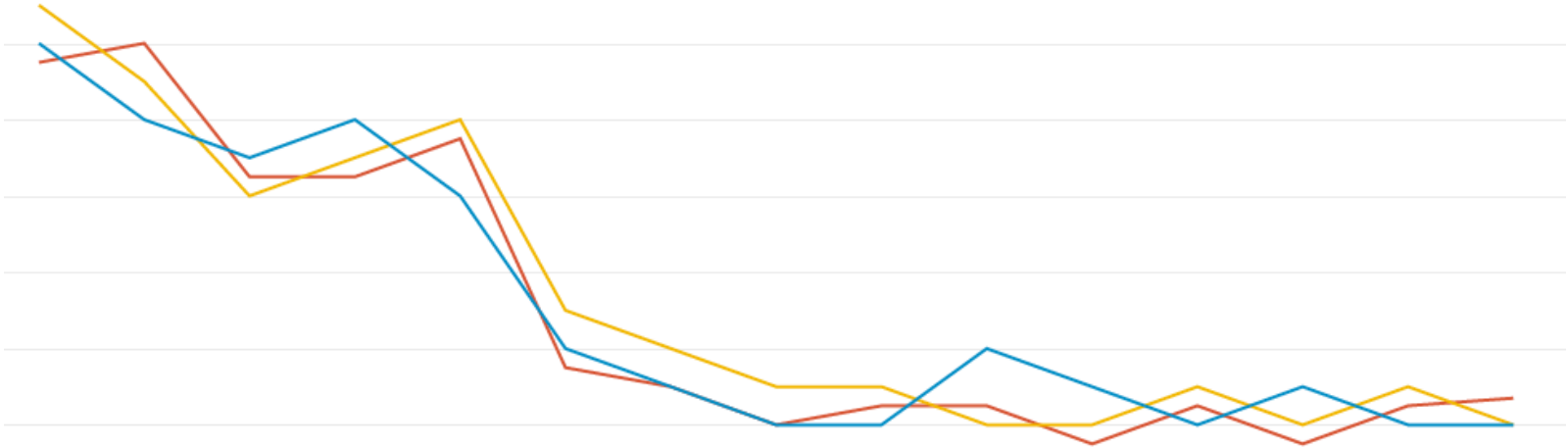
Why Visualization Matters

Humans are excellent at seeing visual patterns



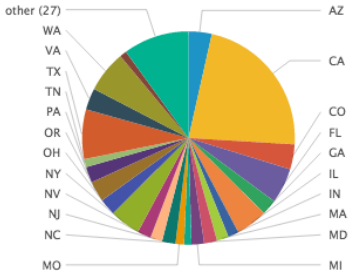
Why Visualization Matters

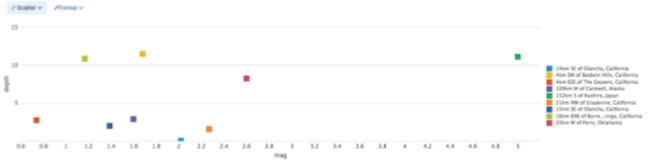
Visualization bridges the gap

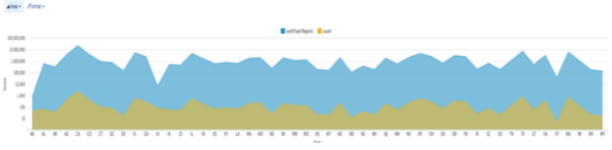


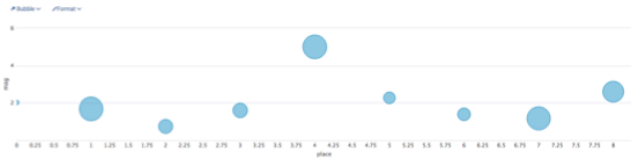
Built-In Visualizations

Splunk has built-in visualizations for many of the most common data types and tasks









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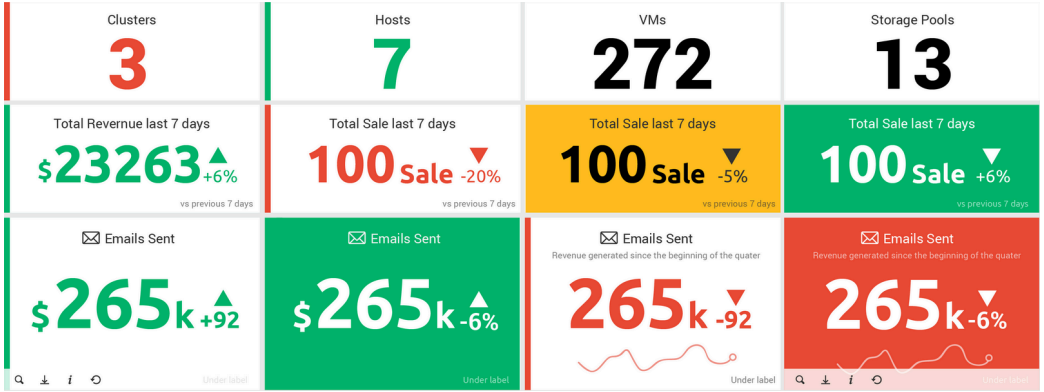
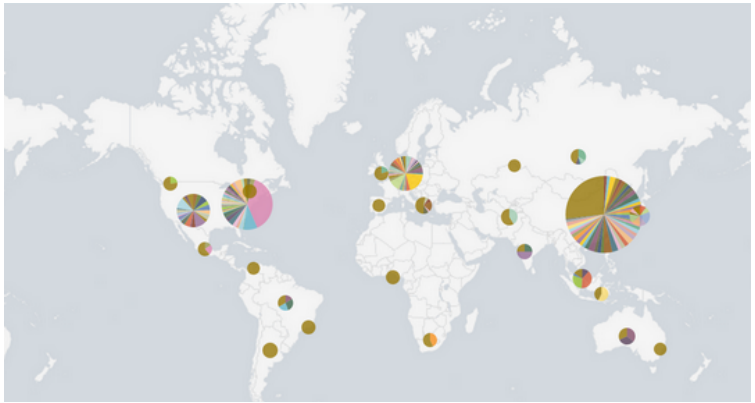
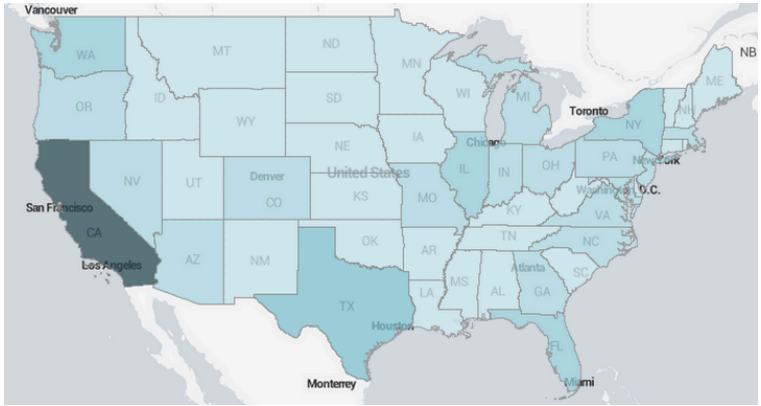
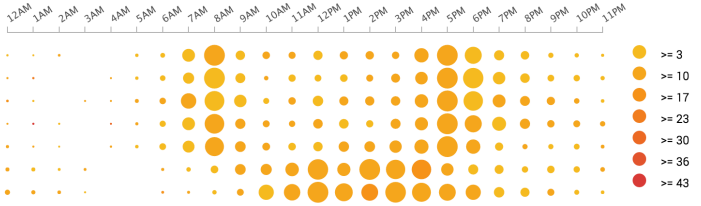


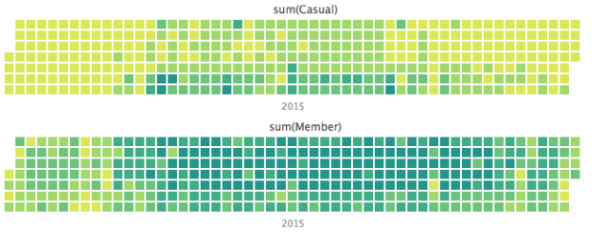


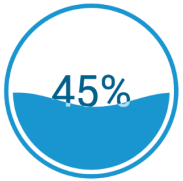


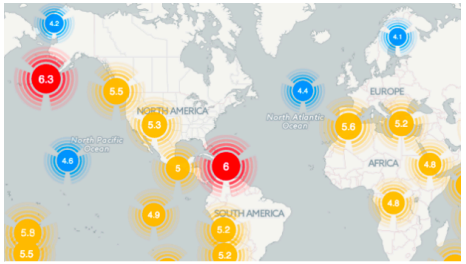
Custom Visualizations

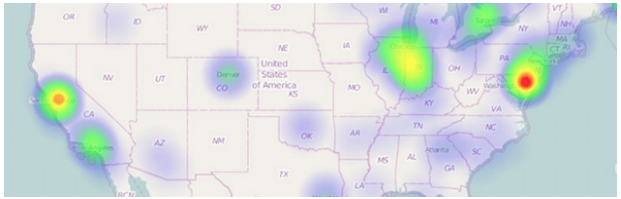
The visualization framework makes it possible for Splunk users to bring in any visualization they want

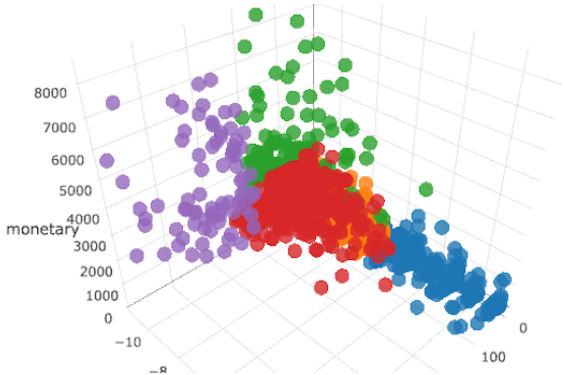


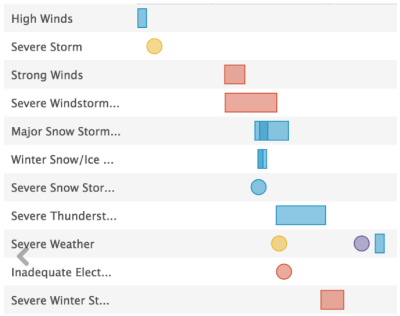












Quick Demo

Splunk Supported Visualizations

We built a set of supported visualizations to both address some of the top requests, and to serve as samples for developers

- Sankey Diagram
- Treemap
- Timeline
- Punchcard
- Calendar Heatmap
- Horseshoe Meter
- Status Indicator
- Horizon Chart
- Location tracker
- Parallel Coordinates
- Bullet Chart

But that is just the tip of the iceberg—the real power is the API

Custom Visualizations in Splunk

- Packaged in apps
- Available across Splunk (Search, dashboards, reports, other apps)
- Permissioned like all Splunk knowledge objects
- Can be found and installed from the Splunk UI
- Implemented in JavaScript using any framework a developer wants

A Custom Visualization App

appname
  appserver
    static
      visualizations
        <visualization_name>
          visualization.js
          visualization.css
          formatter.html
default
    visualizations.conf

JavaScript

- SplunkVisualizationBase
  - Main entrypoint for logic and rendering
  - Extend in visualization.js
  - Override data handling and rendering methods
- SplunkVisualizationUtils
  - Utilities for color schemes, timezone handling, boolean normalization, and security best-practices

formatter.html

- Contains html for the viz editor dialog
- Property values get picked up and passed to JavaScript
- Supports Splunk-style form elements as webcomponents
- Also supports html inputs

visualization.css

- Contains css rules for the visualization

visualizations.conf

- System-wide configuration for the visualizations
  - User-facing labels
  - User help strings
  - Default height
  - Selectability
- Can declare multiple vizes per app

Webpack

- We strongly suggest using webpack to build visualizations into a contained package

A Custom Visualization App with Webpack

```
appname
  appserver
    static
      visualizations
        <visualization_name>
          src
            visualization_source.js
          webpack.config.js
          visualization.js
          visualization.css
          formatter.html
          package.json
  default
    visualizations.conf
```

Coding Demo

Learning More

Related breakout sessions and activities…

- **What's New – Custom Visualizations:** Michael Porath
- **Dashboards, Alerting, Reporting and Visualization - What's New:** Michael Porath and Nicholas Filippi
- **STEP up your app development game:** Tedd Hellmann and David Poncelow
- **Dashboard Wizardry:** Siegfried Puchbauer and Nicholas Filippi
- **Faster Splunk App Certification with Splunk AppInspect:** Grigori Melnik and Andrew Nortrup
- **Best Practices for Developing Splunk Apps and Add-ons:** Jason Conger
- **Visualization and dashboard clinics and booths on the show floor**

Learning More

Online Resources

- Custom Visualization Overview
- Step-by-Step Tutorial
- API Reference
- Examples on SplunkBase
- Code From this Talk

THANK YOU

splunk>