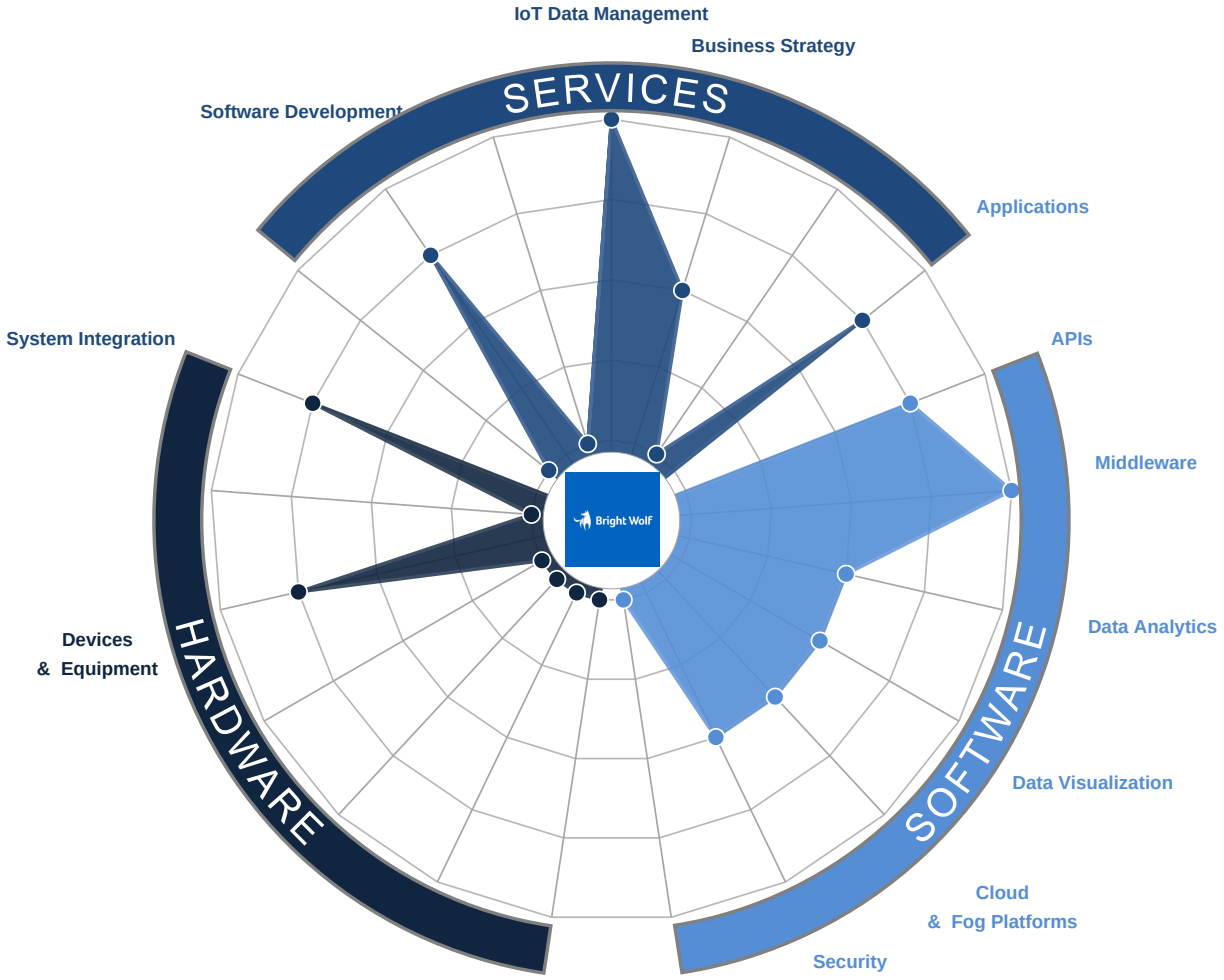
This document was generated for vaibhav sharma on Wednesday, May 30, 2018

ZipLine



Overview

Applicable Industries

Healthcare Services

Logistics

Data Processing, Hosting & Services

Applicable Functions

Maintenance

Information Technology

Connectivity Protocols

MQTT

Wi-Fi

Challenge

When connected devices, from simple IoT buttons to complex mining equipment, medical devices and more are distributed across organizations, sites, and locations with many roles and data types along with requirements for who can access which data, you've got an IoT Data Management, Access Control, and Device Lifecycle nightmare.

Customer

Industrial enterprises with multiple organizations/customers that may have their own end users, requiring secure multi-tenant environments and strict role based access controls.

Solution

Bright Wolf Strandz on top of AWS infrastructure, leveraging AWS IoT, Lambda, SNS, and SQS enables an instant-on visual platform for rapid deployment and configuration of multi-tenant IoT Enterprise Button solutions. Complete with visual management of orgs, sites, buttons, and users, Bright Wolf ZipLine includes a customizable, brandable user interface, out-of-the-box enterprise system integrations, and a fast track to machine learning. While this particular application is targeting AWs IoT Buttons, the same underlying functionality is available for managing significantly more complex connected products and equipment.

Data Collected	For the IoT Button-specific application, 3 events (single press, double press, and long press) can be mapped to actions like service and supply requests (and fulfillment or cancellation), as well as verification of equipment/area inspections, wildlife sightings, and pickup/cleaning needs. The data from the button is fully contextualized by ZipLine and sent via Lambda and SQS to downstream systems.
Solution Type	IOT
Solution Maturity	Emerging (technology has been on the market for > 2 years)

Operational Impact

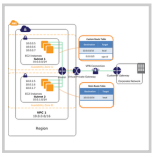
Impact #1	Digital retrofit of legacy equipment enabling connectivity and data flow to IoT system.
Impact #2	Replacement of less reliable logging methods of location-specific human observations.
Impact #3	Expanded opportunities for machine learning and new revenue opportunities.

Quantitative Benefit

Benefit #1	Instant on, no-code deployment and management of IoT devices enables non-technical employees to manage and monitor system activity and buttons without requiring development team.
Benefit #2	Granular permissions enable less expensive multi-tenant hosting and allows for different roles to see certain data, such as support teams being able to see support-only data across all sites, and site managers to see all data but only from their site.
Benefit #3	Calculations of remaining lifespan enables automatic reordering and replacement of buttons while maintaining continuous history of the logical scenarios being monitored across physical inventory changes.

Technology

Software



Amazon Virtual Private Cloud (VPC)

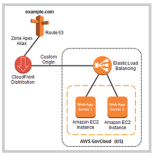
Amazon Web Services (Amazon)

Amazon Virtual Private Cloud (Amazon VPC) lets you provision a logically isolated section of the Amazon Web Services (AWS) cloud where you can launch AWS resources in a virtual network that you define ...

Amazon Elastic Compute Cloud (Amazon EC2)

Amazon Web Services (Amazon)

Amazon Elastic Compute Cloud (Amazon EC2) is a web service that provides resizable compute capacity in the cloud. It is designed to make web-scale cloud computing easier for developers.



Amazon Route 53

Amazon Web Services (Amazon)

Amazon Route 53 is a highly available and scalable cloud Domain Name System (DNS) web service. It is designed to give developers and businesses an extremely reliable and cost effective way to route en ...

Amazon CloudFront

Amazon Web Services (Amazon)

Amazon CloudFront is a global content delivery network (CDN) service.

Amazon Simple Storage Service (Amazon S3)

Amazon Web Services (Amazon)

Amazon Simple Storage Service (Amazon S3), provides developers and IT teams with secure, durable, highly-scalable cloud storage. Amazon S3 is easy to use object storage, with a simple web service inte ...

Amazon CloudWatch

Amazon Web Services (Amazon)

Amazon CloudWatch is a monitoring service for AWS cloud resources and the applications you run on AWS. You can use Amazon CloudWatch to collect and track metrics, collect and monitor log files, set al ...

AWS CloudFormation

Amazon Web Services (Amazon)

AWS CloudFormation gives developers and systems administrators an easy way to create and manage a collection of related AWS resources, provisioning and updating them in an orderly and predictable fash ...

AWS Cloud

Amazon Web Services (Amazon)

Amazon Web Services (AWS) is a secure cloud services platform, offering compute power, database storage, content delivery and other functionality to help businesses scale and grow. Explore how million ...

AWS Identity and Access Management (AWS IAM)

Amazon Web Services (Amazon)

AWS Identity and Access Management (IAM) enables you to securely control access to AWS services and resources for your users.

Partner

Amazon Web Services (Amazon)

Amazon Web Services has developed the managed cloud platform AWS IoT to let connected devices easily and securely interact with cloud applications and other devices. AWS IoT can support billions of de ...

Introducing ZipLine

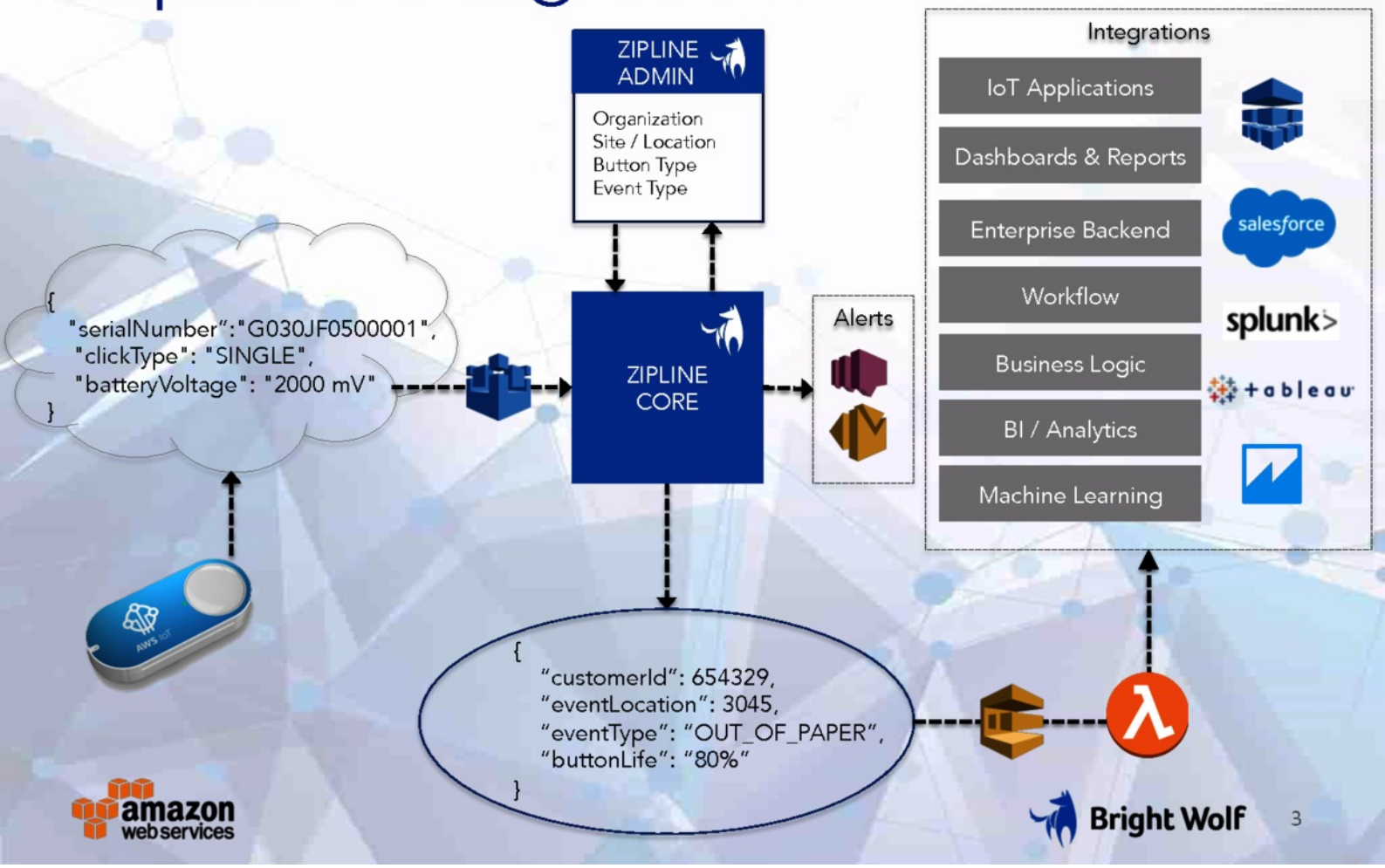
Instant-On, No-Code Enterprise IoT Button Deployments

Bright Wolf ZipLine

An instant-on visual platform for rapid deployment and configuration of multi-tenant IoT Enterprise Button solutions.

- Instant-On, No Code Required
- Integrated with AWS IoT, Lambda, SNS, and SQS
- Visual Management of Orgs, Sites, Buttons, and Users
- Rapid Enterprise System Integrations (CRM, ERP, etc)
- Built-in Dashboards and Reports
- Customizable User Interface Branding
- Device Lifecycle Management
- Fast Track to Machine Learning

ZipLine Integration



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Bright Wolf

Start Faster

Visual interface for rapid creation and configuration of organizations and IoT Buttons

- Create and manage organizations with sites and locations (i.e. customers of the enterprise)
- Create button types and events (i.e. copier, service request)
- Assign IoT Buttons to a type and location at a site within an organization
- Out-of-the-Box pre-configured notifications and integrations using AWS Lambda, SNS, and SQS.

Take Action

Built-in Dashboards and Reports, and Configurable Alerts for Button Event Types

- Get information to the right people, at the right time, using the right method
- Multi-level geographic map views, including floor plans
- Clickable drill-downs for organizations, sites, buttons and event types for real-time issues and historical trends
- Remaining Useful Life calculations enable predictive re-ordering replacement buttons prior to physical button failure

Go Further

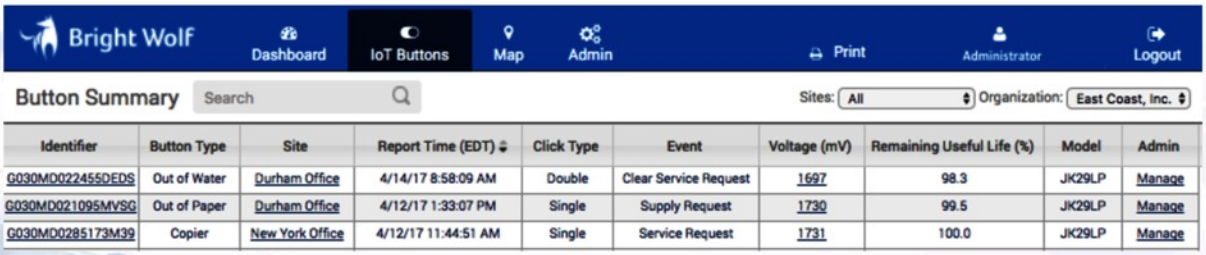
Fully contextualized button events are sent via SQS and Lambda to integrated enterprise systems

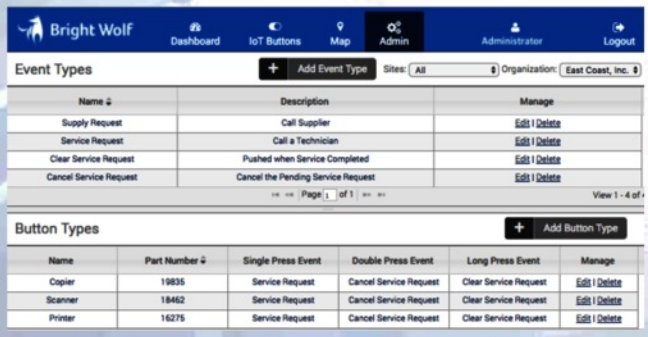
- ZipLine runs as AMI in enterprise account, connecting with existing business workflows and AWS infrastructure
- Quick and easy path to AWS Machine Learning and other advanced AWS offerings
- Customizable user interface branding and user management with granular access controls across organizations and roles

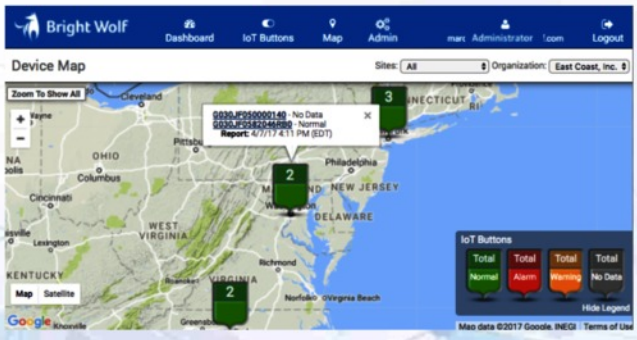
ZipLine Eliminates Enterprise IoT Button Management Complexity

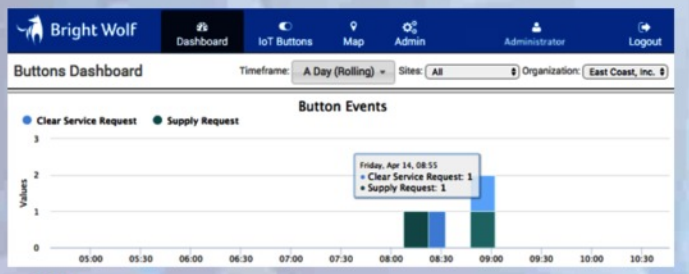
- Transformative Data Management
  - Incoming IoT data is normalized, cleaned, and shaped for use by downstream systems
- Sophisticated Access Control
  - Granular permissions at the data point level for true multi-tenancy and user role management
- Complete Device Lifecycle
  - Physical inventory associated with logical buttons in system enables seamless assignments and replacements of devices over time

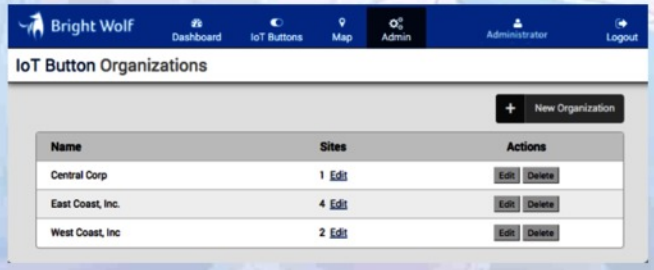
ZipLine Snapshots









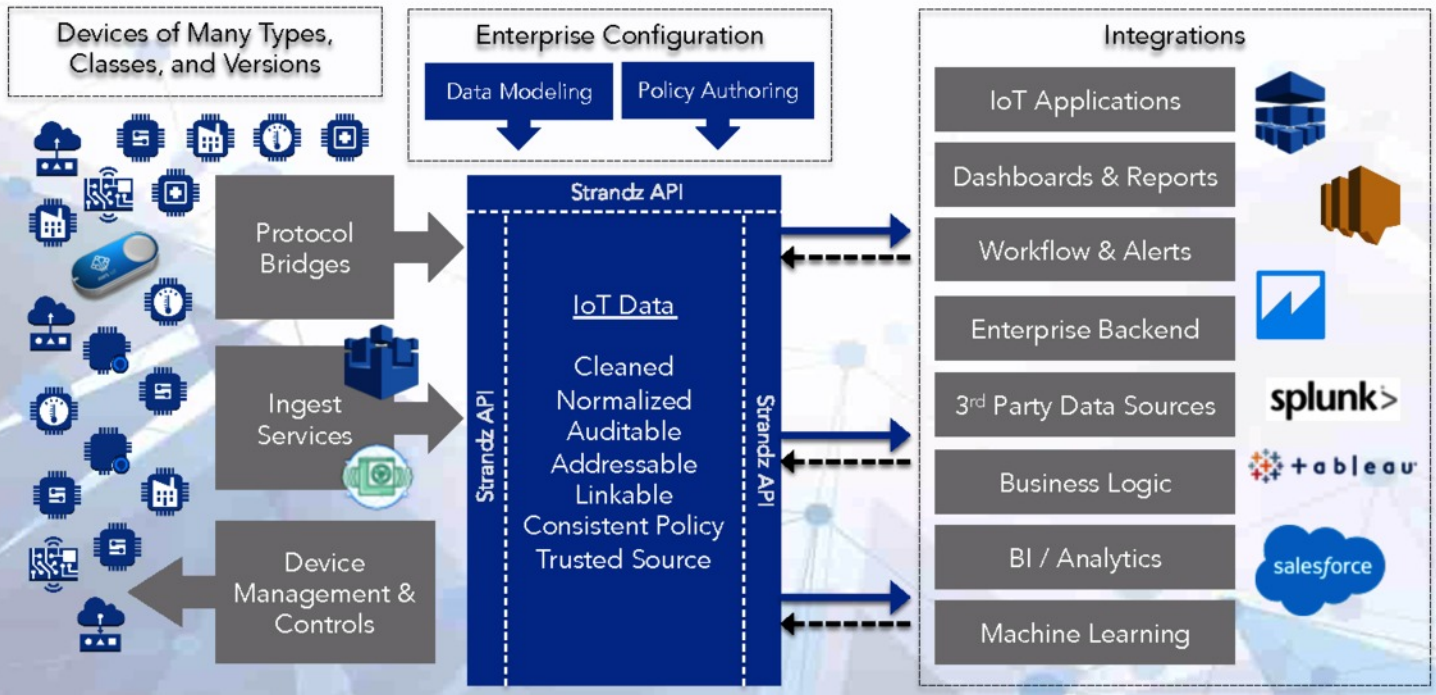


ZipLine is Powered by Bright Wolf's Strandz IoT Data Management Platform

Buttons are Just the Beginning…

- Faster time to market for enterprise IoT systems on AWS
  - Strandz seamlessly integrates with AWS cloud infrastructure
  - Strandz data management handles normalization and transformation of incoming IoT data
- Enterprise integrations
  - Strandz connects to existing ERP, CRM, and other key enterprise systems; including integrations with their customers' enterprise
- Granular access control for complex value chains
  - Manage sophisticated data and user policies across companies, groups, sites, devices, and data types
- Flexible data tool choices
  - Integrate with any combination of BI, ML, analytics, workflow, or other tools

Strandz IoT Data Management



- Strandz allows IoT value to be realized by creating a clean, normalized, queryable source of truth for all connected systems and users.
- Strandz enables IoT systems that are resilient, scalable, and continuously learning.
- Strandz powers digital value chain transformation by allowing complex relationships between data, systems, users, organizations, sites, and groups.

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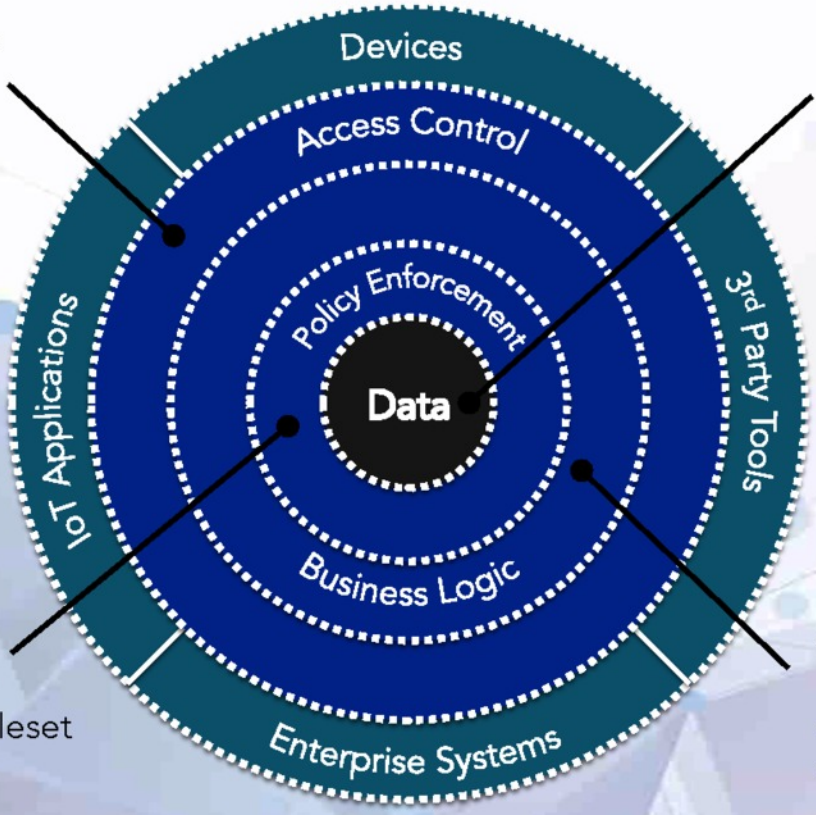
Strandz IoT Data Protection

- Authentication
- Authorization
- Auditable



- Time Series
- Cleaned
- Normalized
- Trusted
- Linkable
- Addressable
- Auditable

- Consistently Applied
- Auditable Ruleset
- Dynamic Authoring

- Data Transformation
- Analytics
- ML/AI

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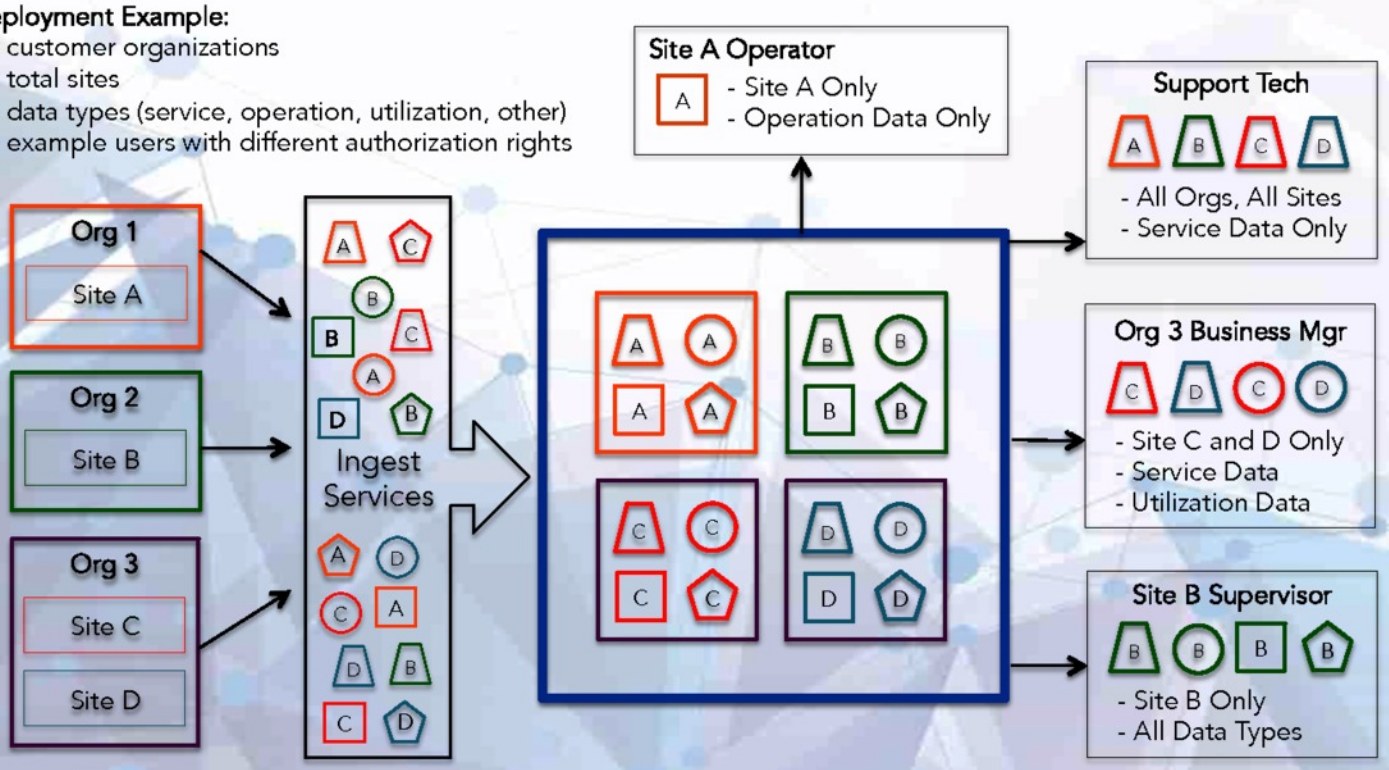
Bright Wolf

Strandz Multi-Tiered Data Access Control

- Incoming data is contextualized and normalized for use by downstream systems, apps, and users.
- Policy-driven access controls are applied at the platform level rather than by each application.
- This enables consistent, granular permissions at the enterprise, org, site, user, and component level across a matrix of type, location, time, and other axes with multi-tenant hosting by the enterprise.

Deployment Example:
- 3 customer organizations
- 4 total sites
- 4 data types (service, operation, utilization, other)
- 4 example users with different authorization rights



Bright Wolf

Bright Wolf Strandz is a modular, scalable, and secure platform designed for change and longevity and optimized for developing industrial grade IoT applications. Production deployments include healthcare, heavy equipment, energy, fluid management, agriculture, cold chain transportation, and more.

Bright Wolf is a trusted partner to Fortune 1000 companies for architecture design, system integration, development, and operational support for large-scale industrial and enterprise IoT systems.

http://brightwolf.com

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Accelerating the Industrial Internet of Things

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