Bright Wolf

Connected Product Solutions for Industrial Digital Transformation

Cold Chain Transportation

Start Faster. Go Further.

Cold Chain Transportation Challenge

- Multi-million dollar theft and spoilage losses
- Increasing regulatory requirements
- Unpredictable departure and arrival times
- Unreliable and inefficient shipment planning
- Inefficient use of fleet through uneven asset distribution utilization
- Significant in-yard fuel waste

Cold Chain Transportation Solution

Complete Door-to-Door Chain of Custody

- Geofence programmable trailer lock support
- Remote diagnostic monitoring and control
- Predictive arrival time alerts

Workforce Management & Regulatory Compliance

- Load and unload times, engine idle duration and location
- Full audit trail for regulatory and food safety requirements
- Active on-site loss prevention monitoring and alerts

Fleet & Asset Optimization

- Geo-distribution, asset turns, and trailer utilization
- Batch control, JIT pre-cooling for same-day route planning
- Integration with machine learning and enterprise systems

Proven Benefits

Real-time Monitoring = ***Reduced Loss***

Predictable Arrival Times = ***Faster Turnarounds***

Batch Pre-cool = *Significant* ***Fuel Savings***

Enterprise Data Integration = ***Continuous Improvement***

Door to Door Chain of Custody

2-way Remote Control

Arrival Time Notifications

Remote Diagnostics

Geofence Auto-Lock

Geofence Auto-Unlock

Door Lock

Speed

Temperature

Location

Fuel

Tire Pressure

Aerotail Deployment

Refrigeration Unit Status

Workforce Management & Regulatory Compliance

CARB* Compliance

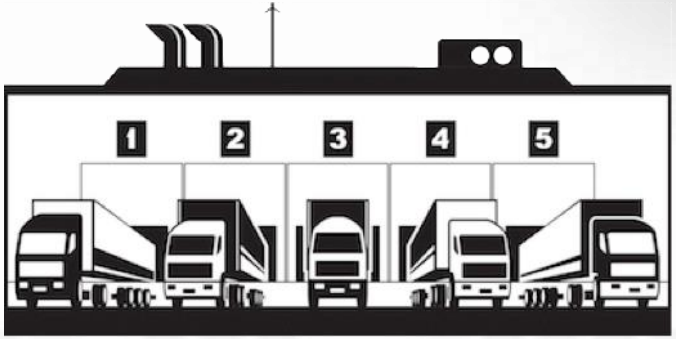
- Idle Time
- Idle Location
- Power Source

Workforce Management

- Arrival & Departure
- Time to Load and Unload

Loss Prevention and HACCP Monitoring**

- Lock
- Fuel
- Temperature
- Door
- Location

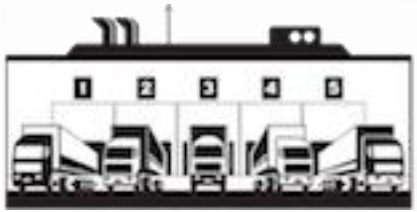


* California Air Resources Board

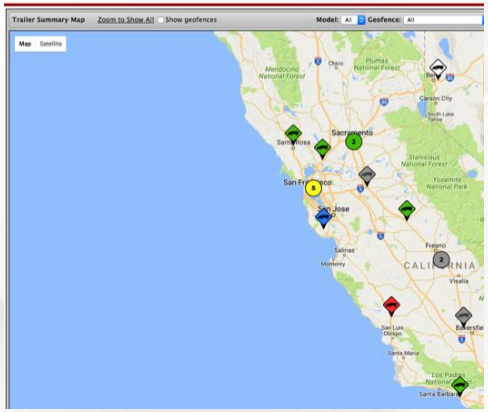
** Hazard Analysis and Critical Control Points

Fleet and Asset Optimization

2-Way Fleet Communication	Asset Management	Machine Learning
Fleet Alerts	Asset Turns	Analytics
Single Unit Granularity	Geo-Distribution	Data Access Control
Batch Mode Commands	Trailer Utilization	Enterprise Integration



Fleet Monitoring and Alerts



All Reports > Current Pooled Assets

Geofence	Total	i5 Units	i5s Units	i7 Units
Americold Allentown	1	0	0	0
Badger Utility Kaukauna	1	1	0	0
Brakebush	2	2	0	0
Cargill Butler	3	3	0	0
Cargill Peck	4	3	0	0
Denali Frozen	1	1	0	0
Hansen Cold Storage	1	1	0	0
Larpen-Hartford	1	1	0	0
Marty Sav-A-Lot	1	0	0	0
Menards Iron Ridge	2	2	0	0
Mullica Hill Cold Storage	2	2	0	0
Roundy's	2	2	0	0
Ryder Beaver Damn	1	0	0	0

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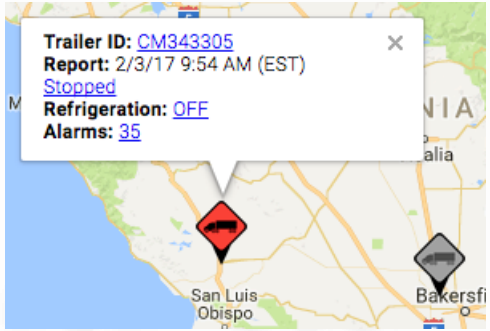

Reefer Alarms for Trailer CM343305 at 2/3/17 9:54 AM (EST)

Num	Level	Description	Operator Action
35	14	Check Run Relay Circuit	Unit cannot operate and is shut down. Repair immediately.

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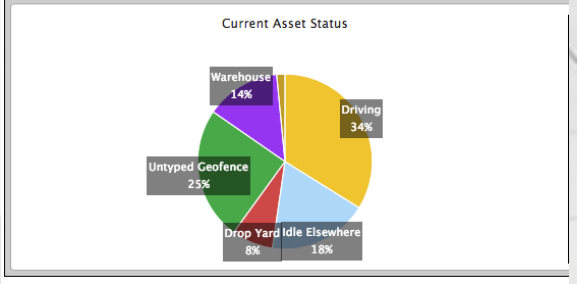
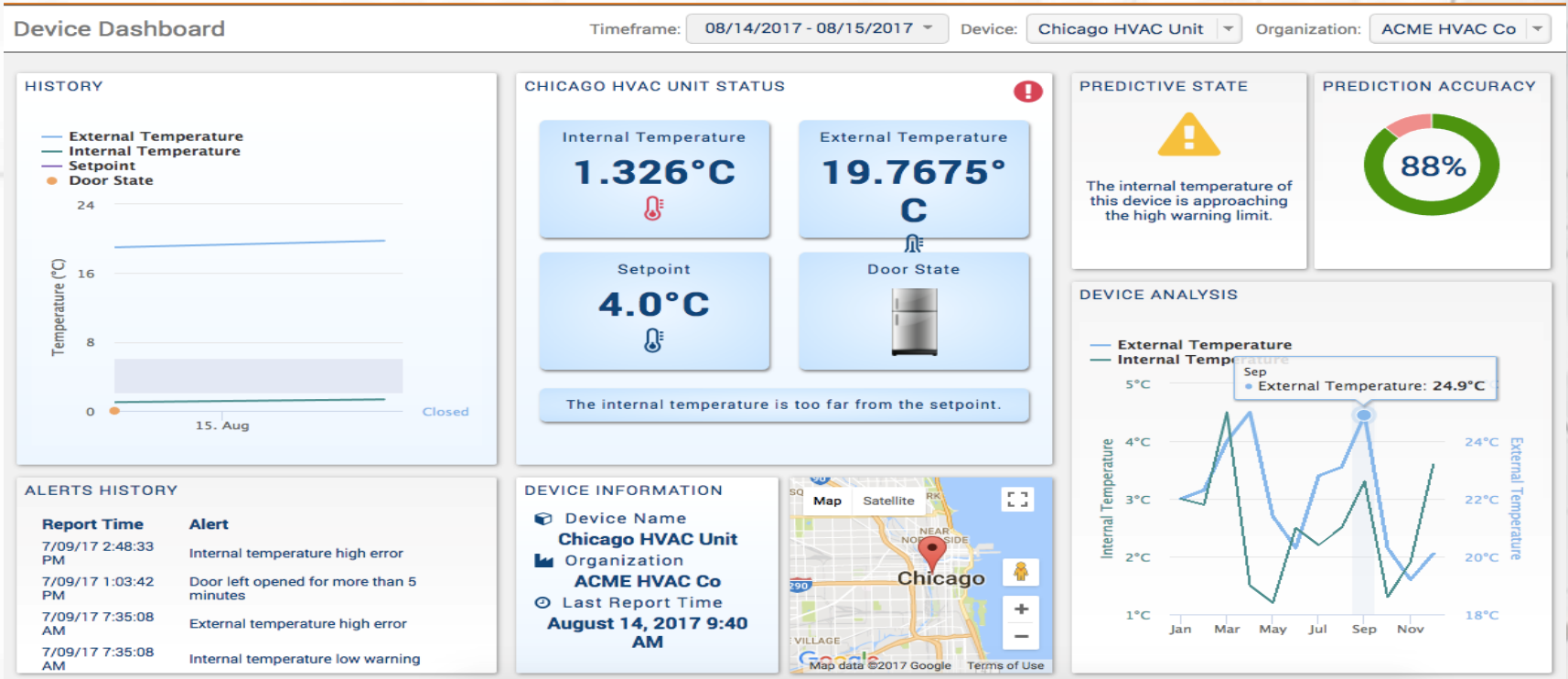
COLOR CODE DEFINITIONS: OK TO RUN | CHECK AS SPECIFIED | TAKE IMMEDIATE ACTION



Customizable Dashboards



Bright Wolf

A Trusted Partner for Azure IoT Connected Solution Delivery

Bright Wolf has almost a decade of experience as a system integration and technology partner for Global Forbes 2000 industrial enterprises

TRANSPORT WIRELESS TECHNOLOGIES INC.

Our cold chain transportation solution is deployed at one of the world's largest retailers and on refrigerated trucking fleets across North America

DANAHER

Real-time monitoring of fluid loop components and alert system, including inventory management and asset tracking with admin consoles and secure mobile applications

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919-636-9754

"The partnership with Bright Wolf has moved beyond the system itself – they have been a great partner in discussing the path forward and IoT considerations stretching from IT security to process reinvention."
- Kurt Mueller, Director of Product Management

SHAPE TECHNOLOGIES GROUP

"Bright Wolf's connected product systems expertise has been critical for several of our solution groups. From the edge to data management, Bright Wolf has been a great partner for our IoT initiatives."
- Brian Boothe, Engineering Manager

PENTAIR

"We chose Bright Wolf for their deep experience delivering customizable solutions at the industrial edge, and they've been a steadfast solution partner every step of the way."
- Merritt Callaghan, Supervisor

CAT®

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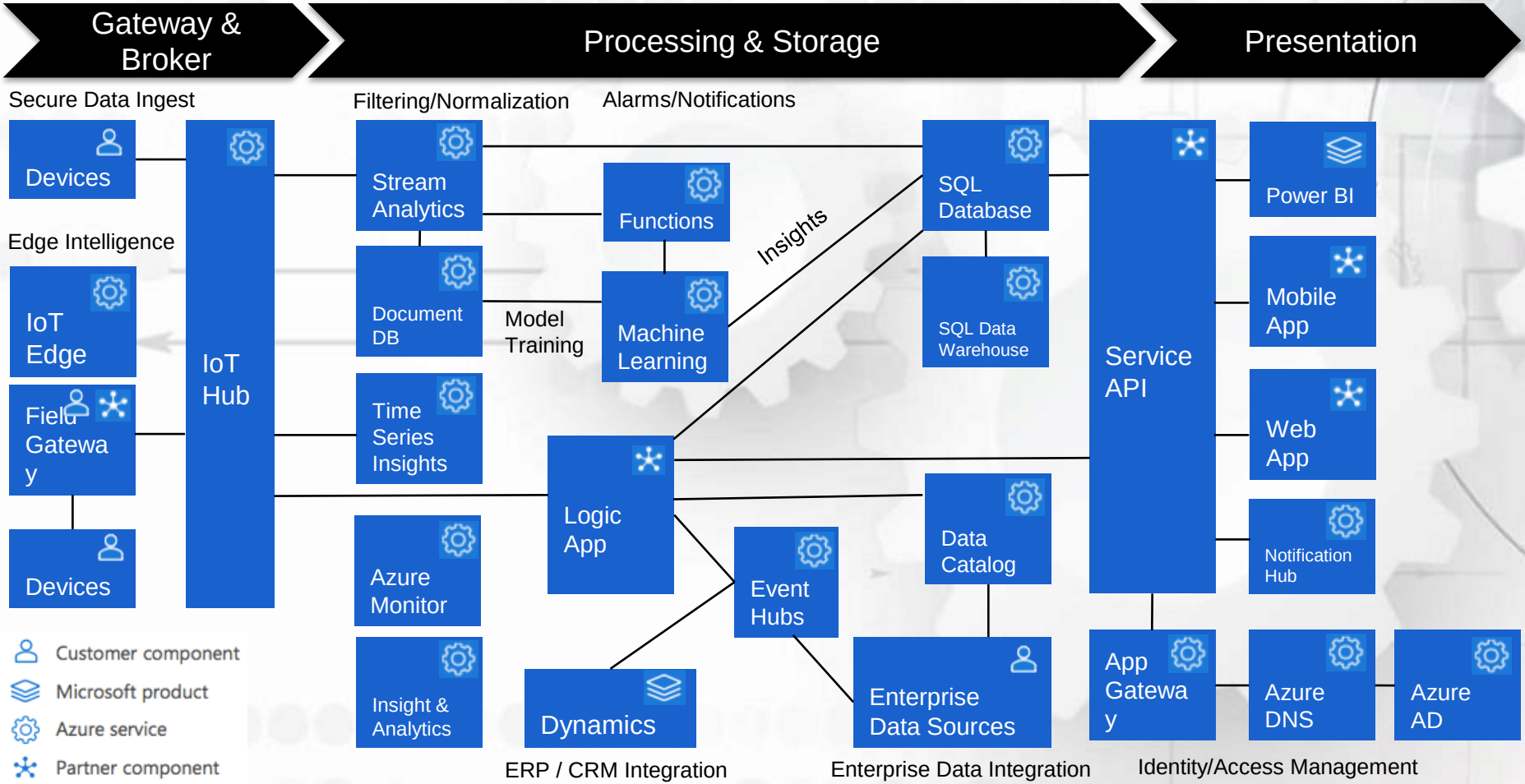
Azure IoT Cold Chain Transportation Solution Architecture



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