Process Innovations
Process Plugins™

Anotrac: The Anomaly Tracking System

Outage Metadata Manager

PRODUCT GOALS

Optimize	Optimize Asset Efficiency and Performance
Reduce	Reduce Maintenance Costs
Avoid	Avoid Failures, Outages and Shutdowns
Maximize	Maximize Leverage from IT Investments in Data and Compute
Leverage	Leverage Machine Learning and AI to Realize these Benefits

CHALLENGES

- To detect problems before they occur, years of time-series operating data is not enough
- Detailed, human-enhanced historical outage data is needed to train AI to detect and categorize the pre-conditions of a failure

- Time-series historians do not record this information
- O&G operators typically focus on break-fix and have only anecdotal outage metadata

SOLUTION

AnoTrac Provides:

- Hierarchical Asset Management System
  - Standardized templates for rapid deployment of asset structures (system, assembly, part)
- Outage Metadata
  - Metadata is detailed, configurable, and structured
  - Automatic anomaly event creation
- Global database of equipment and manufacturers to minimize duplication, speed deployment and increase alignment across operators' data
- Track both failure mode and outage cause related to each outage for enhanced AI capability

FEATURES

Record, enhance, track and analyze outages with metadata defining root cause and category

Alert operators when anomalies are detected

AI system analyzes user-enhanced data for both anomalies and outages to predict failures

Critical feedback loop from outage data to AI, constantly enhancing predictive analytics

Reports provide operators insights on the reliability and potential failure of their equipment

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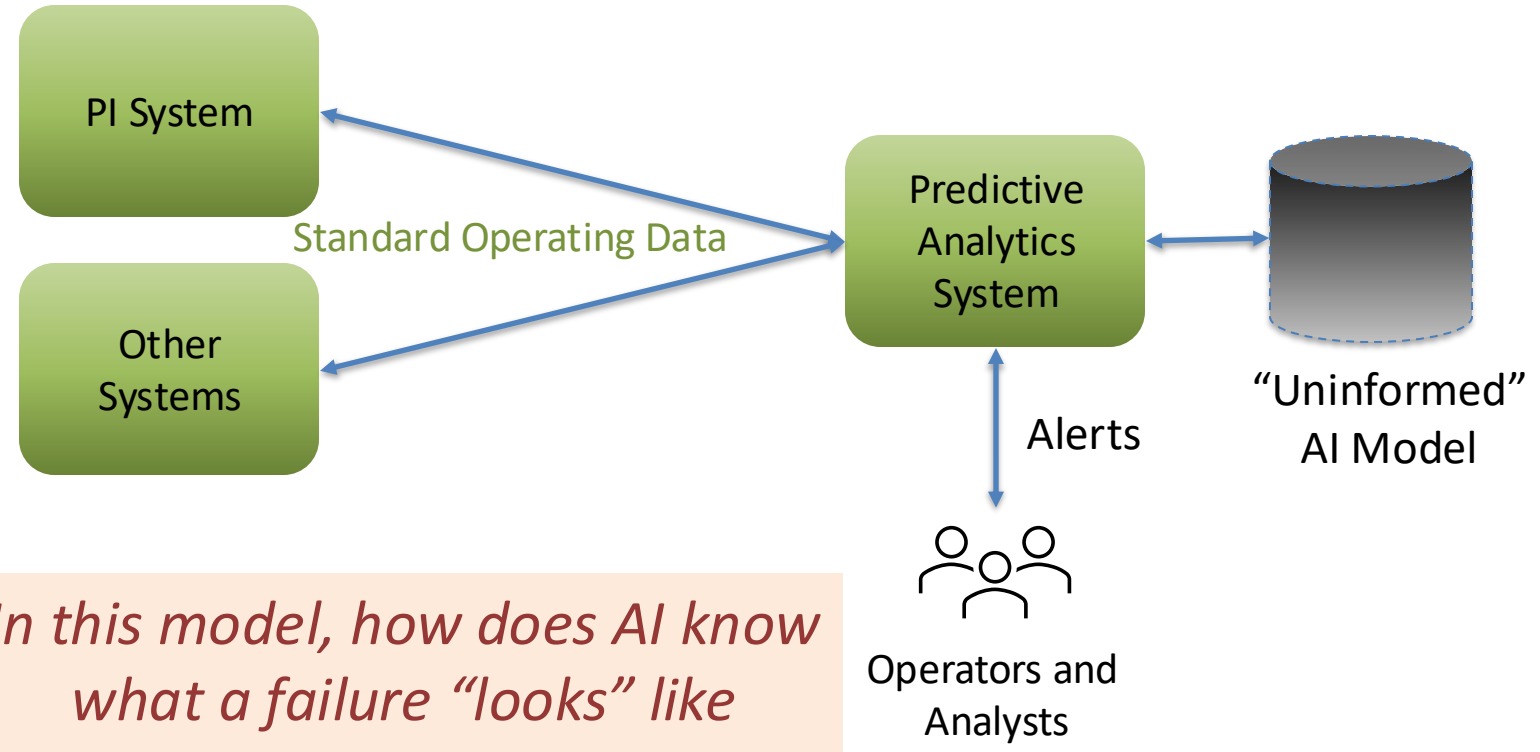
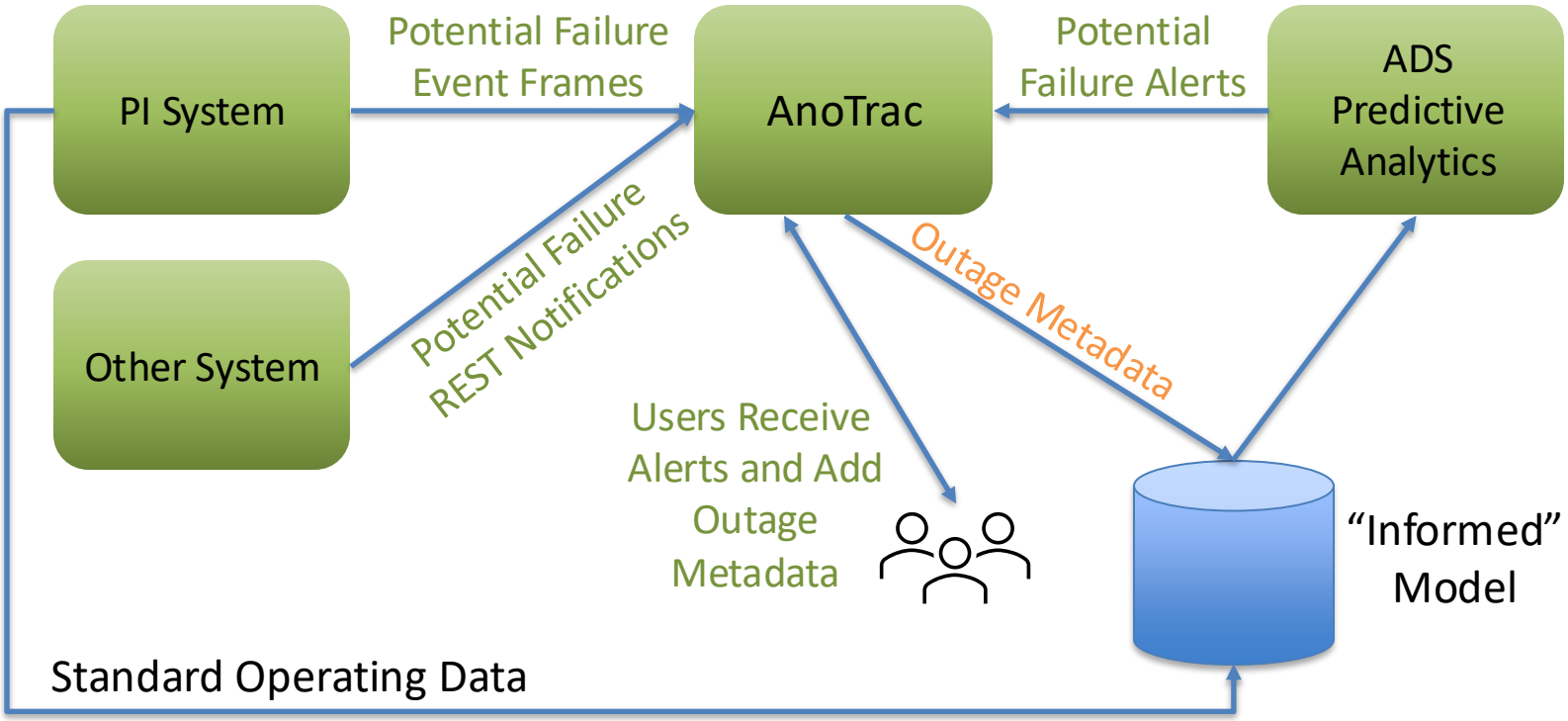
Predictive Analytics Without AnoTrac



In this model, how does AI know what a failure "looks" like parametrically for each asset?

Predictive Analytics With AnoTrac



AI has access to both operational data and failure data to make informed alerts

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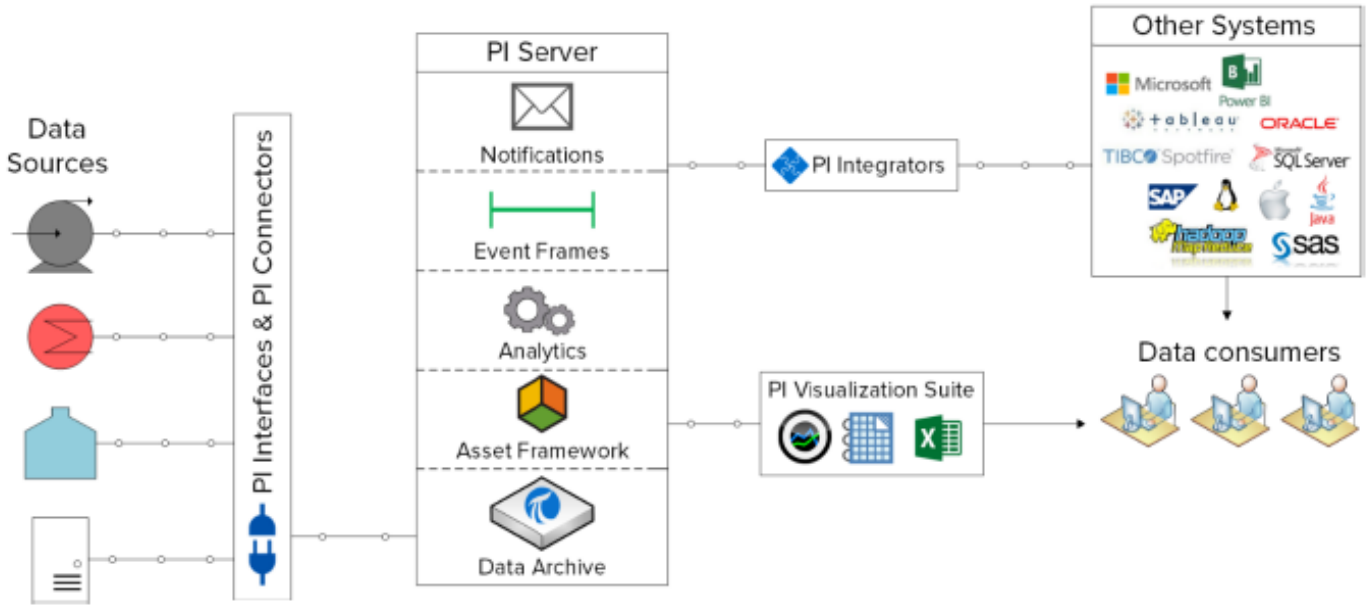
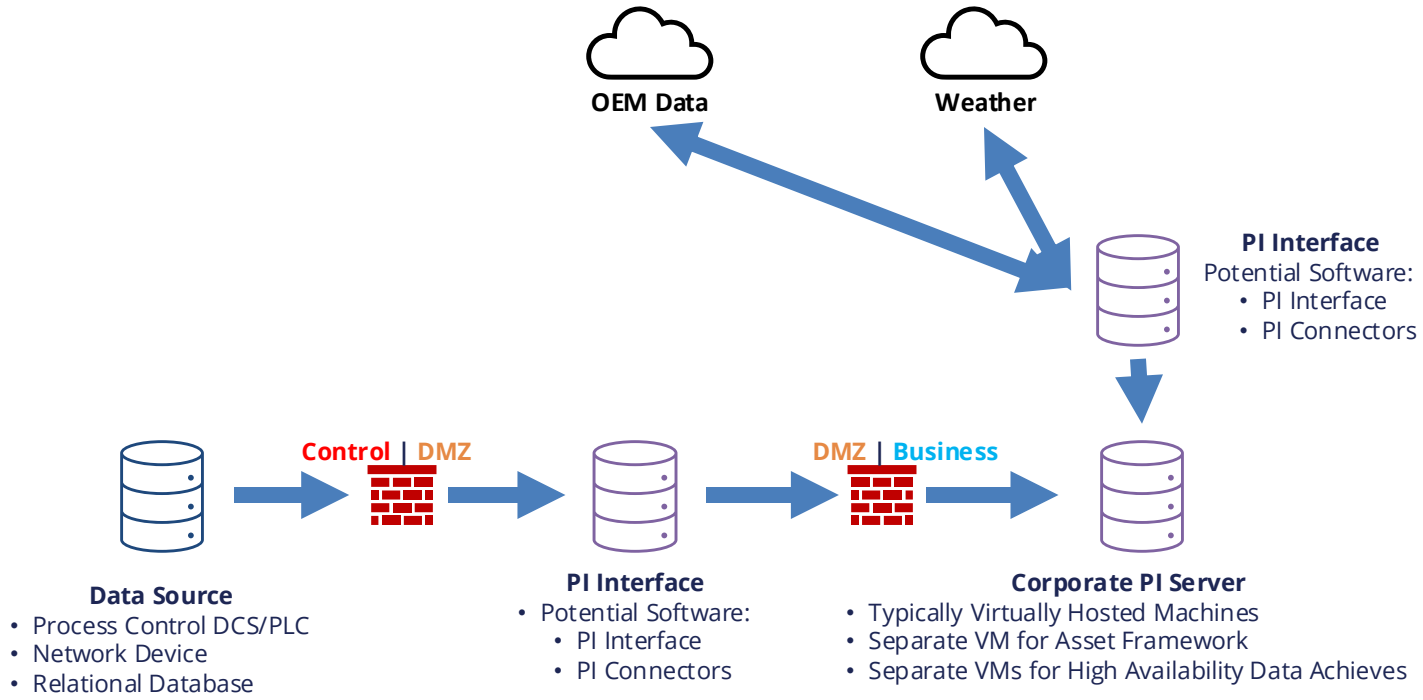
PI SYSTEM ARCHITECTURE

Typical PI system



General PI Network Diagram



Detail of Corporate PI Server VMs

PI Services can be segmented on different hosted VMs to manage resource allocation most efficiently.