# VANTIQ
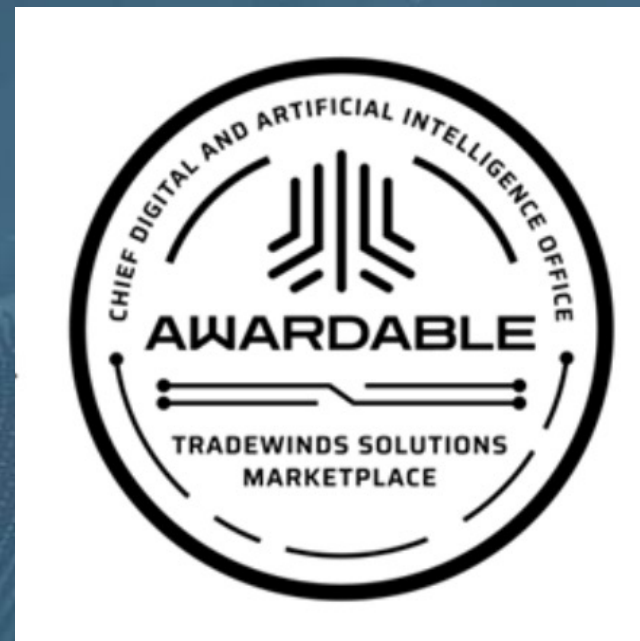


**US Navy Fleet Forces – Perimeter Security Briefing**

**Jim Rice**
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**September 2025**

# Corporations + Agencies headlines...
# The National Imperative for creating AI solutions

- **AI as National Imperative**: Many declare it akin to past revolutions in electricity, nuclear power, or the internet.

- **Global Competition with China**: A frequent warning is that China's aggressive AI strategy puts the U.S. at risk if it doesn't match pace.

- **Societal Transformation**: Leaders say AI will fundamentally reshape industry, defense, healthcare, logistics, and governance.

- **Call for Whole-of-Nation Response**: Analogous to the Space Race or WWII industrial mobilization.

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**President's AI EO – Adopt AI responsibly, at speed, at scale!**

# Organizations face significant challenges in developing effective AI solutions.

- Reduce Failure rates: 80% of AI projects fail —> 2x rate of traditional IT projects *(source: RAND Corp.)*

- Address Skills gap: 56% of enterprises say "lack of AI skills is the biggest challenge to adoption *(source: Gartner)*

- Speed of change: The new AI foundation models are doubling each year *(source: Stanford 2024 AI trends)*

- Flexibility: "There's a need for more flexibility and modularity, with more components that won't be kept for long stretches." *(source: CIO Mag – 10 biggest issues IT faces today)*

- Strategy: "Implementing AI solutions poses strategic challenges, with 70% of companies facing people and process-related obstacles." *(source: Boston Consulting Group, 2024 Survey)*

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Problem Statement:

We're prepared for the Perimeter Security Threats we know,
But what about the Threats we don't know?
How will Fleet Forces leverage Adaptation at the Speed of Threat?



In 1597, Korean Admiral Yi Sun-sin faced 133 Japanese warships with just thirteen (13) battered ships.

Outnumbered nearly 10 to 1, he achieved victory not through superior firepower, but through <mark>adaptive agility</mark> — reconfiguring tactics in real-time against an enemy that expected predictability.

Admiral Sun-sin's lesson is timeless: when outmatched, survival and victory depend on the ability to adapt faster than the adversary.

# Today, when implementing new software (AI, IoT, Edge, Real-time), failure occurs too often!

**$1.56T** Total cost of operational failures caused by poor quality software (20 CISQ report)

**58%** of IOT projects are completely unsuccessful (Beecham Research)

**42%** of AI project are abandoned before being put into production (S&P Global report)

**Complexity** – too many moving parts

**Change** – too fast, technology evolution is dramatic

**Scalability** – success delivers super rapid growth

**AI Trustworthiness** – hallucinations are unacceptable

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# Smartest deployed 'time to value' applications around the world...



## Smartest Disaster Management

NTT Data's "D-Resilio," powered by Vantiq's GenAI platform, revolutionizes disaster response in Japan. It automates critical information delivery and enhances real-time decision-making by integrating evacuation protocols, analyzing threats with satellite imagery and sensors, and dynamically adapting to evolving conditions for effective crisis management.



## Smartest HQ Building Management

"We were actually trying to make the same product ourselves, but the hurdle was too high, so the moment we saw the power of the Vantiq platform we were immediately sold." *Hironobu Tamba, VP and General Manager of IoT & AI, SoftBank*

**Without Vantiq: 24 man-years, 2 attempts = 2 failures**
**With Vantiq:  9 man-months = SUCCESS**



## Smartest Force Readiness System

Trackable Health revolutionized Air force pilot readiness with Vantiq. The platform integrates biometric sensors and AI to deliver real-time readiness scores, detect medical issues early and provide GenAI-driven coaching. Rapidly deployed to meet the government's timeline, it enhances wellness, retention and peak performance for mission-critical operations.



## Smartest Traffic Management System

Texas A&M Transportation is partnering with Vantiq to leverage its GenAI platform to revolutionize traffic management by optimizing traffic flow and safety. The system will dynamically adjust traffic lights and routes, integrating with V2X sensors for real-time responsiveness. This mission-critical solution aims to enhance safety during poor weather and deliver automated emergency responses.



## Smartest Small City

Opelika used Vantiq to deploy real-time monitoring, stopping vandalism and enabling rapid response. AI-powered cameras detect incidents and alert authorities in minutes, with compelling annual savings. Vantiq's low-code platform integrates systems, enhancing city safety and driving rapid adoption of AI-driven solutions citywide.
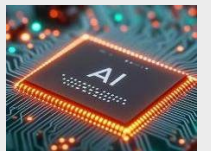


## Most agile and comprehensive computer vision system

Vantiq built a real-time orchestration layer above Blaize's AI hardware leverages Vantiq , enabling Blaize to rapidly build a scalable, real-time application that integrate computer vision data and connect all real-time data streams for seamless orchestration and monitoring.

## Short-term Hackathons and Pilots prove we are delivering unmatched solutions to very complex distributed, edge-to-cloud problems

# Unlike alternatives, Vantiq delivers what others don't

## Real-time > retrospective

### Vantiq acts—others just analyze

While others detect issues, Vantiq takes action in real-time

## Complexity, handled

### Built for speed and scale

Multi-agent, multi-data source workflows built in days/weeks, not months/years — no custom coding required

## Legacy systems, smarter

### Integrates without disruption

Augments legacy systems, sensors and IoT devices without migration headaches — no rip-and-replace needed

## Vantiq: the software platform for rapidly creating and operating real-time intelligent systems

VANTIQ

# What Agentic AI applications built with Vantiq do in real-time

**1**

**Ingest**—gather and process data from any sources, such as sensors (IoT), cameras, databases and digital interfaces

→

**2**

**Analyze**—logic and gen AI "creatively think" through what is happening and suggest what actions to take

→

**3**

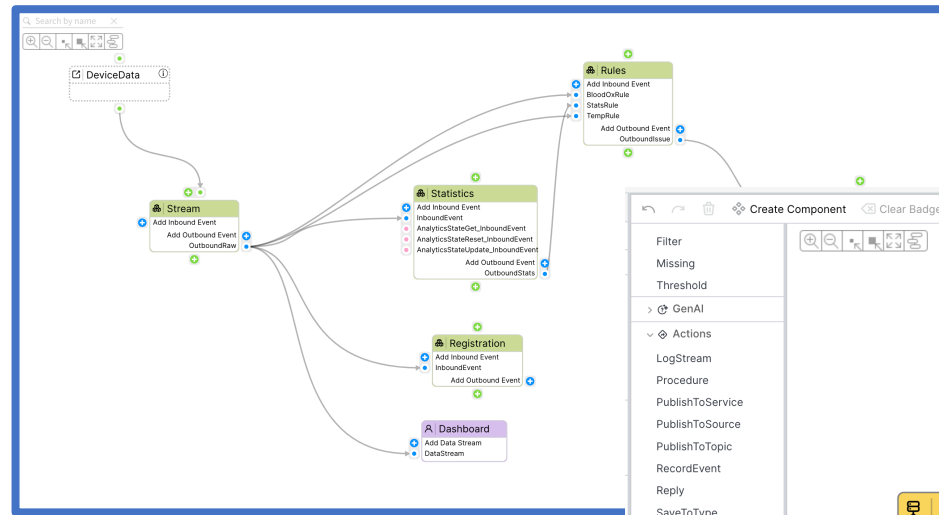**Orchestrate**—strategically automate and orchestrate collaboration with people and systems

→
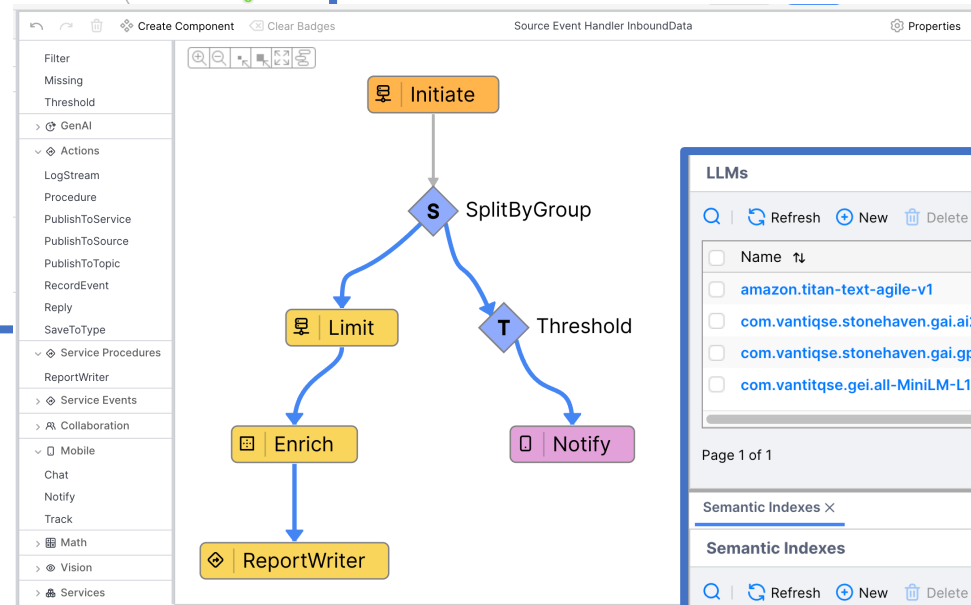
**4**

**Learn**—learn in real-time and update the system

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# Simplifying Development

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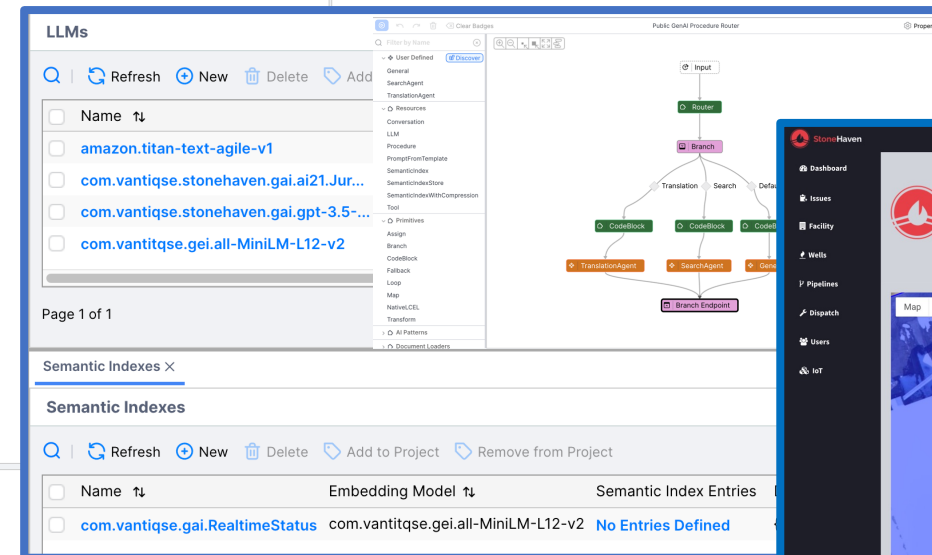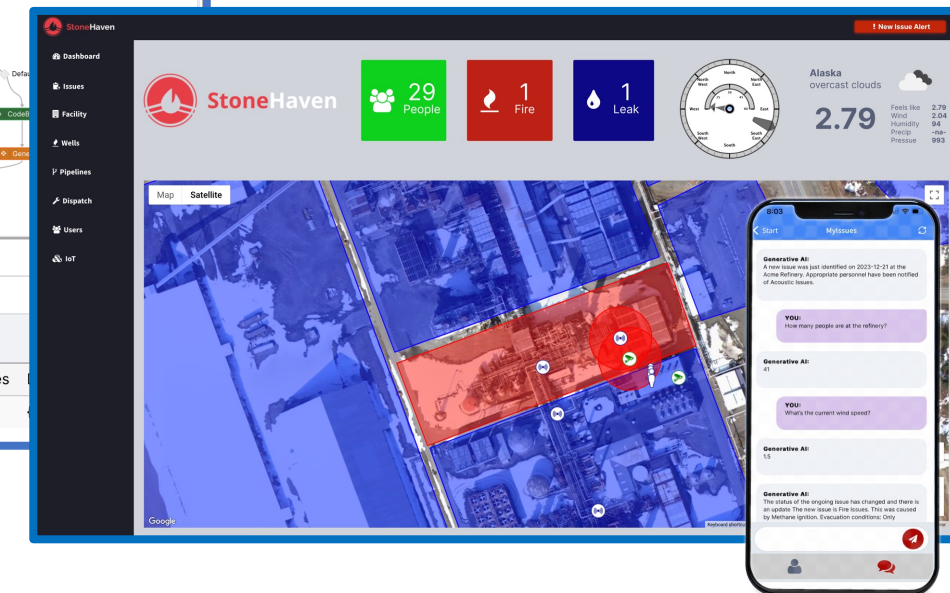Design Model          Visual Events          Generative AI          Visualization
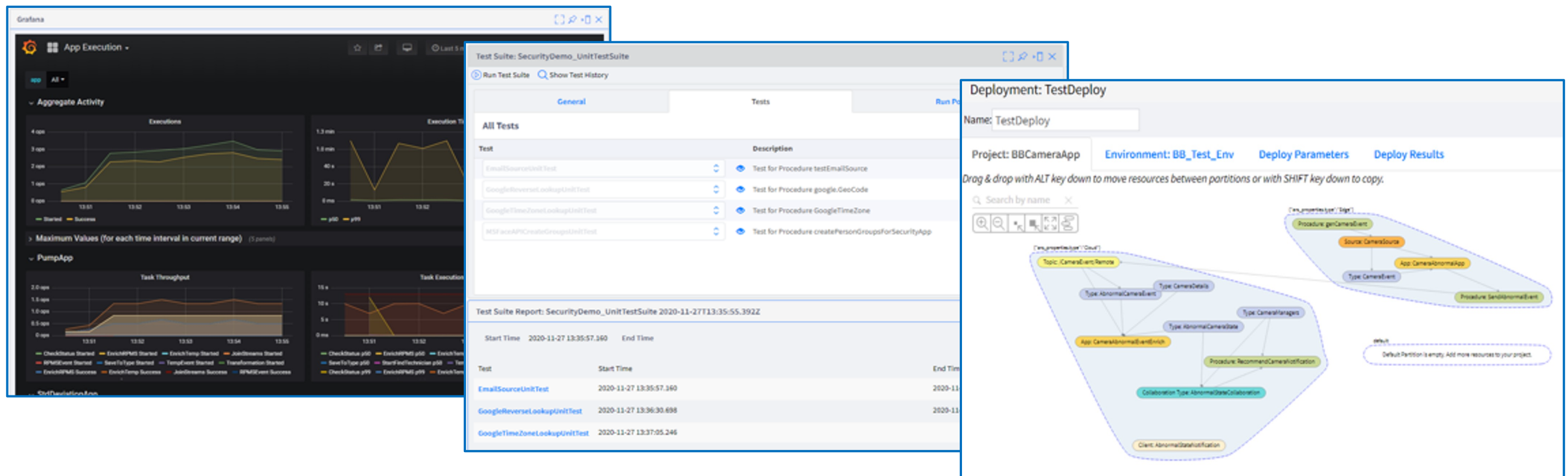


**Easily create real-time intelligent software systems from components**

# Simplify Operations & Ongoing Deployments
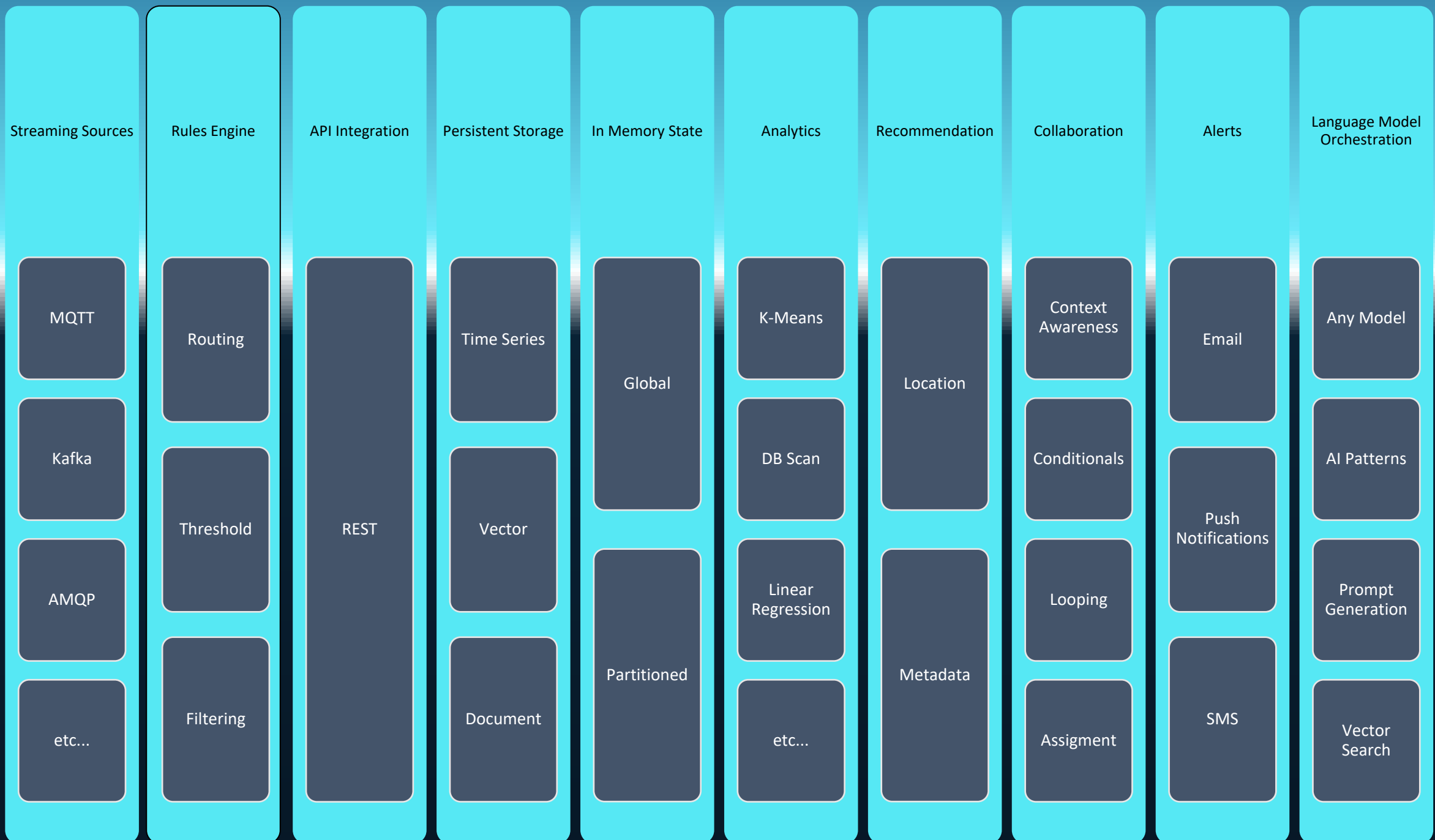
Monitoring and
Management Tools

Unit and
Integration Tests

Deployment and
Partition Tool



## Automatically deploy components to where needed

# VANTIQ HIDES COMPLEXITY

| Streaming Sources | Rules Engine | API Integration | Persistent Storage | In Memory State | Analytics | Recommendation | Collaboration | Alerts | Language Model Orchestration |
|---|---|---|---|---|---|---|---|---|---|
| MQTT | Routing | REST | Time Series | Global | K-Means | Location | Context Awareness | Email | Any Model |
| Kafka | Threshold | | Vector | | DB Scan | | Conditionals | Push Notifications | AI Patterns |
| AMQP | Filtering | | Document | Partitioned | Linear Regression | Metadata | Looping | SMS | Prompt Generation |
| etc... | | | | | etc... | | Assigment | | Vector Search |

# Leverage the Vantiq platform for your team's success

- Vantiq's highly innovative software platform is used to:
- **Develop** real-time intelligent systems
- **Intelligently automate** GenAI
- **Run** wherever needed
- **Integrate** AI agents, legacy and services
- **Assure** scalability and reliability
- **Orchestrate** activities (systems & human-in-loop)
- **Installs** on major infrastructure for above
- **Rapidly** build and deploy
- **Upgrade** anything, anywhere, anytime
- **Learn** in real-time



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**TRL-9 Platform results in 10-20x less time and effort than your alternatives**
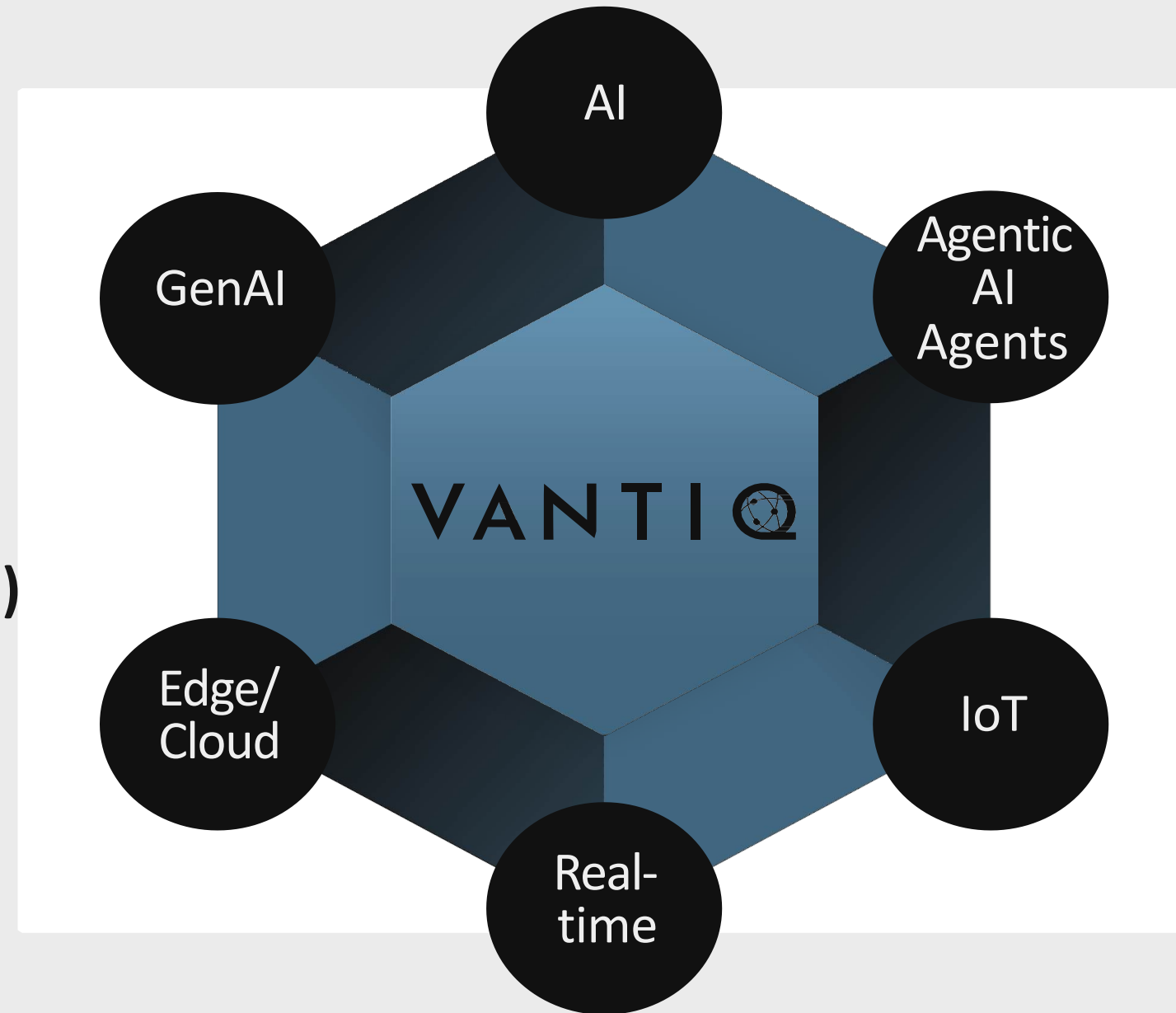
# From Policy to Practice: Real-Time, Zero-Trust, Agentic AI for Government Operations

Aligning NASCIO and Federal CIO priorities with proven Vantiq-powered use cases to transform government operations through secure, AI-driven orchestration.

# GTM - From Mandate to Mission

Federal agencies face unprecedented pressure to securely connect data, AI, and people across legacy and cloud environments while demonstrating compliance and dramatically reducing time-to-mission delivery.

## Key Drivers

NASCIO 2025 Top-10 priorities including cybersecurity, AI/ML, digital services, and data management. Federal CIO M-25-04 mandate and Zero-Trust Data Pillar Guide requirements.
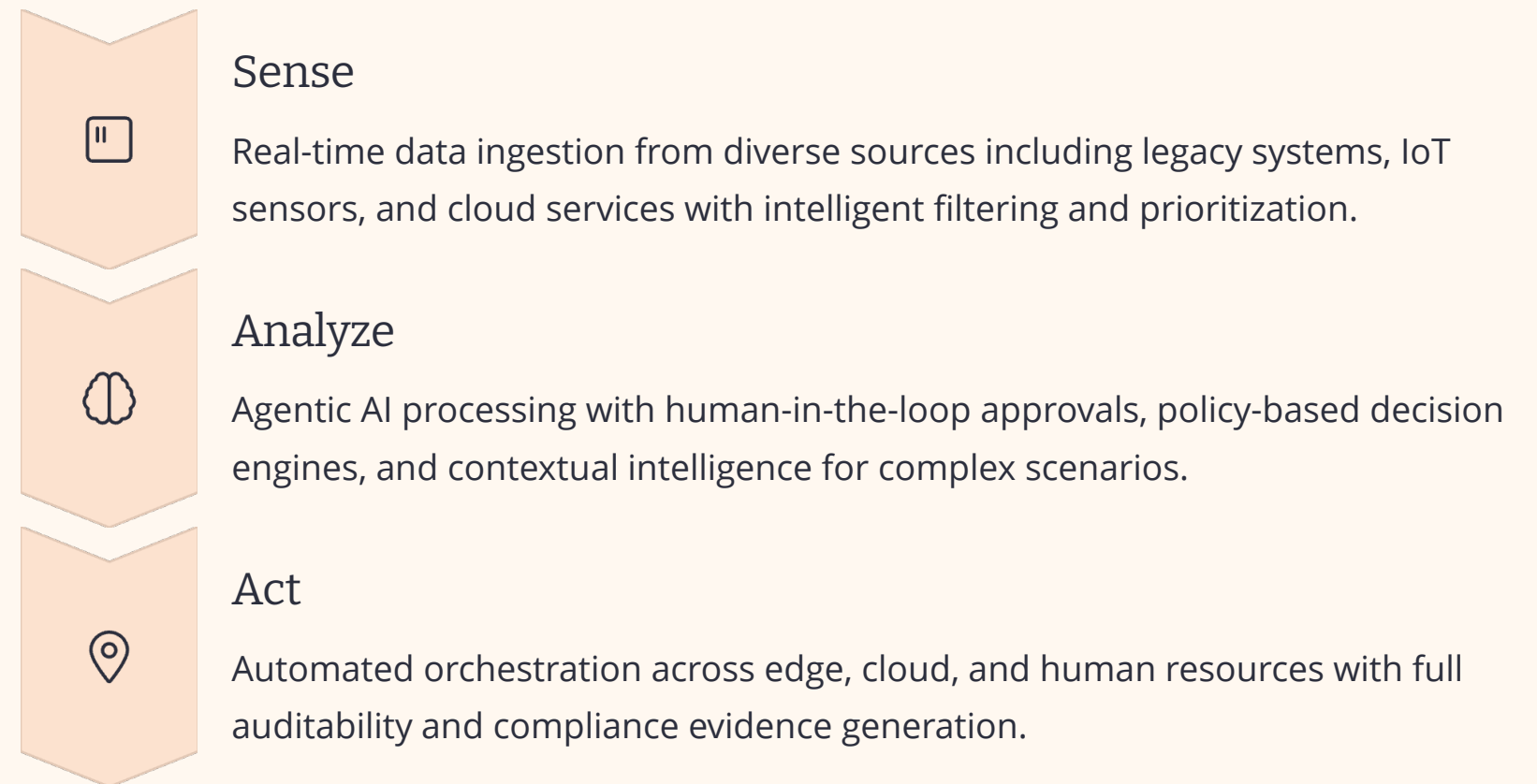
## Promised Outcomes

Minutes-to-mission decisioning, zero-trust-by-design security, observable orchestration with replayable decision logs, and edge resilience for critical operations.
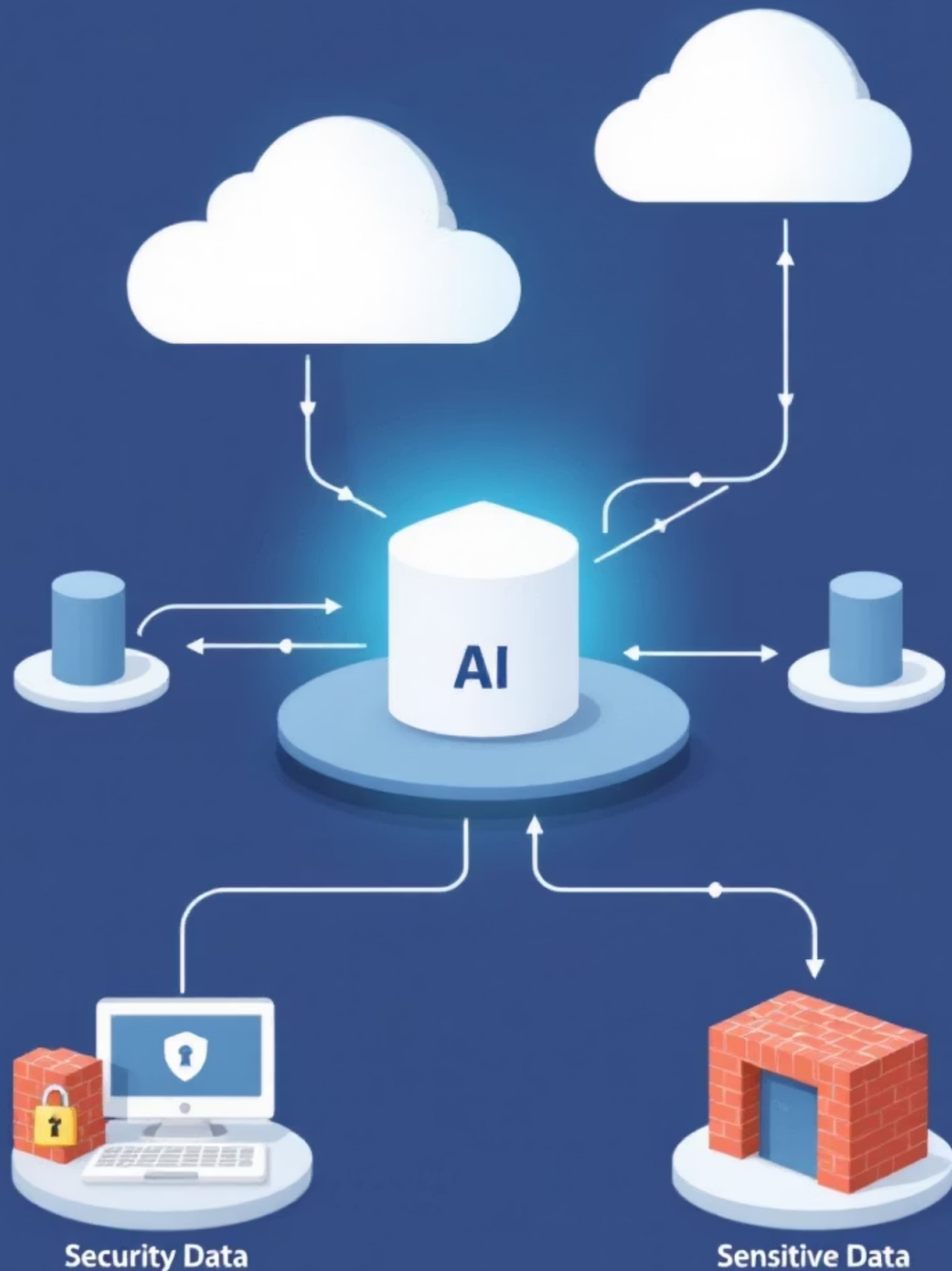
# Vantiq: The Government Operations Central Nervous Command Center

## DoD and NATO: SPoG – Single Pane of Glass

### Sense

Real-time data ingestion from diverse sources including legacy systems, IoT sensors, and cloud services with intelligent filtering and prioritization.

### Analyze

Agentic AI processing with human-in-the-loop approvals, policy-based decision engines, and contextual intelligence for complex scenarios.

### Act

Automated orchestration across edge, cloud, and human resources with full auditability and compliance evidence generation.

Event-driven orchestration platform providing continuous observability and real-time ATO evidence for mission-critical government operations.

# Federal Mandates Driving Transformation

Recent federal mandates are reshaping how agencies approach technology modernization, security implementation, and operational efficiency.

## 01

### EO 14028, OMB M-25-04

Federal CIO memo establishing comprehensive requirements for AI governance, data protection, and modernization timelines with specific compliance milestones.

## 02

### Zero-Trust Data Pillar

Detailed guidance for implementing zero-trust principles at the data layer, including continuous verification protocols and attribute-based access controls.

## 03

### Continuous ATO Requirements

New standards for ongoing authorization processes that require real-time compliance evidence and automated security monitoring across all systems.

# What are Critical Across Public-Sector CIO Priorities

Government technology leaders are focused on ==transformative initiatives== that balance security, innovation, and citizen service delivery. These priorities reflect both immediate operational needs and long-term strategic objectives.

## Cybersecurity & Zero-Trust

Continuous verification of identity, device, and data with attribute-based tagging, least-privilege routing, and comprehensive FedRAMP inventory management.

## AI/GenAI at Scale

Leveraging AI as a modernization accelerator while implementing robust governance and guardrails for PII protection and critical workload security.

## Digital Services & CX

Real-time service orchestration delivering inclusive, accessible citizen experiences that meet modern expectations for government interaction.
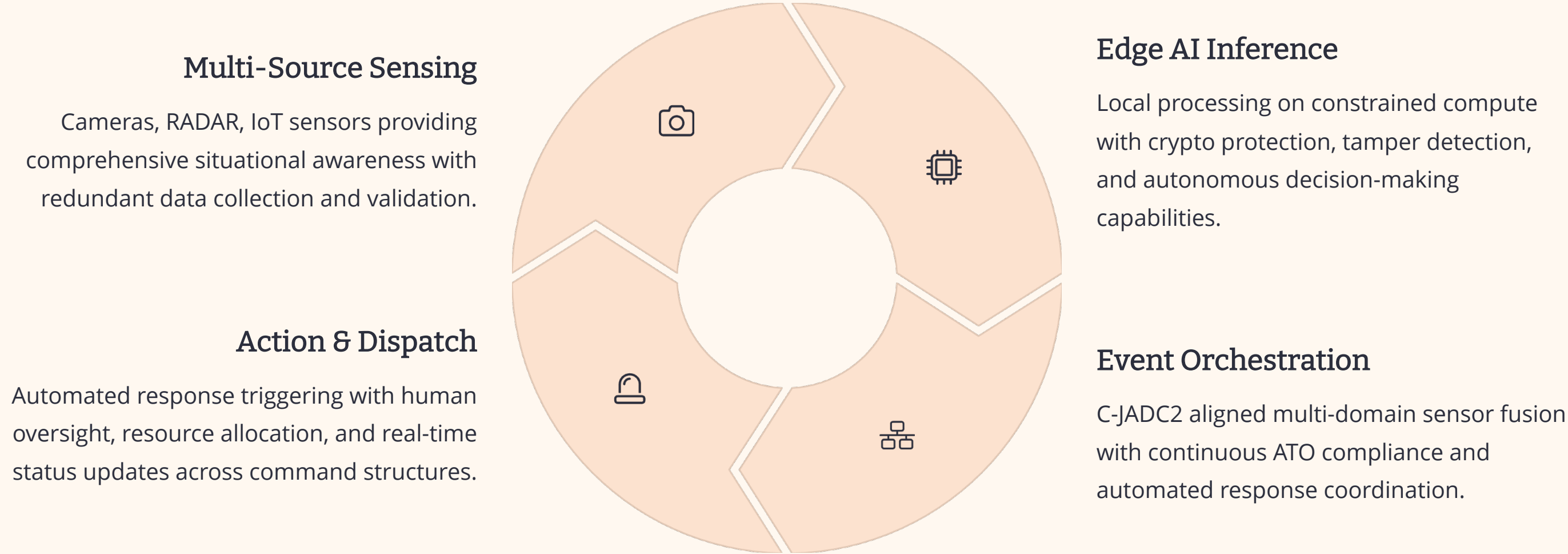
## Data Management & Legacy

Implementing data-fabric patterns that wrap and extend legacy applications while enabling modern analytics and decision-making capabilities.

# Area 1: Edge/IoT Public Safety & Defense Operations

Mission-critical operations requiring resilient, real-time decision-making even in communications-denied environments through distributed edge AI and sensor fusion capabilities.

## Multi-Source Sensing

Cameras, RADAR, IoT sensors providing comprehensive situational awareness with redundant data collection and validation.

## Edge AI Inference

Local processing on constrained compute with crypto protection, tamper detection, and autonomous decision-making capabilities.

## Action & Dispatch

Automated response triggering with human oversight, resource allocation, and real-time status updates across command structures.

## Event Orchestration

C-JADC2 aligned multi-domain sensor fusion with continuous ATO compliance and automated response coordination.
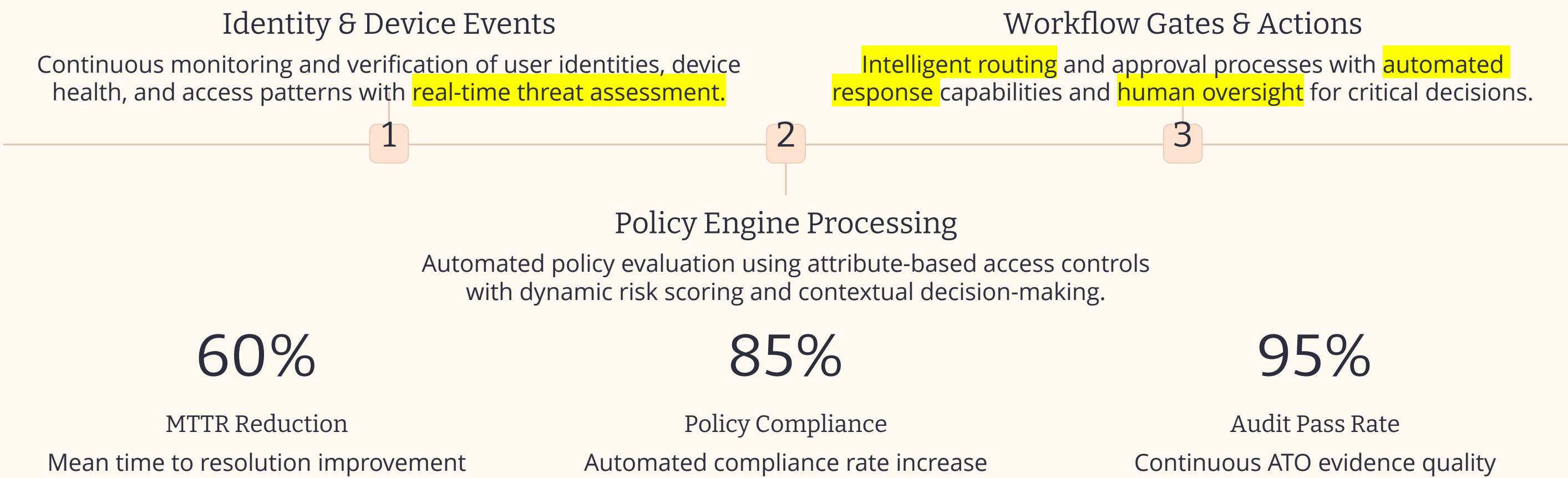
Key performance improvements: 75% reduction in detection-to-decision latency, 99.5% operational continuity, and 60% decrease in false positives through intelligent filtering.

# Area 2: Cybersecurity & Zero-Trust Operations

Implementing comprehensive zero-trust architecture that provides continuous verification and policy enforcement across all data interactions while maintaining operational efficiency.

## Identity & Device Events

Continuous monitoring and verification of user identities, device health, and access patterns with real-time threat assessment.

**1**

## Workflow Gates & Actions

Intelligent routing and approval processes with automated response capabilities and human oversight for critical decisions.

**3**

## Policy Engine Processing

Automated policy evaluation using attribute-based access controls with dynamic risk scoring and contextual decision-making.

**2**

**60%**

MTTR Reduction

Mean time to resolution improvement

**85%**

Policy Compliance

Automated compliance rate increase

**95%**

Audit Pass Rate

Continuous ATO evidence quality

# Area 3: AI-Assisted Modernization & Experiences

Transforming interactions through intelligent workflow automation that wraps legacy systems while delivering modern, accessible digital experiences with robust AI governance.

## Legacy App Wrapping

Agentic workflows that extend existing applications without replacement, preserving institutional knowledge while adding modern capabilities and AI-enhanced processing.

## Intelligent Case Routing

AI-powered triage and routing system with PII-aware prompts, approval gates, and accessibility features ensuring inclusive service delivery.
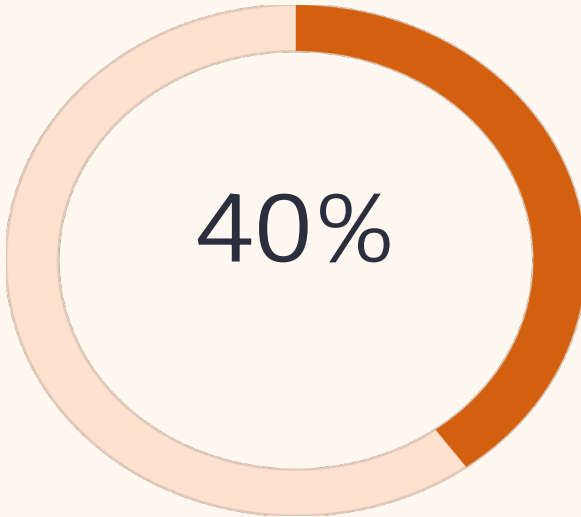
## Real-Time CX Dashboards

Comprehensive experience monitoring with workforce copilot features for triage, summaries, and SOP automation supporting staff efficiency.

**45%**
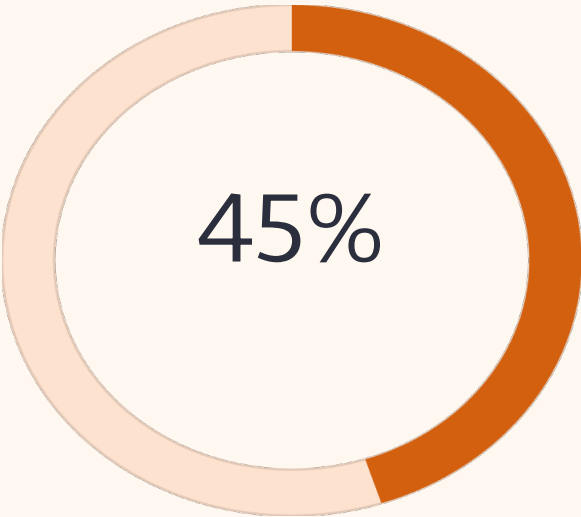
Cycle Time Reduction

**70%**
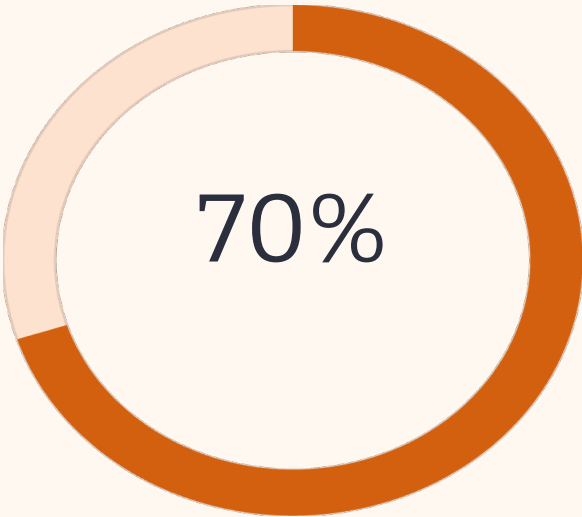
Call Deflection Rate

**40%**

Backlog Decrease

# Agility Idea: A 2?-week Design Sprint for Pilots/MVPs

Transform the agency's approach to AI-driven operations through a focused, results-oriented engagement designed specifically for NASCIO priorities and zero-trust roadmap requirements.

### Three Strategic Tracks

1. Edge/IoT Public Safety & Defense,
2. Cybersecurity & Zero-Trust Ops,
3. AI-Assisted Modernization & CX,
 - each delivering measurable outcomes aligned to their mission.

### Three Core KPIs

Reduction in mean time to resolution, improvement in satisfaction scores, and an increase in operational continuity - all with 90-day measurable value delivery.

### 90-Day Value Realization

Structured pathfinder approach from discovery through pilot implementation, providing immediate operational benefits and long-term transformation roadmap.

**Transform your operations?** Schedule a 2-week use-case design sprint aligned to your specific priorities and agency zero-trust roadmap. Contact Jim Rice, Public-Sector VP at Vantiq, govt@vantiq.com to begin your journey from policy to practice.

# BACKUP MATERIAL

# Naval Agility in the Age of "Unknown Unknowns"

## Modern Threats
Commercial drones as ISR platforms, AI-driven autonomous swarms, hypersonic weapons, and electronic warfare tactics arrive suddenly without warning.

## Admiral Yi's Lesson
Small, agile forces can outmatch superior enemies through adaptability. Today's Fleet must be event-driven and responsive.

## Vantiq Solution
Fusion engine enabling rapid threat detection, automated workflows, and seamless sensor integration across domains.

### Rapid Sensor Integration
Fuse commercial drones, allied sensors, and cyber indicators into common operating picture.

### Agile Orchestration
Modular architecture deploys new countermeasures and AI models in days, not years.

### Fast Reaction Solutions
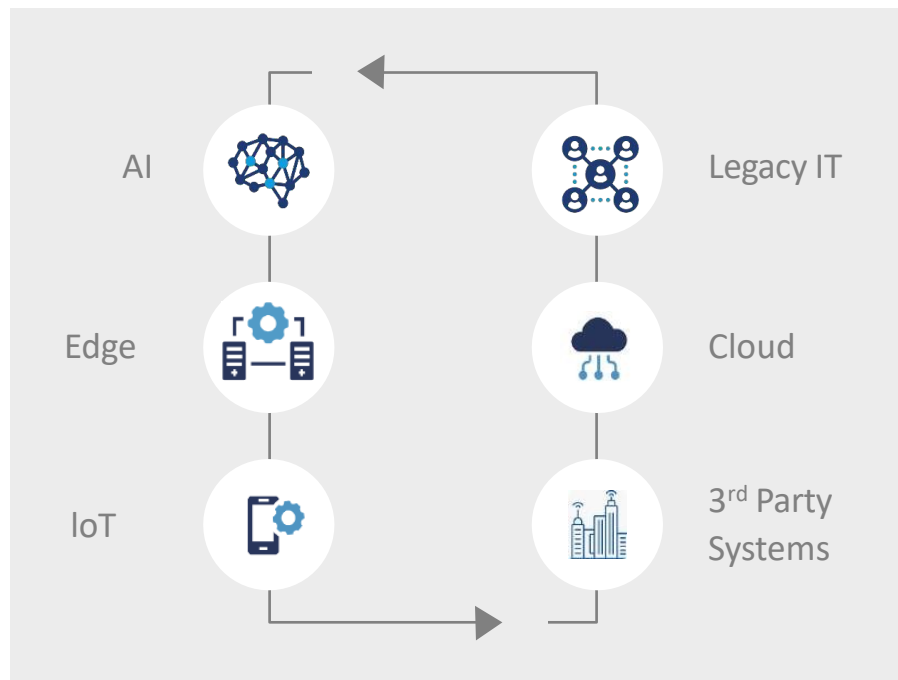Sense → analyze → act across domains in near-real-time without lengthy acquisition cycles.
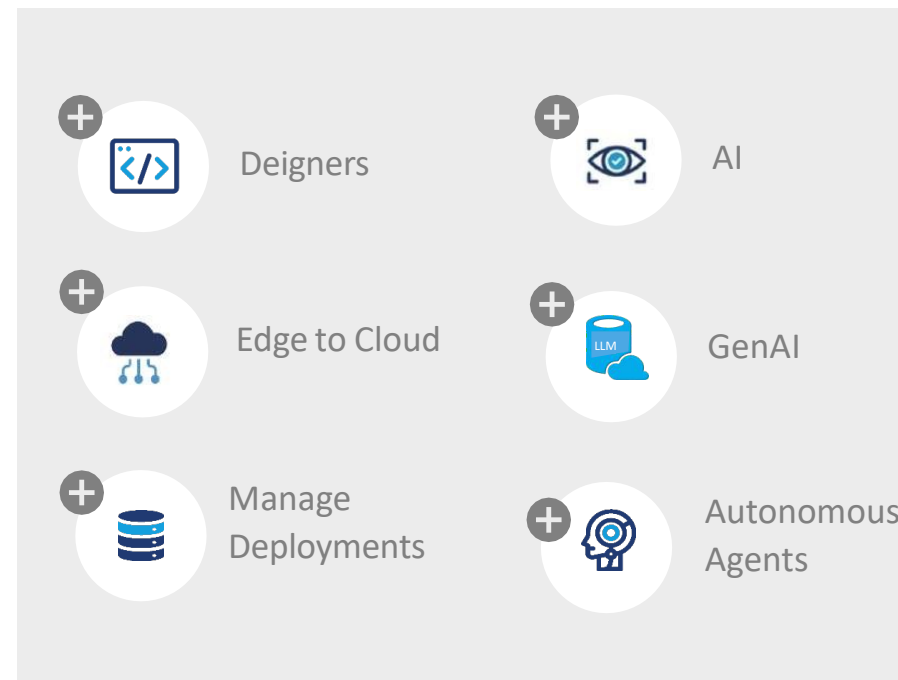
### Resilience at Edge
Ships and bases operate in degraded environments with adaptive fallback modes.

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# How Vantiq enables
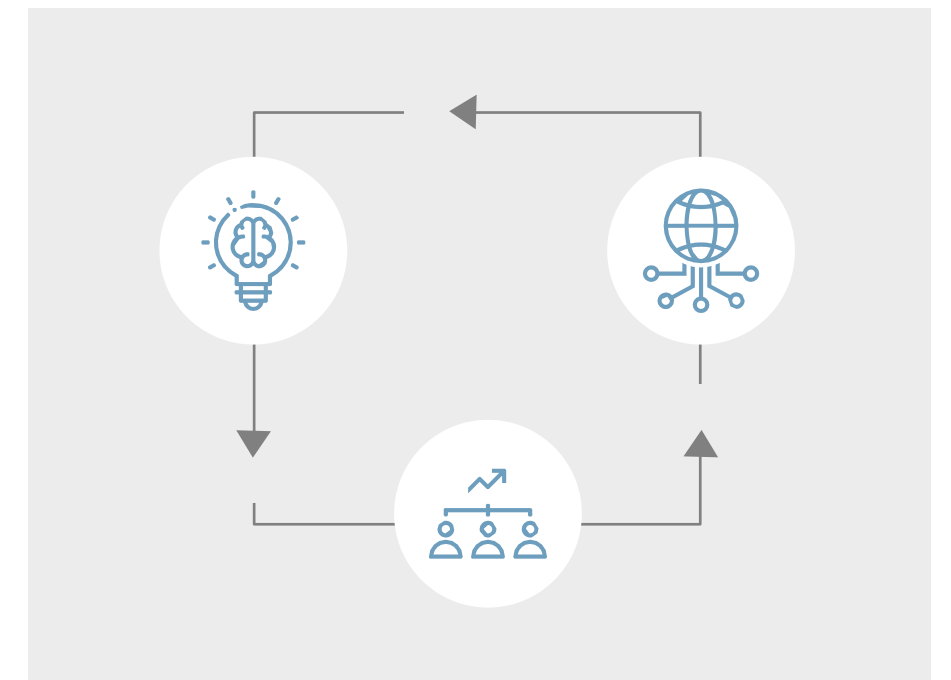## Intelligence at Work™



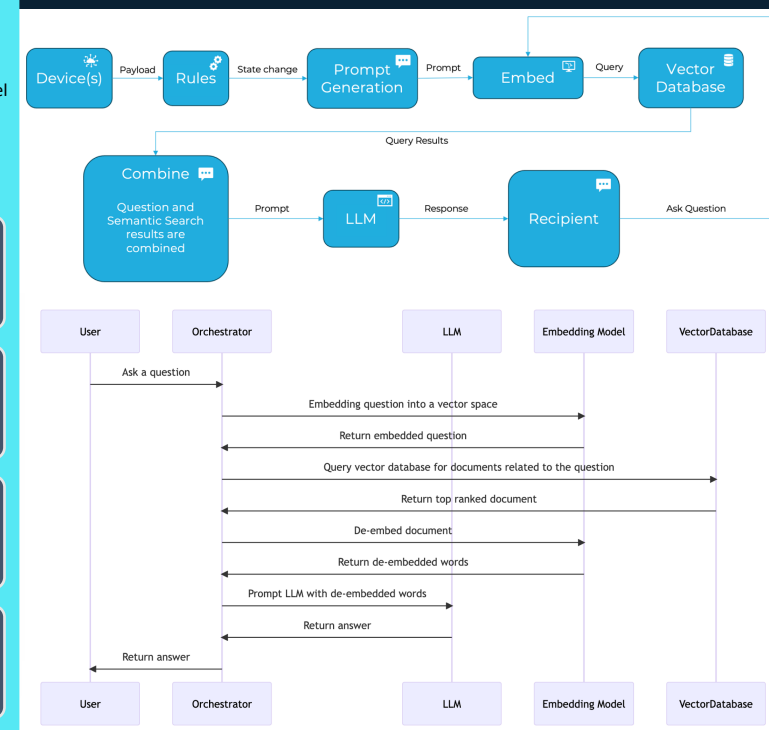Seamlessly integrate the new and the old in a non-centralized manner

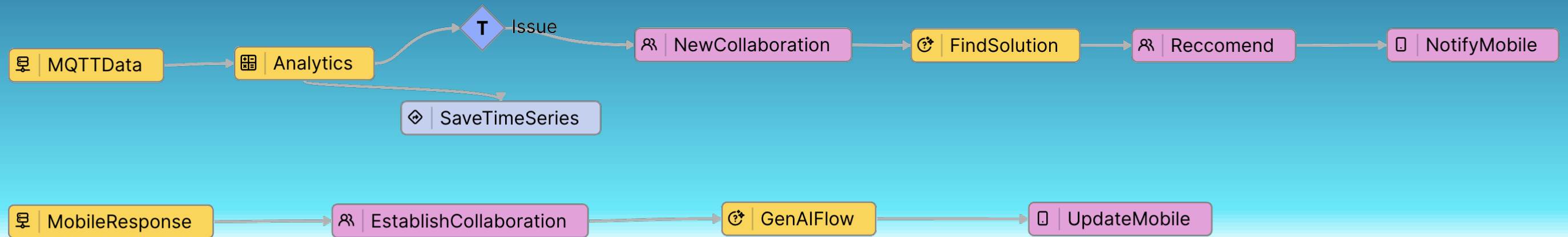AI · Legacy IT · Edge · Cloud · IoT · 3rd Party Systems



Easily develop, deploy and manage intelligent systems

Deigners · AI · Edge to Cloud · GenAI · Manage Deployments · Autonomous Agents



Dynamically orchestrate AI, systems and people

# VANTIQ HIDES COMPLEXITY
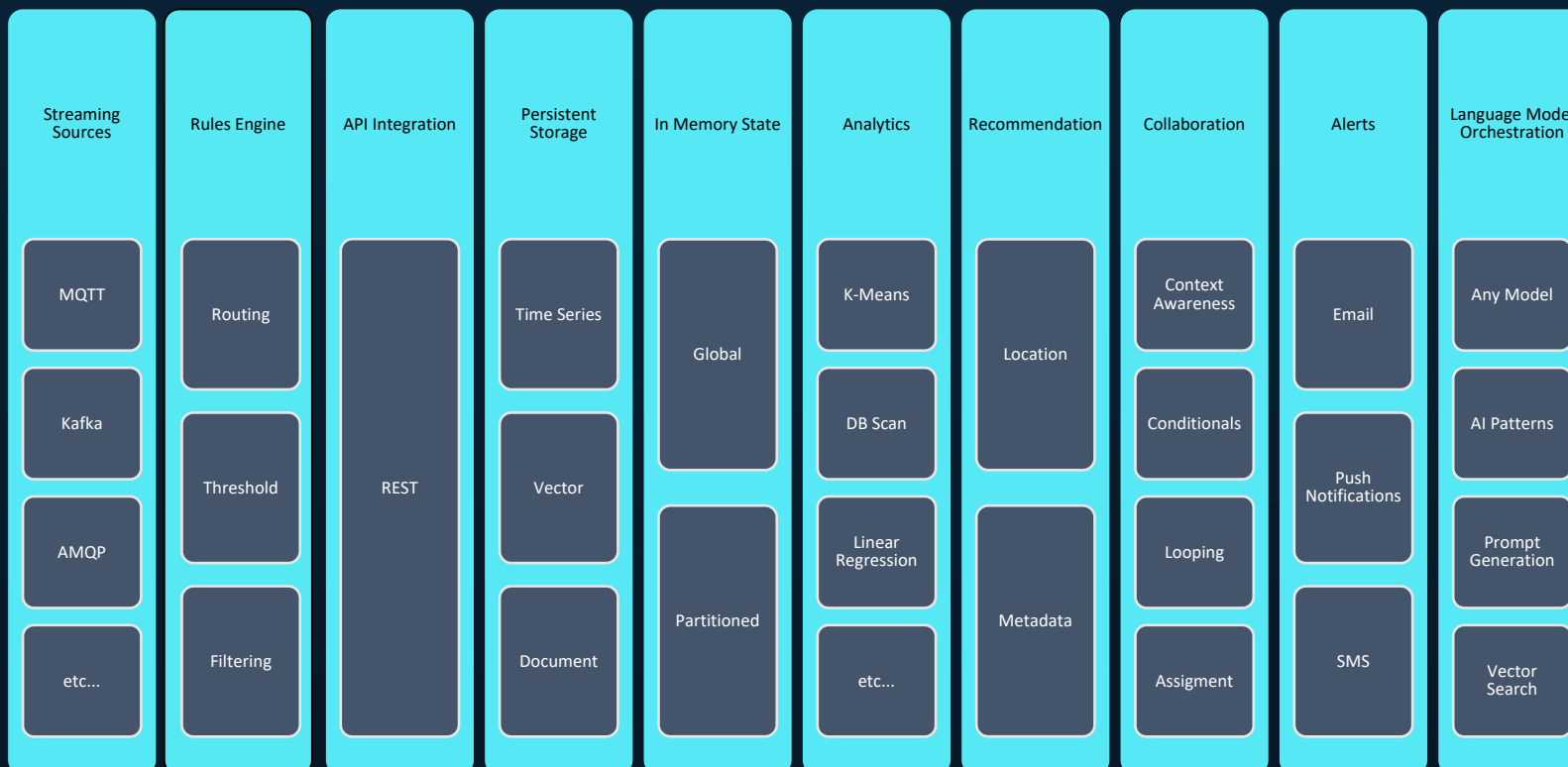
# SENSE / INTEGRATE

Ingest / Data Fusion / Egress

kafka

CDC

VANTIQ

Ingest data from many
different sources, sensors,
and streams of data using
modern mechanism for
ingest and egress

OPC UA

AMQP
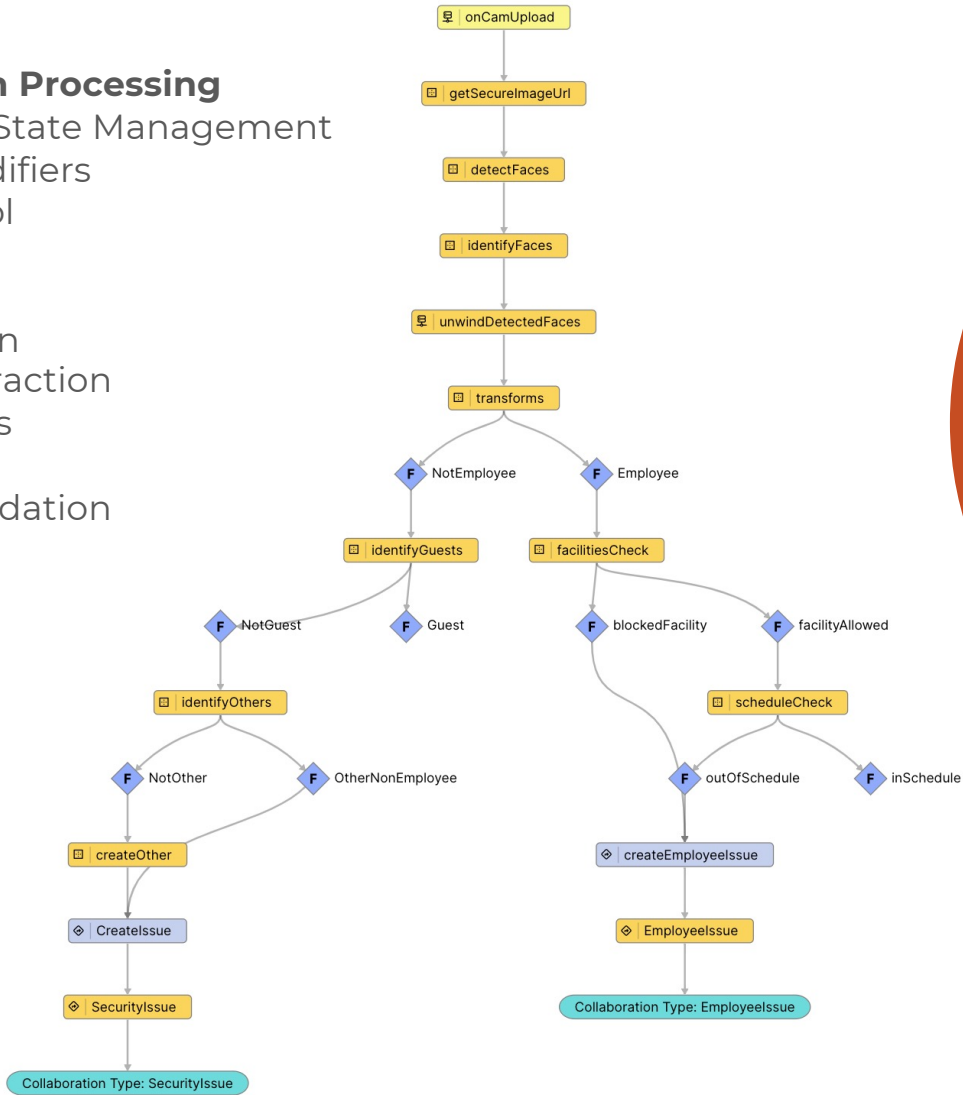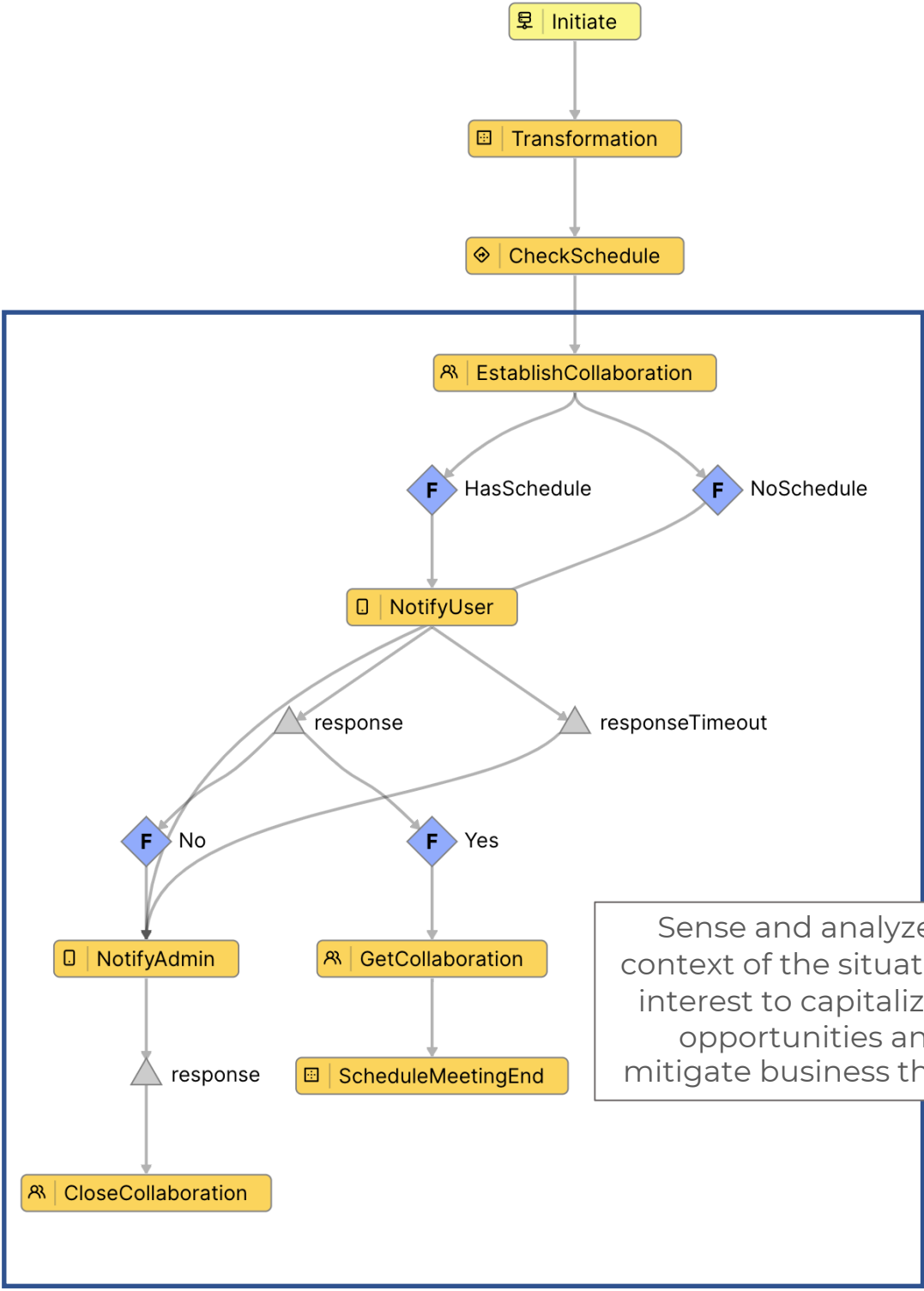Advanced Message Queuing Protocol

TCP
UDP

MQTT
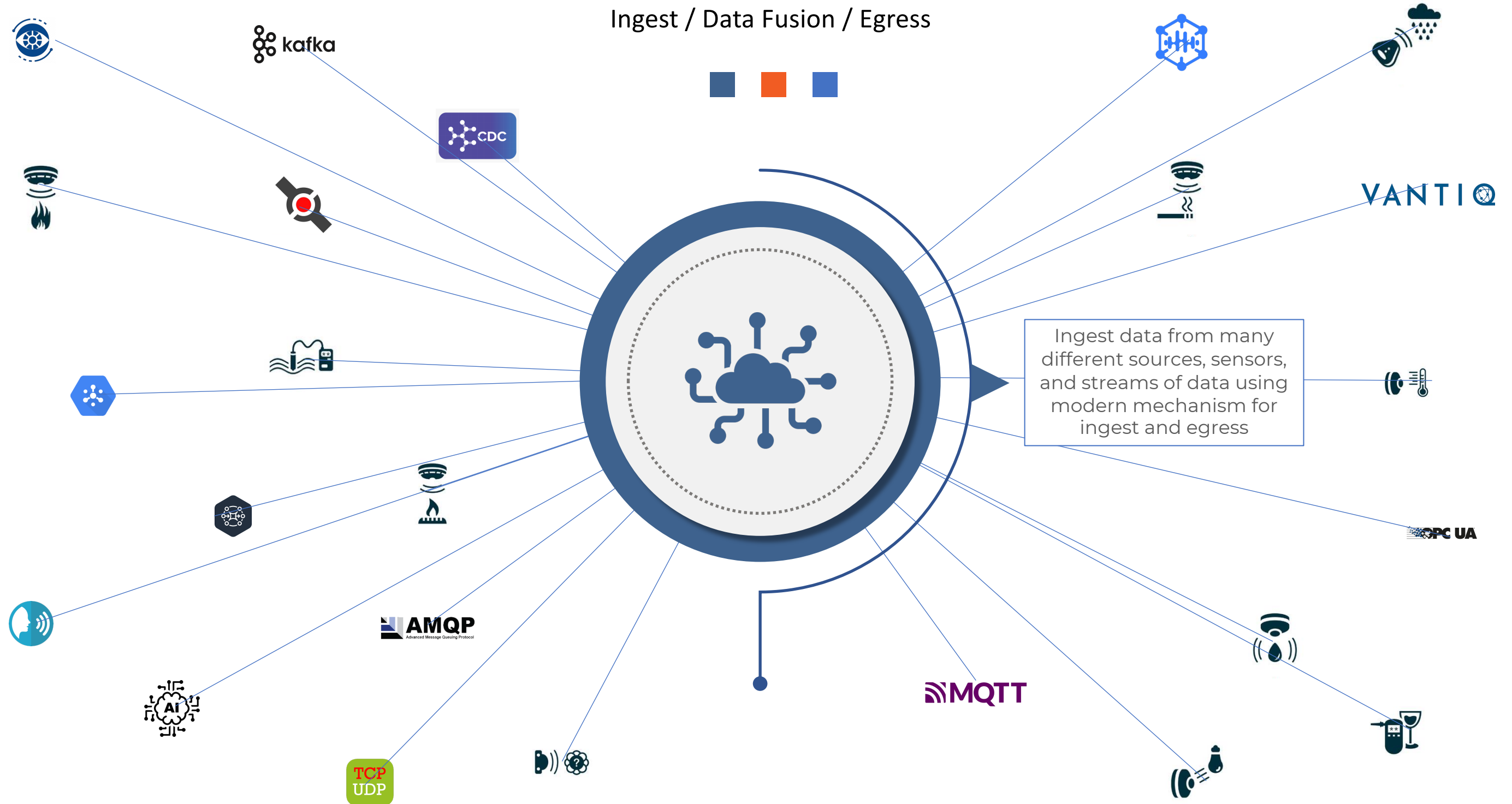
# ANALYZE



**Stream Processing**
- In Memory State Management
- Stream Modifiers
- Flow Control
- Filters
- Actions
- AI Invocation
- Mobile Interaction
- Notifications
- Analytics
- Recommendation

onCamUpload

getSecureImageUrl

detectFaces

identifyFaces

unwindDetectedFaces

transforms

F NotEmployee        F Employee

identifyGuests        facilitiesCheck

F NotGuest    F Guest        F blockedFacility    F facilityAllowed

identifyOthers                scheduleCheck

F NotOther    OtherNonEmployee        F outOfSchedule    F inSchedule

createOther                createEmployeeIssue

CreateIssue                EmployeeIssue

SecurityIssue        Collaboration Type: EmployeeIssue

Collaboration Type: SecurityIssue

Analyze for situational awareness. Those streams of data that represent opportunities or threats to the organization

# Orchestrate /OUTCOME

Initiate

Transformation

CheckSchedule

EstablishCollaboration

HasSchedule | NoSchedule

NotifyUser

response | responseTimeout

No | Yes

NotifyAdmin | GetCollaboration

response | ScheduleMeetingEnd

CloseCollaboration

Sense and analyze in context of the situation of interest to capitalize on opportunities and mitigate business threats

SENSE    ANALYZE