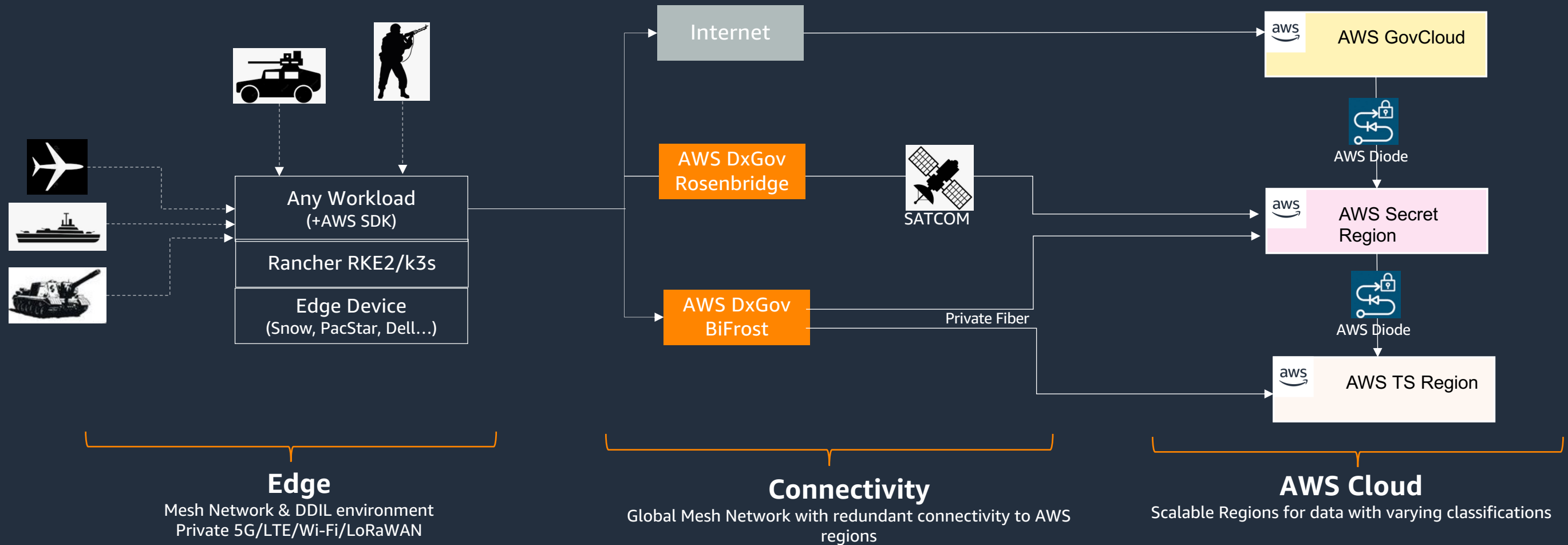




# Unlocking Data & AI at the edge with partners

**Sensor Fusion and GenAI solution offering demo** - *Featuring: Pacstar, Rancher Government Solutions & Kinetica*

# Unlocking Data & AI at the Edge with partners – GTM Strategy



# *Unlocking Data & AI at the Edge with partners*

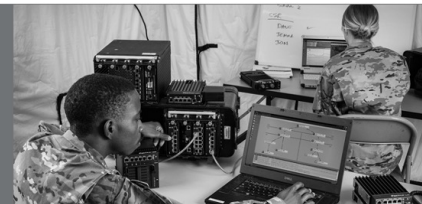


**CURTISS -  
WRIGHT**



## **PACSTAR Communications Solutions**

Fred Elliott, Sr. Manager, Business Development  
Defense Solutions Division



# Introduction to PacStar

- Founded in 2000
- Headquartered in Portland, Oregon with sales and support offices worldwide
- Manufacturer of COTS, small form factor, rugged networking and computing solutions
- Developer of integrated communications management software
- 90% of clients are US Military, CONUS and OCONUS, including NATO and Coalition Partners
- Extensive military credibility
  - ITAR (and non-ITAR) solutions
  - Experience developing products for classified networks
- System integrator partner with DoD primes such as GD, L3, Harris, Leidos, Rockwell, etc.
- Extensive access to contract vehicles, including on GSA contract
- **2020: Curtiss-Wright acquires PacStar**



# PacStar products organized into three major categories

## SMALL FORM FACTOR HARDWARE



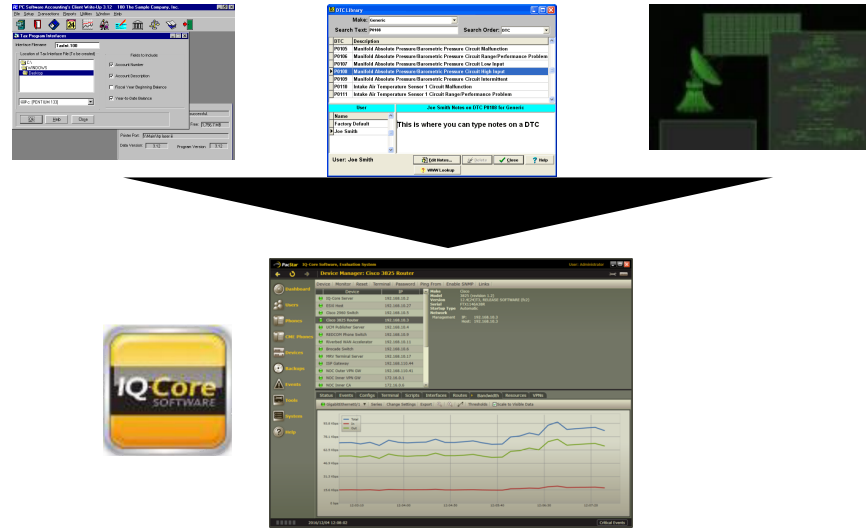
MIL Standard	Result
MIL-STD-810G	PASS
MIL-STD-461F	PASS



PacStar NOTM Vehicle Installation

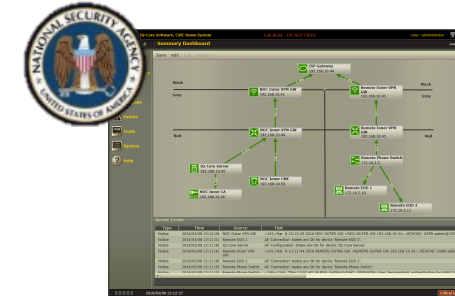
- Powerful, small, mobile, rugged, and highly modular COTS-based communications hardware
- Example major program wins:
  - **U.S. Army T2C2, SFAB, Phoenix, ITN, ESB-E, USAREUR and more** (soldier-portable + command post systems)
  - **U.S. MC NOTM, NOTM-A** (vehicle installations)
  - **NATO Countries / Coalition Partners** (Multiple programs)
  - **U.S. AF, Navy, SOF and more...**

## IQ-CORE® SOFTWARE



- Single pane of glass to manage both complex tactical communications systems and enterprise head-ends
- Example major program wins:
  - **U.S. Army PM TN IQ-Core Network Manager Software** (9,000+ nodes)
  - **U.S. Army PM TN IQ-Core Crypto Manager** (200 wireless command posts)
  - **U.S. Marine Corps MCH**
  - **DoD / Fed Civ and IC – CSfC Enterprise Head Ends - TBA**

## INTEGRATED SOLUTIONS



PacStar Secure Wireless Command Post (Fielded. Multiple Certified Variants)



- PacStar hardware + IQ-Core Software + 3rd party software integrated to provide turnkey, secure solutions
  - Secure Wireless Command Posts (CSfC)
  - Modular Data Center
  - Modular Radio Center
- Example major program wins:
  - **U.S. Army PM TN** – fully certified and fielded over 200 units.
  - **U.S. Marine Corps MCH** – pilots
  - **Joint Staff** – certified and registered, supporting pilots now

## PacStar 400-Series Size, Weight and Power

10.4 times lighter than a typical 1ru server

12.4 times smaller than a typical 1ru server

Up to 18 times less power consumption



# Select PacStar 400-Series Major Programs

## **U.S. ARMY T2C2**

- Full Rate Production Decision Jan 2018

## **U.S. ARMY Secure Wireless Command Post**

- Operationally Deployed

## **U.S. ARMY EUROPE 7<sup>th</sup> ATC (MPE)**

- Have been delivering for last two years

## **U.S. ARMY SFAB**

- Delivered 3 Brigades, 3 more Brigades scheduled in 2019

## **U.S. ARMY ESB-E**

- Operational Field Evaluation

## **U.S. ARMY ITN SCOUT**

## **USMC NOTM, NOTM-A, NOTM-ULTV**

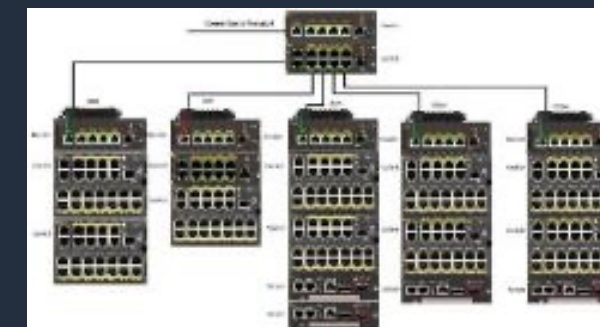
- Operationally deployed on multiple type of ground vehicles, aircraft (V22), and amphibious vehicles (ACV, ARV)

## **USMC CDN (WSM-L, WSM-X, UAC)**

## **USMC Marine Common Handheld**

## **USMC Common Aviation Command and Control System (CAC2S)**

## **Numerous U.S. AF, U.S. Navy, and SOF customers, TBA**









CAGE code: 8GLZ3  
DUNS: 117387835

**Rancher Government Solutions is specifically designed to address the unique security and operational needs of the U.S. Government and military (Security, Compliance, Air-Gap, Tactical Edge)**

- **Only Multi-Cluster Manager (MCM) & Supported K8S Distribution (RKE2) to have a STIG validated & published by DISA**
- **Deployed & ATO'd currently NIPR, SIPR, JWICS**

**Rancher offers a complete open-source software stack for teams adopting containers.** It addresses the operational and security challenges of managing multiple Kubernetes clusters at scale, while providing DevOps teams with integrated tools for running containerized workloads.

**RGS supports all Rancher products with U.S. based American citizens with the highest security clearances** who are currently supporting programs across the Department of Defense, Intelligence Community and civilian agencies.

- **RGS Consists of only US based/US Soil: Engineering, Operations and Sales with over 70% holding clearances.**

# Rancher Federal: Security First

Enabling security at every layer for our federal partners

- **DISA STIGs (First & Currently Only):**
  - **Rancher** Multi-Cluster Manager for Kubernetes
  - **RKE2** Kubernetes Distribution
- RKE2 **FIPS-140-2** support: The only vendor supporting FIPS in FOSS
- Engineers contributing patches to containerd runtime to enable **SELINUX** for K3s and RKE2 distributions

# NIST



# DISA

RKE2 is the only distribution of FIPS-140-2 Kubernetes certified and hosted in the USAF IRONBANK container registry

# Active Customers: Active Authorities to Operate (ATOs)

Accelerating Federal stakeholders to empower the mission from development to production



# RKE2 & Rancher Manager: GA in AWS GovCloud

The screenshot shows the AWS Marketplace product page for "RKE2 Kubernetes and Rancher Manager for Production" by Rancher Government Solutions. The page includes a navigation bar with "aws marketplace" and a search bar. The product title is prominently displayed, along with the provider's logo (RGS) and a "Continue to Subscribe" button. A description states it is a fully-HA, supported version of RKE2 and Rancher Manager for US Federal Customers, running on Linux/Unix. Below the description are tabs for Overview, Pricing, Usage, Support, and Reviews. The "Overview" tab is active, showing a "Product Overview" section with a detailed description of the product's compliance and use cases. A "Highlights" box lists key features: push-button installation, DISA STIG compliance for SUSE Linux Enterprise 15, and DISA STIG for RKE2. A table at the bottom provides technical specifications such as version (2.7.2), operating system (Linux/Unix, SUSE SLES 15 SP4), and delivery method (CloudFormation Template).

aws marketplace

Search

About Categories Delivery Methods Solutions AWS IQ Resources Your Saved List Become a Channel Partner

**RGS**  
Rancher Government Solutions

## RKE2 Kubernetes and Rancher Manager for Production

By: [Rancher Government Solutions](#) Latest Version: 2.7.2

This offering is a fully-HA, supported version of RKE2 Kubernetes and Rancher Manager by Rancher Government Solutions, designed for US Federal Customers

Linux/Unix

[Continue to Subscribe](#)

[Save to List](#)

[Overview](#) [Pricing](#) [Usage](#) [Support](#) [Reviews](#)

### Product Overview

This is a highly available instantiation of RKE2 Kubernetes and Rancher Manager running on top of SUSE Linux which has been configured to be over 95.5% compliant with the DISA STIG for both SUSE Linux Enterprise 15 and RKE2. Designed specifically for production use cases for US Federal Customers.

Please email [aws@rancherfederal.com](mailto:aws@rancherfederal.com) for private offer inquiries

Version	2.7.2
By	<a href="#">Rancher Government Solutions</a>
Categories	<a href="#">Application Development</a> <a href="#">Infrastructure as Code</a> <a href="#">Continuous Integration and Continuous Delivery</a>
Operating System	Linux/Unix, SUSE SLES 15 SP4
Delivery Methods	<a href="#">CloudFormation Template</a>
Other Editions	<a href="#">RKE2 Kubernetes and Rancher Manager for Production</a>

### Highlights

- Push-button install RKE2 Kubernetes and Rancher Manager in minutes
- DISA STIG for SUSE Linux Enterprise 15
- DISA STIG for RKE2

Available NOW!

Push-button buyable

Auto-deploys SLES, RKE2 and MCM to the STIGs

Negotiable pricing via "Private Offer"

ICMP in progress

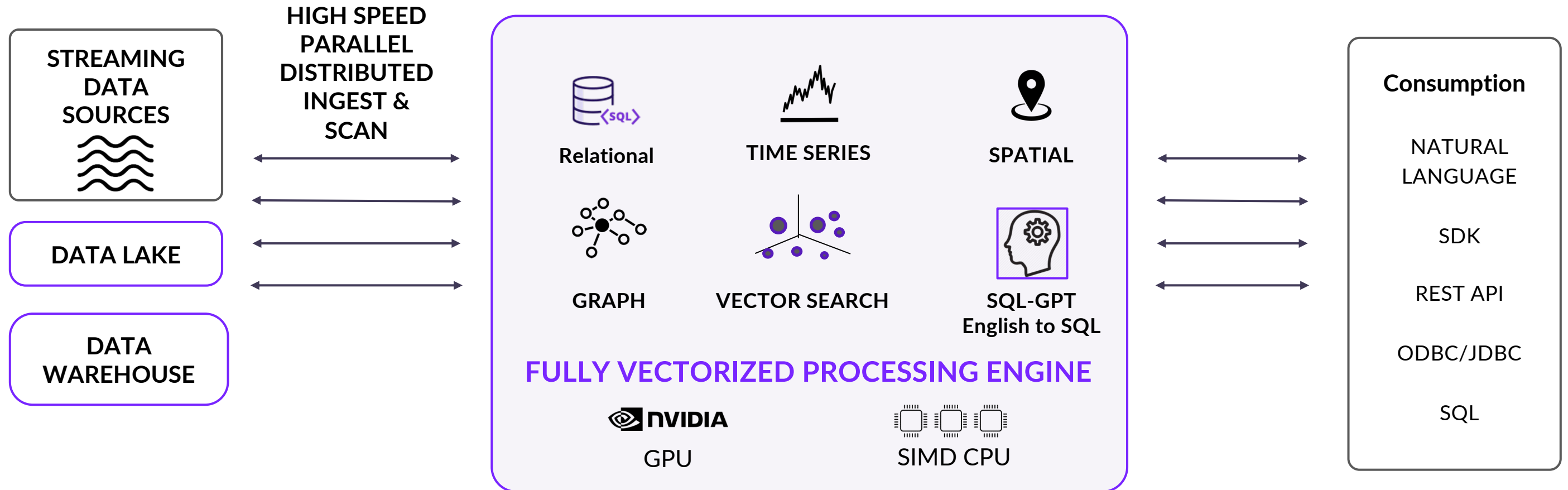
# Kinetica

The Database For Time and Space



# A Complete Speed Layer for Real-Time Analytics and Generative AI

kinetica



*The Only GPU Accelerated Database that is distributed and PostgreSQL Compliant*



# Everything you'd expect in an enterprise database



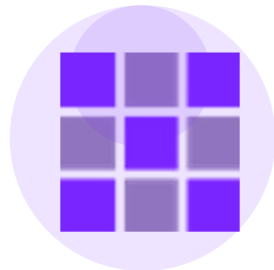
ANSI SQL 92



REST & Native APIs



Postgresql  
Compliance



Cell-Level Security



Tiered Storage



High Availability



200+ Built-in Data  
Source Connectors



Server Side  
Rendering



Multi-cloud,  
On-premise,  
Or On-Edge



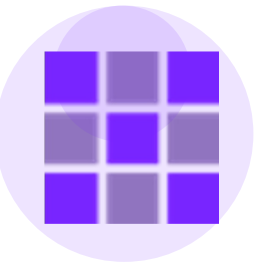
# Generative AI – Native Language to SQL & Vector Search



Anomaly Detection with  
Vector Similarity Search



Conversational Dialog to SQL



First and Only Vector Database  
with unified SQL query Model



Full Analytical Query Landscape

- Relational
- Graph
- Time-series
- Spatial operators

## Chat With Your Data

Which neighborhoods had the most orders this week?

Send

```
1 SELECT neighborhood, COUNT(*) as total_orders
2 FROM total_orders
3 WHERE ST_CONTAINS
4 (
5 (
6 SELECT geom
7 FROM neighborhoods
8 WHERE cityName = 'New York City'
```

# Kinetica Live With USAF ABMS Program on IL4 & IL6

- Kinetica Provides Near Exact capabilities as DSS for USAF ABMS, NORAD Pathfinder, and the FAA EIM Next Gen Program
- Kinetica is the selected Capability Provider to **ingest** and **tune** all data ingested into the **ABMS program**
- **Kinetica Database** provides **data warehousing** and **server-side rendering** to all feeds ingested and displayed on the CBC2 map
- Kinetica has integrated a **Large Language Model (LLM)** to CloudOne **IL4 & IL6**
- **Fully containerized deployed via Kubernetes**
- **UCI 2.x compliant outputs**

*“[Kinetica] essentially takes and ingests — aggregates — data from multiple systems, data that would in the past have been ... left on the cutting room floor and not analyzed or assessed in a timely manner,” “The Pathfinder program uses machine learning to help us analyze that data from multiple systems — not only military systems, but commercial systems, other government agency systems...Pathfinder solves that problem by taking the data from each of those systems and fusing it into a common operating picture. In developing Pathfinder, NORAD virtually recreated the 2015 event by plugging the data from that day into its new AI-machine learning capability.”*

**NORAD & USNORTHCOM Commander General Glen VanHerck**



# Kinetica Deployed on FAA EIM Program

- Kinetica serving as Cloud Data Warehouse to ingest, store, analyze, and visualize multiple high velocity data streams
- Live and Historical analysis
- **Platform One certified containers** deployed on FAA cloud in AWS

## FAA EIM Data Platform Integration of NORAD Pathfinder

**NORAD Pathfinder Technology Capabilities**

- ◆ Advanced vectorized compute and machine learning capabilities for data fusion and anomaly detection
- ◆ Advanced Data Analytics and Visualization capabilities
- ◆ Elastically scale and cloud native
- ◆ Open Decoupled Architecture
- ◆ PlatformOne Secure Access

“The FAA NextGen Enterprise Information Management (EIM) data platform was able to reuse Kinetica capabilities from NORAD’s Pathfinder program to analyze and fuse multiple raw streaming air domain feeds without having to filter or drop any data.

With FAA’s partnership with NORAD, the FAA EIM data platform was able to leverage analytical and machine learning capabilities to advance various FAA capabilities to include aviation risk detection and assessment, airport surface anomaly detection, and

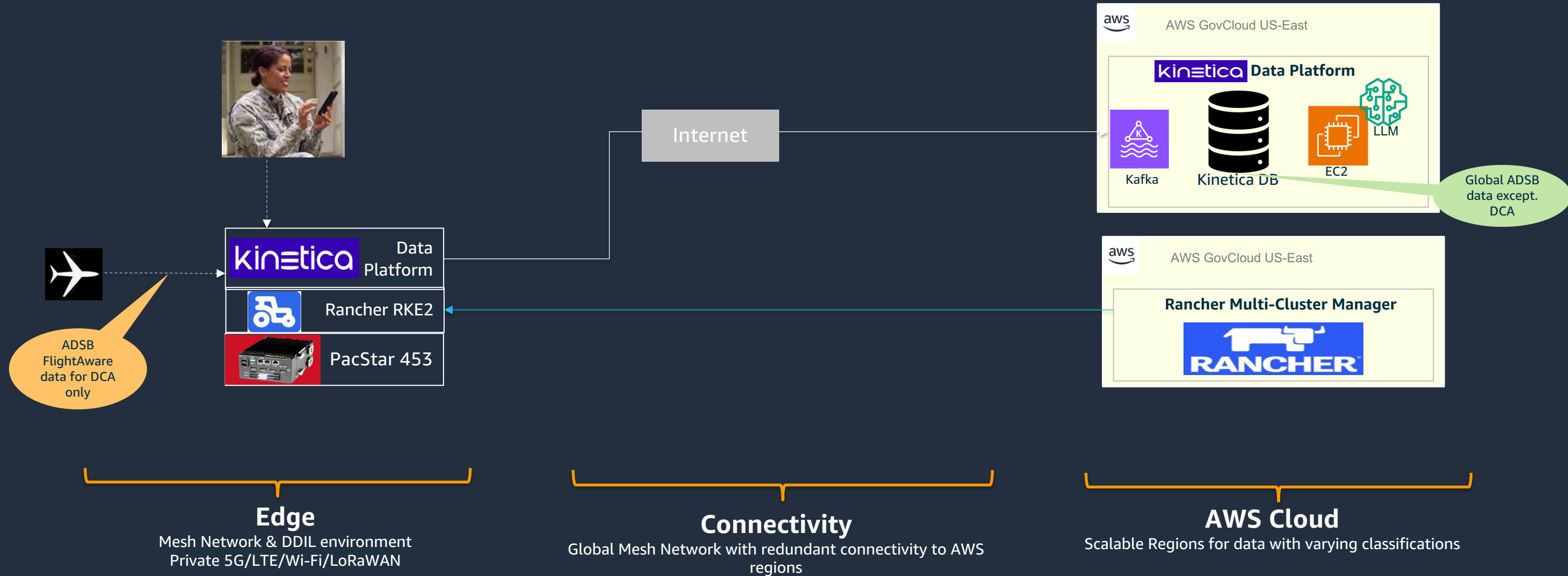
**COMPOSITE TRACKS**

Entity Type Code:	UNKNOWN/UNKNOWN/UNKNOWN
Confidence:	NA
Heading Degree:	135
Speed:	282
Vertical Altitude:	282
ID:	P.FCT.2362.GE03A
ICR:	6004
Envelope:	77.2481800
Latitude:	36.989903
Longitude:	207.05-207.04-0.202
Altitude:	75
Message Class:	STARS
Class:	Regular
Flight Stage:	Regular
Power Signature:	276
TargetID:	

FAA EIM Program Lunch & Learn Demo at (Starting at 20 min mark)  
<https://www.youtube.com/watch?v=jpU5ipGbFO4>

# DEMO

# Demo Environment



# Q & A