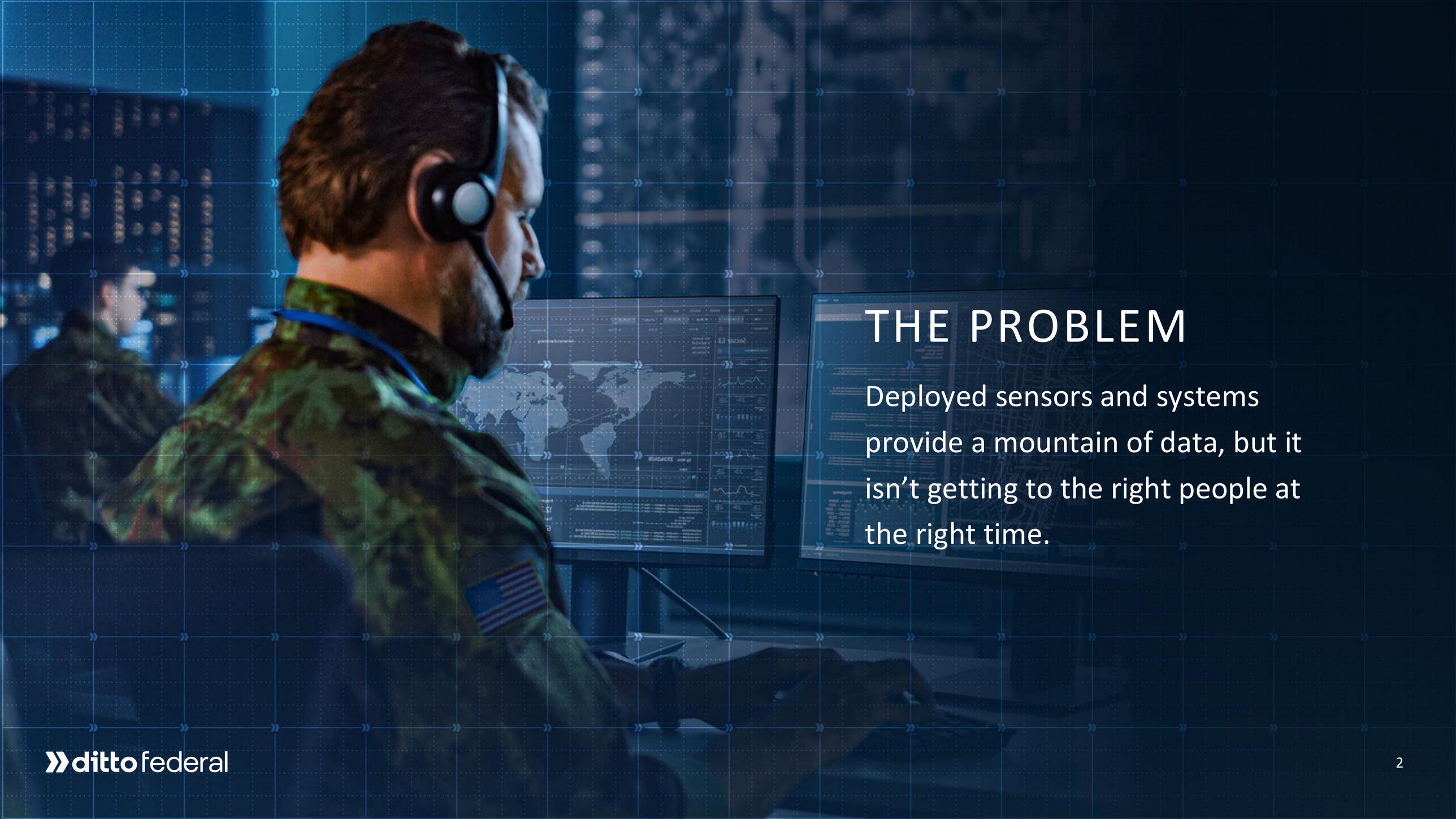

ditto federal
Reliable Data Sync at the Edge



THE PROBLEM

Deployed sensors and systems provide a mountain of data, but it isn’t getting to the right people at the right time.

THE CHALLENGES

Improper labeling and data management produces low-quality info, making it necessary to send more traffic over limited networks before it can be analyzed and made useful.

DATA VS INFORMATION

- Terabytes of raw data available
- Lack of annotated data
- Cognitive Overload
- Data Flooding
- Decision Drag

DATA MANAGEMENT

- Challenges moving correct mission data from A to B
- Legacy/proprietary formats
- Historical Data
- Cross-domain

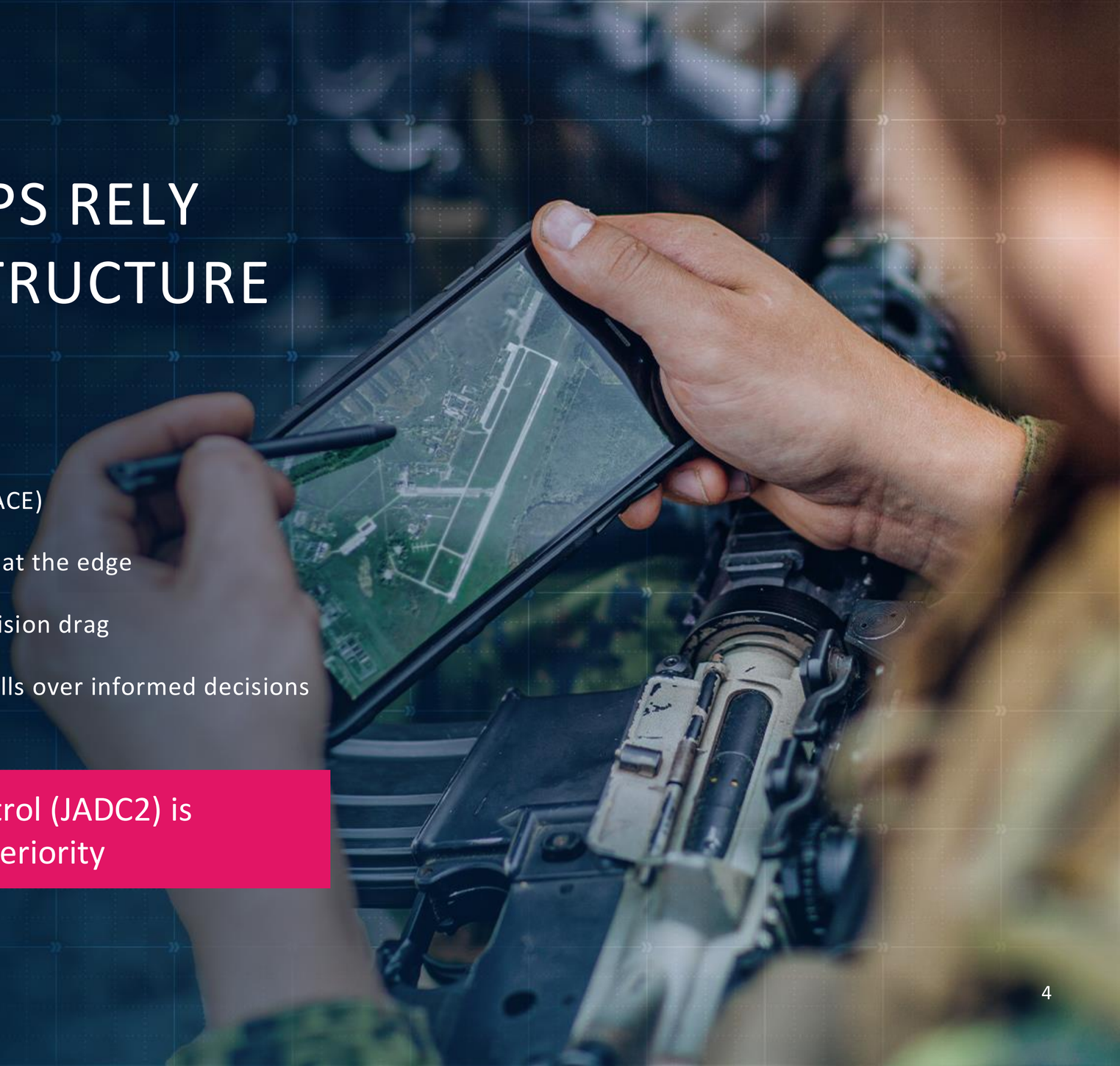
NETWORK CONSTRAINTS

- Throughput, reliability, PACE, interoperability, EW threats
- Cloud "required" applications
- Joint force connectivity

BECAUSE OF THIS, CONOPS RELY ON EXCESSIVE IT INFRASTRUCTURE

- ⓧ Resulting in large force footprint
- ⓧ Creating dependencies on vulnerable legacy networks
- ⓧ Limiting ability to implement Agile Combat Employment (ACE)
- ⓧ Limiting ability to train and deploy relevant AI/ML models at the edge
- ⓧ Increasing dependency on connectivity and increasing decision drag
- ⓧ Causing cognitive overload, leading to reliance on radio calls over informed decisions

Ultimately Joint All Domain Command and Control (JADC2) is hindered, limiting ability to realize Decision Superiority

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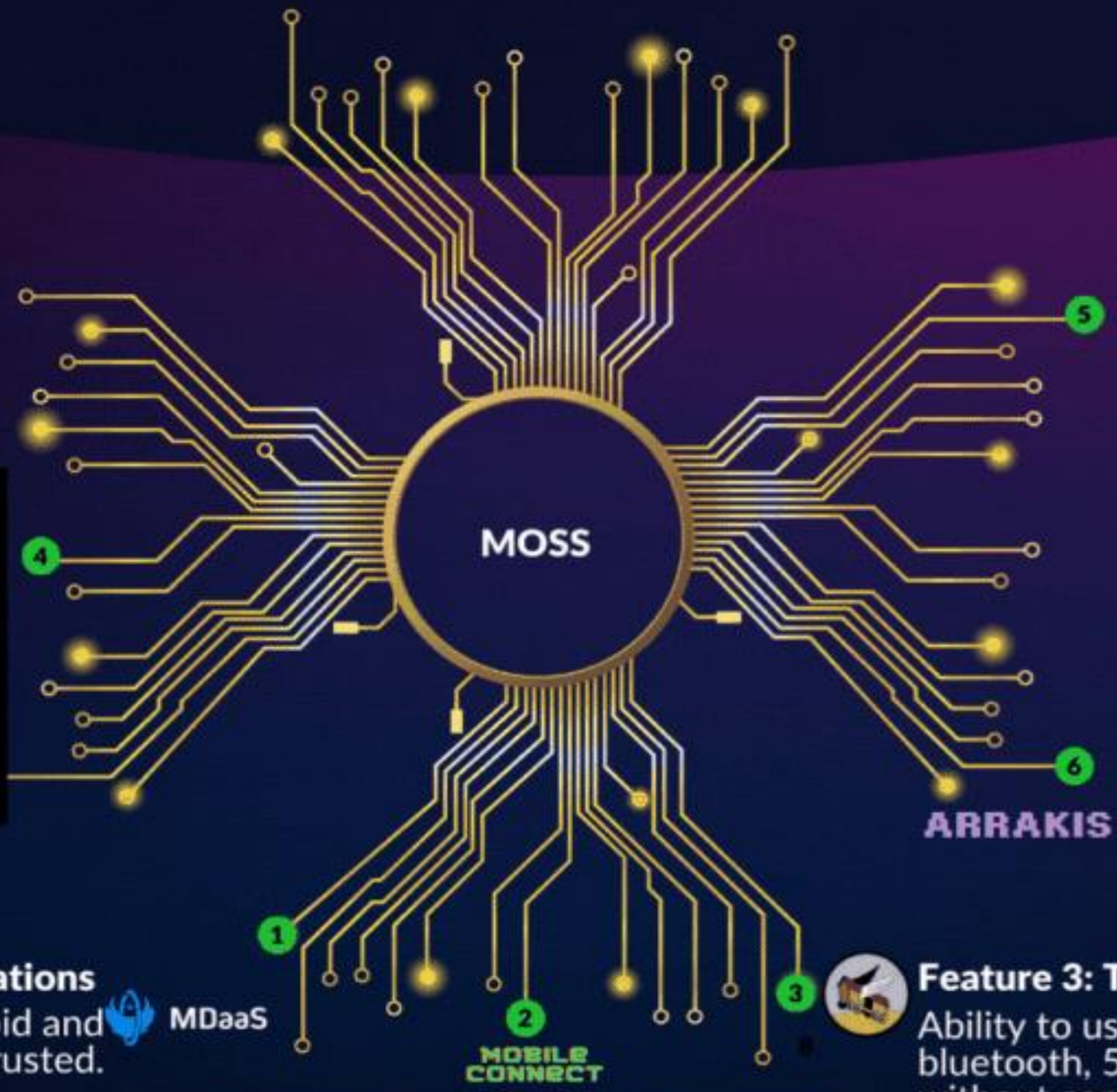
NEXT GENERATION OF MOBILE OPERATIONS



Feature 1: Trusted Applications
cATO Pipeline that validates Android and Apple applications can be trusted.

MDaaS

Feature 2: User Authentication and Accreditation Zero Trust IDAM

Feature 3: Trusted Devices
Ability to use the camera, microphone, bluetooth, 5G, and Wifi on a device without compromising your mission

Feature 4: DIL resiliency
Ability to show and edit data even when offline

Feature 5: Managed Attribution
Global secure network traffic with geolocation obfuscation

Feature 6: Data Movement
Ability to move large amounts of data into a secure location that end-users can quickly access

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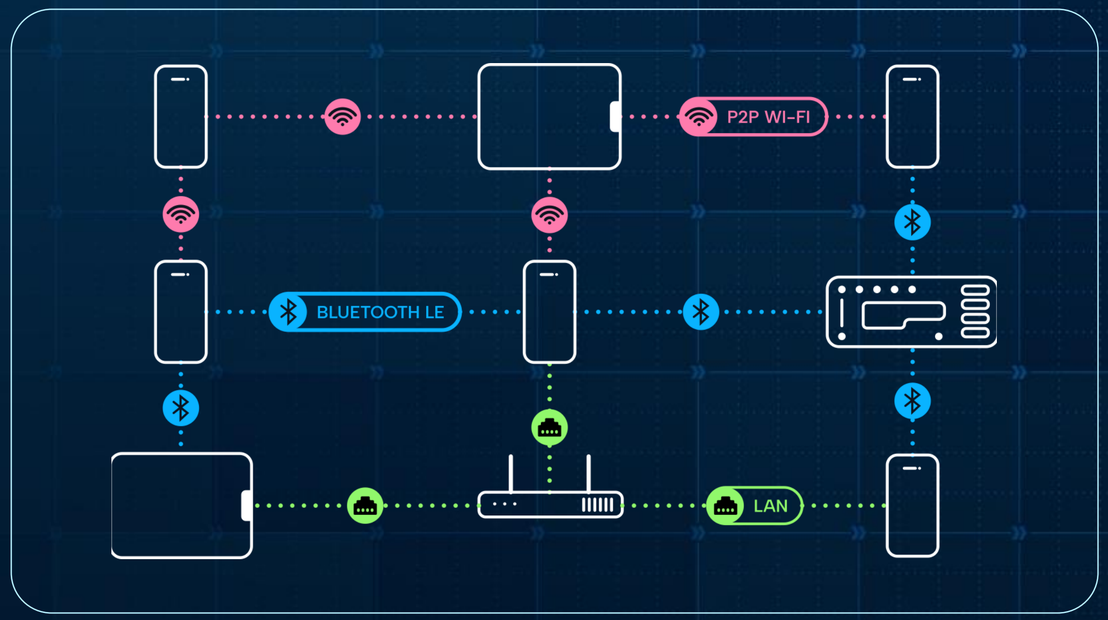
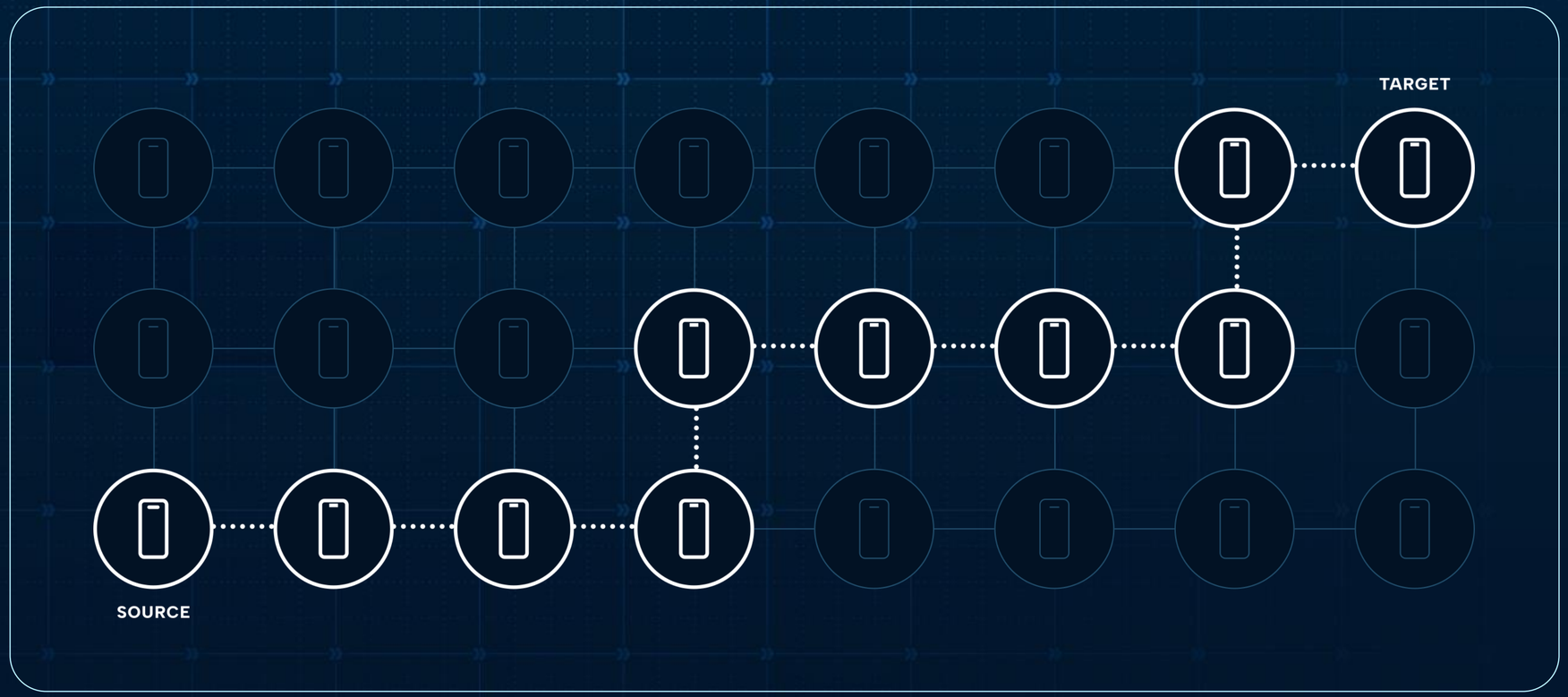


DITTO ALLOWS OPERATIONS TO STAY ONLINE EVEN WHEN DEVICES ARE OFFLINE

+ Its Edge Sync Platform is a real-time distributed database that can sync data over any available communication transport—radio, cell, WiFi, Satcom, MANET, Starlink, classified waveforms, etc.
+ Heterogenous “peer nodes” (UxVs, C2, ATR software, mobile apps, etc) automatically form expansive, cross-platform mesh networks
+ Just a single online device connects the entire mesh of devices to the rest of the enterprise data
+ Optimized for low-bandwidth, high-latency connections through delta-state data syncing

RESILIENT EDGE SYNC OPTIMIZED FOR DDIL ENVIRONMENTS

+ Ditto’s technology enables continued operations even when connectivity is unreliable
+ Its mesh networks of disparate multi-domain devices remain connected at the edge
+ The technology takes advantage of any available network transport to sync data, and its multi-hop links seamlessly self-heal when interrupted



A multihop connection is formed in the mesh

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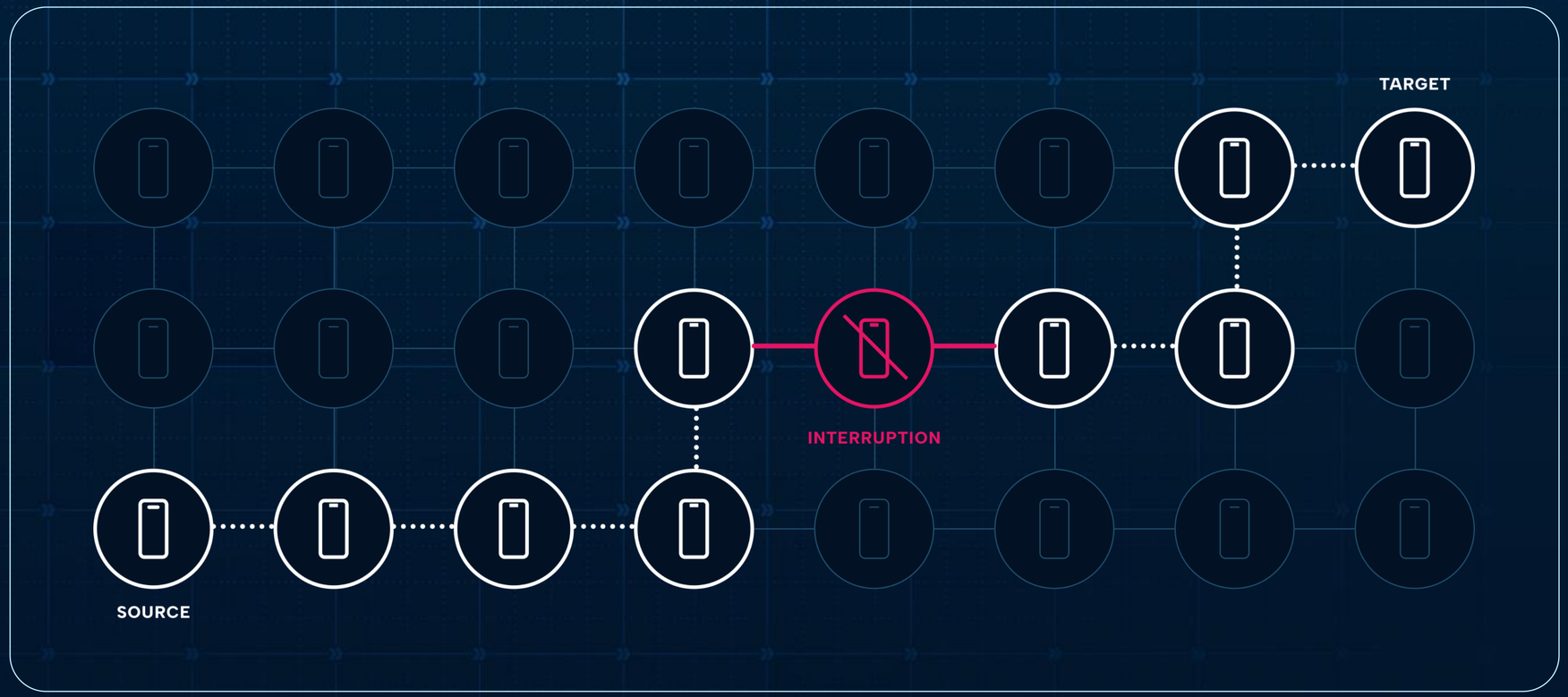

A device in the multihop chain is dropped

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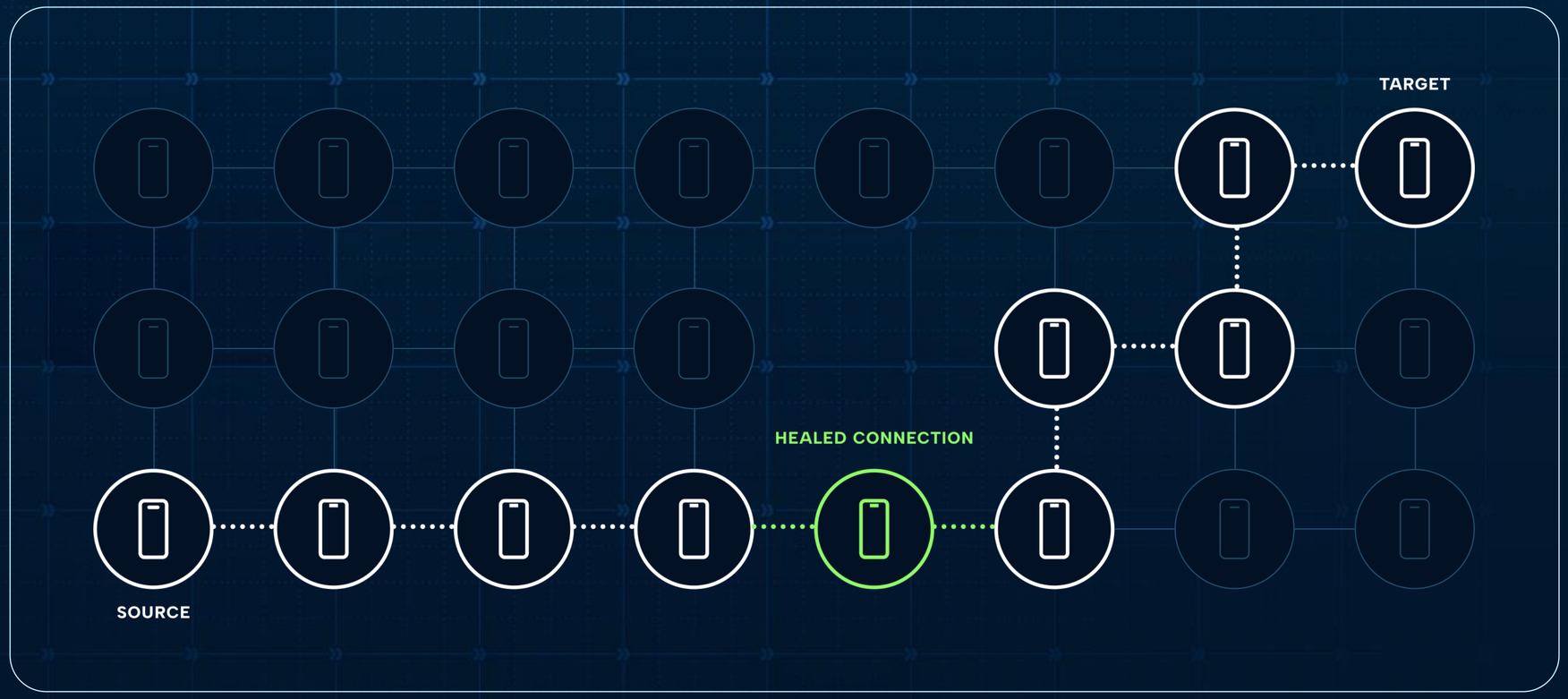
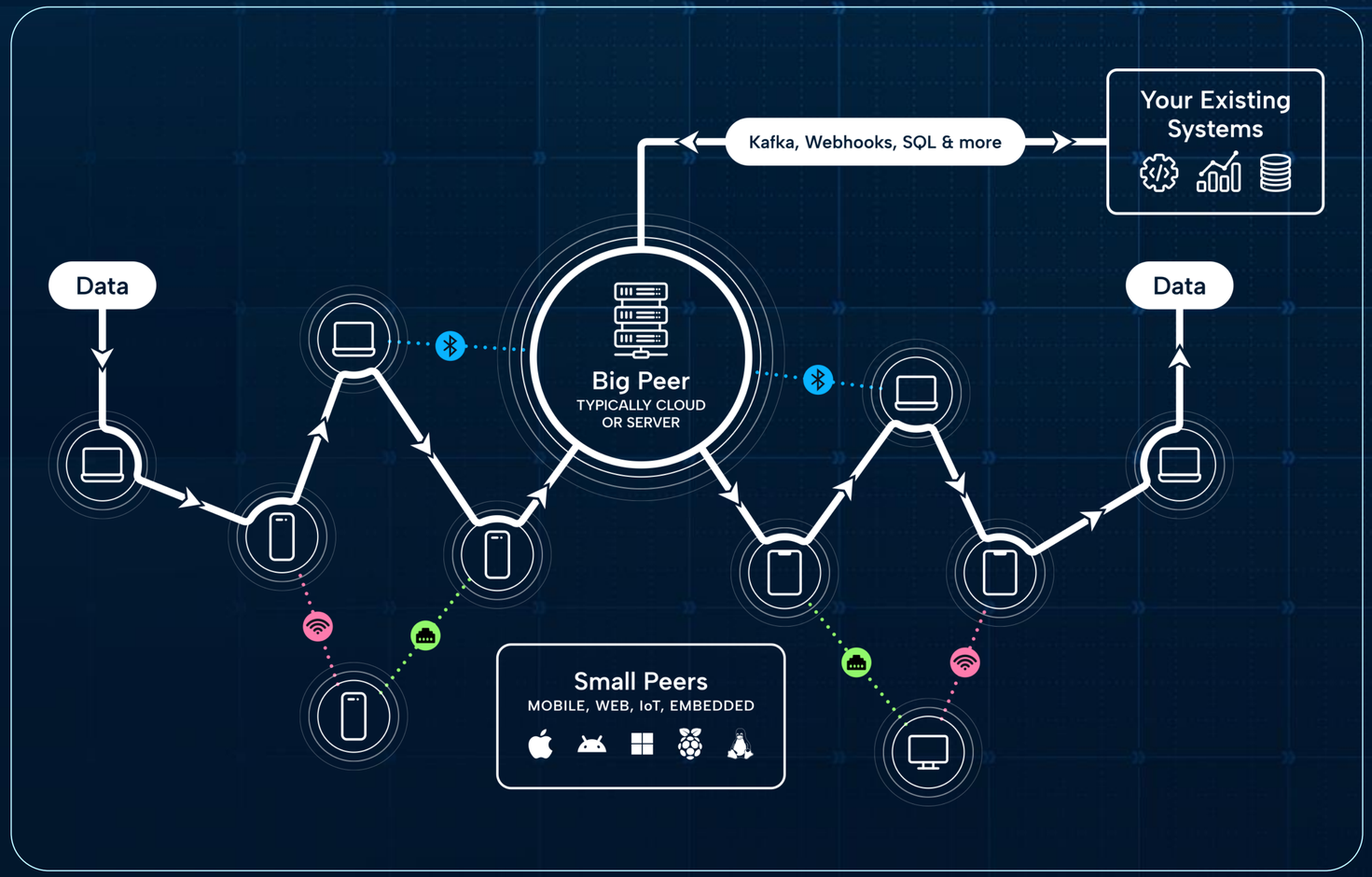


The multihop link self-heals in the background with no interruption to users

TECHNOLOGY ARCHITECTURE



BIG PEER

+ Cloud or on-prem
+ Easy access to integration with existing systems
+ Capable of extreme scale and durability
+ Just one Small Peer <> Big Peer connection enables all devices in the mesh to push/pull data to/from cloud

SMALL PEER

+ Automatically creates wireless mobile mesh networks
+ Ditto SDK integrated in edge application
+ On-device database
+ Mobile, Web, IoT, Embedded
+ Uses any available connection technology to form mesh with other small peers

PROVEN TECHNOLOGY USED BY MAJOR ENTERPRISES

+ Ditto’s technology has been proven in its initial go-to-market with the commercial airline industry
+ Expanded market into Point of Sale and quick-service restaurants
+ Customer apps multihop chat, tasks, and orders through mesh to backend systems

- Collaborate, chat or handle preflight checks
- Sync across teams without internet
- Even sync passanger meal orders
- Keep your teams connected with resilient peer-to-peer sync

Alaska Airlines
ANA
Chick-fil-A
Delta
Japan Airlines
Lufthansa

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CURRENT DOD APPLICATIONS

Common Operational Database (COD)

+ Distributed, multi-node UxV system that can collect and transmit data even when connectivity is limited or unavailable
+ Enables peer-to-peer data mesh for unmanned surface vehicles and C2 systems with resilient data sync
+ Successful prototype and testing with Defense Innovation Unit

Pluto Operations & Maintenance

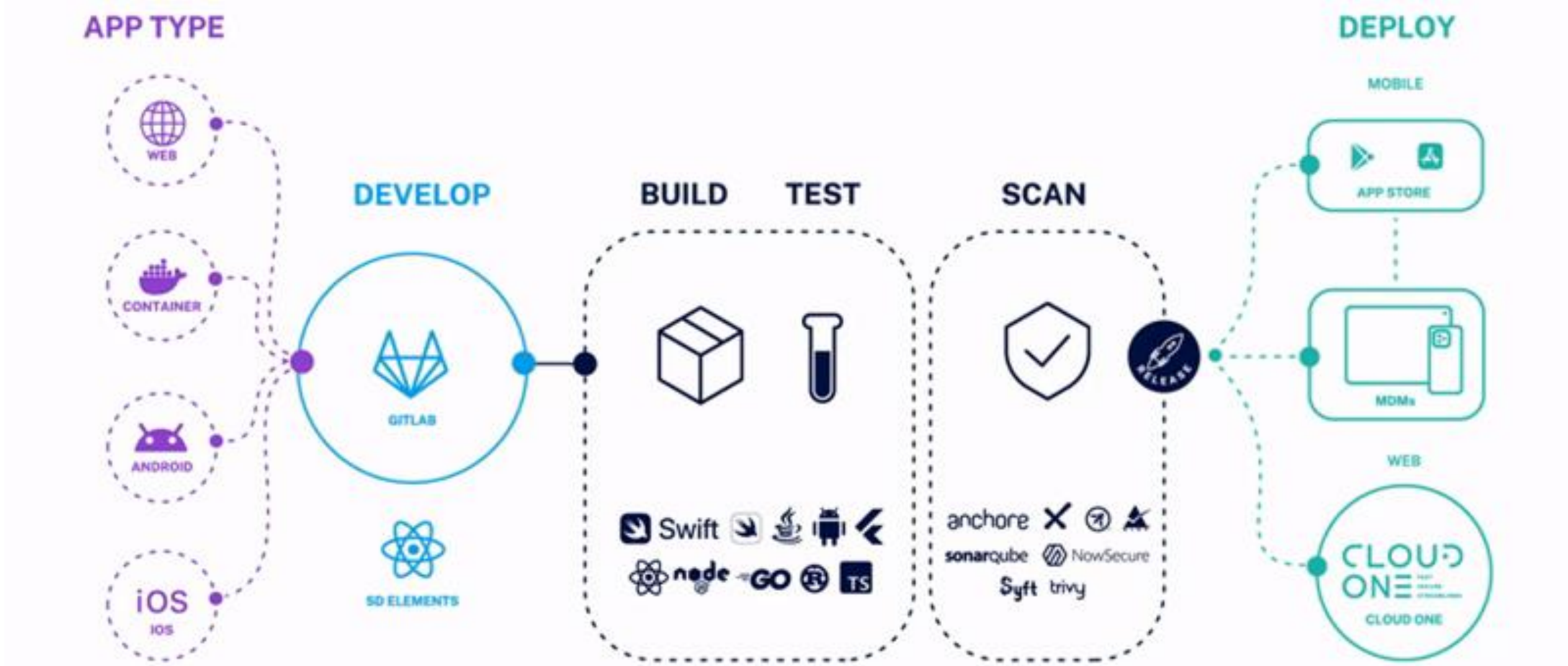
+ Chat, scheduling, work orders, issue logging, and other features all enabled with Ditto technology
+ Prototyped and delivered to USAF 55th Wing for op testing in <18 months
+ Certified to Field under BESPIN cATO
+ Primed to extend to additional use-cases

Android Tactical Awareness Kit

+ Situational awareness at the edge with no server required
+ Ditto Edge Sync Plug-in available on TAK.gov
+ Active user testing across DOD branches, DHS, and state agencies

Mission Delivery as a Service

DoD’s only cATO pipeline for mobile and web applications



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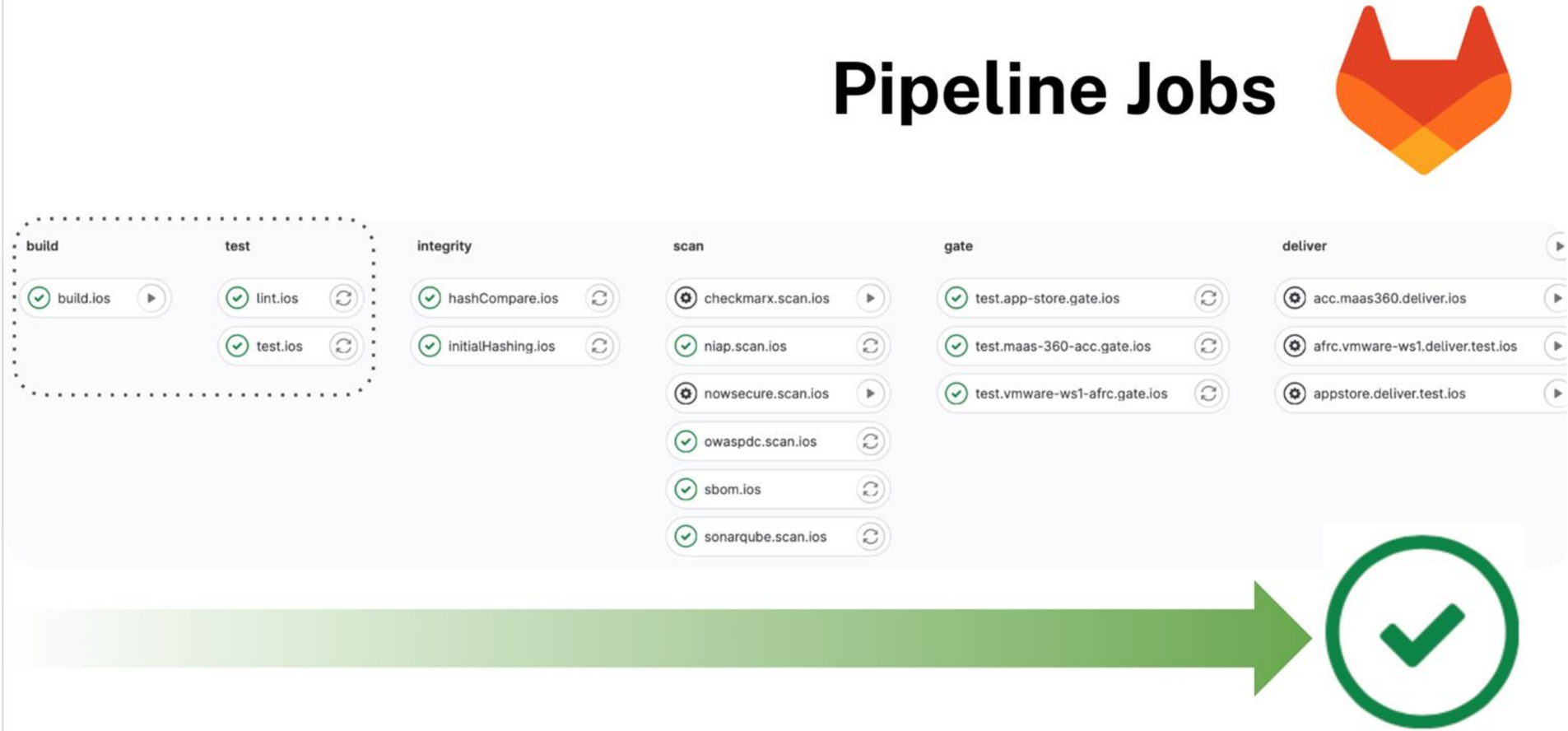
Mission Delivery as a Service

DoD’s only cATO pipeline for mobile and web applications



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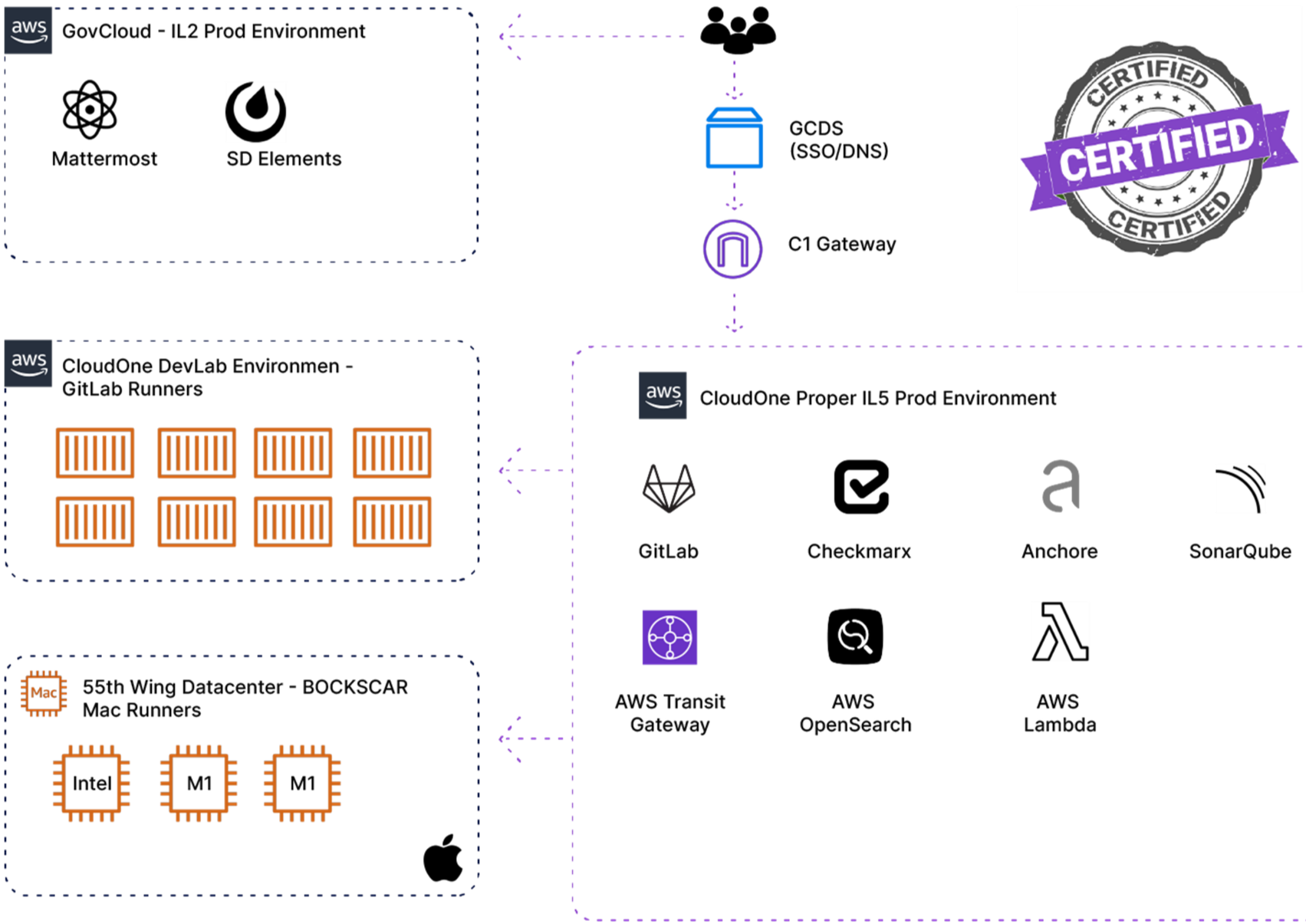
Mission Delivery as a Service Infrastructure



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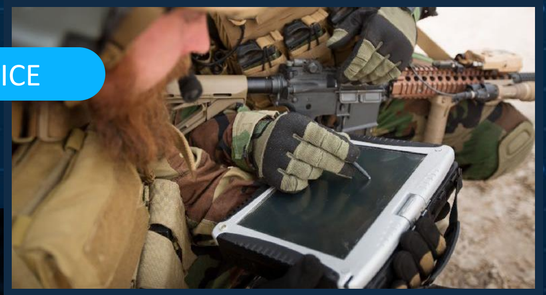
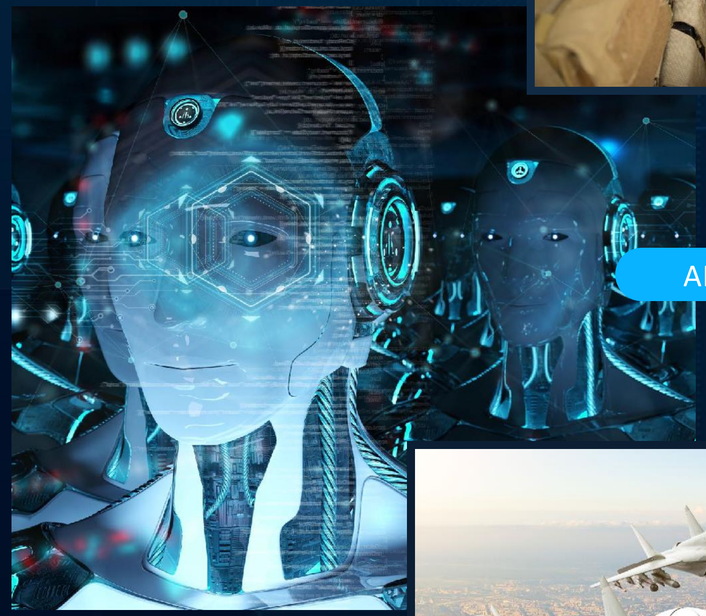
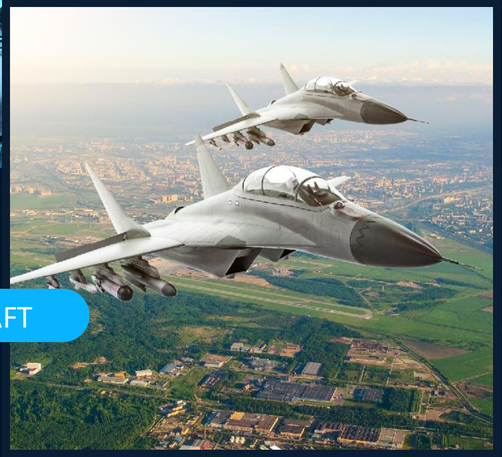
OUR VISION: GENERATING RESILIENT WORLDVIEW FROM EDGE DATA ACROSS THE FORCE

MOBILE DEVICE





AI MODELS



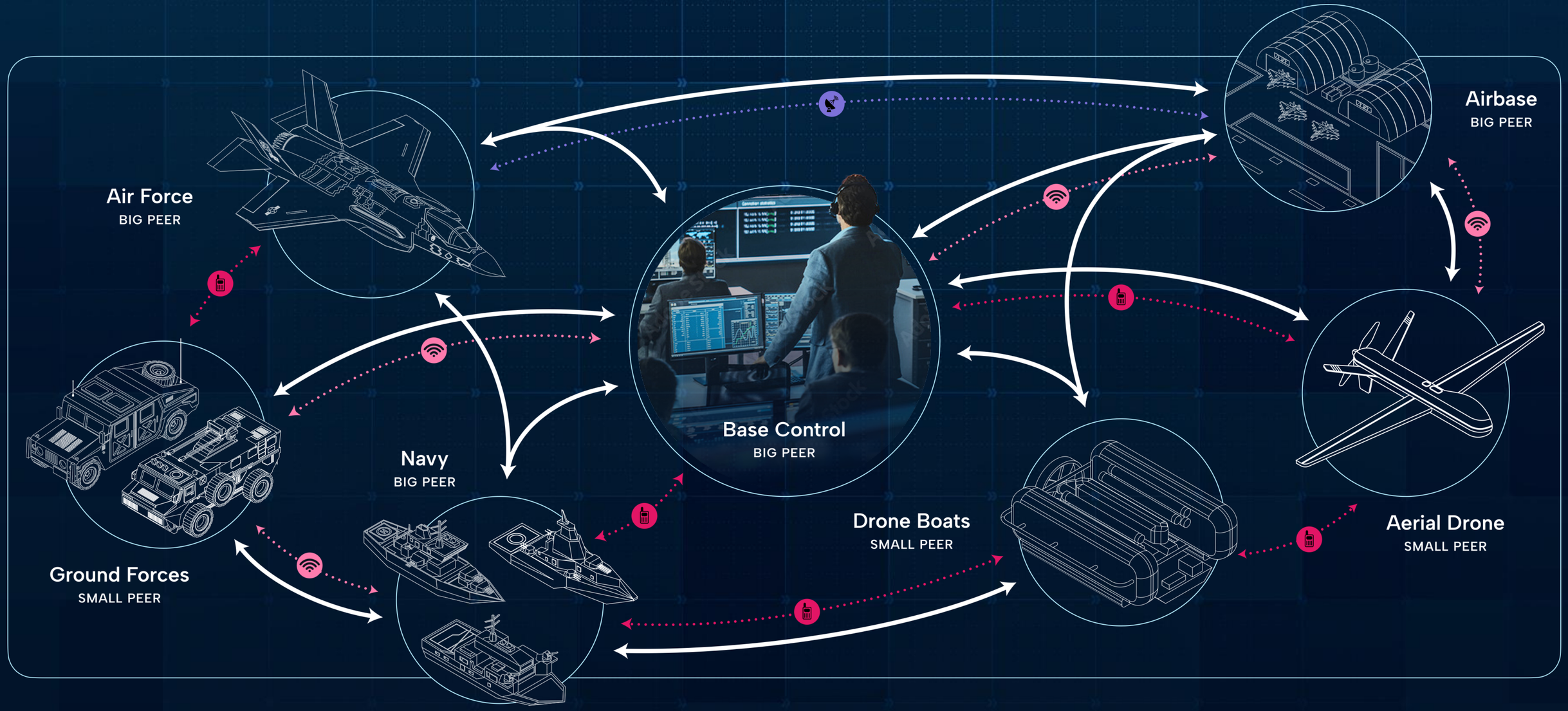
AIRCRAFT

AUTONOMY

JADC2

WITH DITTO-ENABLED APPS AND PLATFORMS DEPLOYED, DATA AND INFORMATION ARE MADE AVAILABLE AT ALL LEVELS OF THE MISSION

OV-1 COMPREHENSIVE WORLDVIEW



WE'LL DELIVER COD AND MOBILE APPS TO THE AIR FORCE AND BROADER DOD

In partnership with the BESPIN software factory, Ditto's software will enable delivery of BESPIN's Mobile Operations Support Suite (MOSS)* capability. Next-gen apps with Ditto technology will be made available to end-users via BESPIN

BESPIN

MOBILE OPS SUPPORT SUITE MOSS

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** MOSS is the USAF effort to address critical challenges hindering the rapid deployment of secure communications in support of agile combat employment and enable the Next Generation C2 Primary, Alternate, Contingency, and Emergency (PACE) Plan.*

THE VISION OF JADC2 CANNOT TRULY BE REALIZED WITHOUT A RELIABLE, DISTRIBUTED DATA SYSTEM

To meld COD and Pluto into a comprehensive, resilient, and fully interconnected distributed database for all of DoD, strategic investment is needed

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STRATFI
AFWERX

Strategic Funding Increase (STRATFI) will bridge the capability gap between current SBIR/STTR Phase II efforts and Phase III scaling efforts, facilitating delivery of strategic capabilities for the Department of the Air Force

TODAY

STRATFI
AFWERX

2028

- ⓧ Pluto, COD, TAK exist as Separate capabilities with separate use-cases and are not operationally deployed
- ⓧ No mechanism exists for DOD to develop apps with Ditto capabilities
- ⓧ Legacy data silos throughout DoD.
- ⓧ AI/ML minimally supported

- \+ Prototype Operational Worldview C2 Application (Pluto C2)
- \+ Enable existing Ditto DOD edge apps to support Operational Worldview
- \+ Develop AI framework for model and data filtering
- \+ Prototype additional end-user specific applications

COD + Operational Worldview prototype ready for delivery

MOSS Capability Supporting the Air Force

END STATES AND OUTCOMES

When STRATFI is completed…

+ COD tested and available for multiplatform deployment
+ Pluto C2 app developed and interoperable with COD
+ Ditto technology integrated into MOSS
+ Accredited platform and delivery mechanism to build new apps with Ditto technology capability

Impacts

+ You will benefit from the greater worldview of data collected and disseminated from other applications and systems (autonomous systems, mobile apps, sensors)
+ Next-Gen C2 for DDIL environment
+ Auto-PACE capability
+ Enabled Agile Combat Employment

MATCHING OPTIONS

	Defense-Only	Dual-Use
TACFI	1:1 SBIR/STTR: Gov	1:1 SBIR/STTR: Private 1:1:1
STRATFI	1:2 SBIR/STTR: Gov	2 SBIR/STTR: Gov:Private Notice of Opportunity AF Customer RFP Release and Contract Award

WHAT'S NEXT?

Ditto + BESPIN PY25.1 STRATFI package will be submitted by September 18, 2024

+ STRATFI offers the opportunity for matching funding through SBIR and Private investment, multiplying the impact!
+ A Government Funding Letter must be completed and submitted to be eligible for STRATFI matching

Contact us to participate!

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Thank You for Your Time