Spectro Cloud
GOVERNMENT



# Distributed operations:

## Managing infrastructure across cloud, edge, and disconnected environments

**Know what's running where, coordinate changes with confidence, and manage exceptions without the manual overhead.**

## Business challenges

Public sector organizations rarely operate in one place. Federal civilian agencies and defense organizations alike run applications and workloads across data centers, cloud environments, edge locations, remote facilities, secure enclaves, disconnected environments, and other operational sites. And that footprint keeps growing.

Growth on its own isn't the problem. But problems arise when you don't have a way to track it. Without tracking growth, over time, teams lose visibility into which sites are running which version of a given stack; even a routine update means touching each location separately; and legitimate local exceptions – a site that genuinely needs different networking or sizing – become indistinguishable from configuration that's simply drifted out of date. Multiply that across dozens or hundreds of sites, and the effort of managing the fleet starts to outweigh the effort of doing the work the fleet exists to support.

### Key benefits

- **Fleet visibility, not guesswork:** See which sites are running your current approved configuration and which aren't, without checking each one by hand.
- **Coordinated updates:** Roll out an approved change across your fleet, and see which sites have picked it up.
- **Unintended differences, easy to spot:** Sites are compared against your current approved configuration, not a frozen original snapshot — so planned updates and legitimate site variations don't get flagged as drift.
- **Visibility, honestly scoped:** Central status reflects each site's last reported state — live for connected sites, last-known for disconnected ones — so you know what you're looking at.

## Solution overview: A shared standard for a distributed fleet

Palette VerteX, Spectro Cloud's Kubernetes management platform, gives your central team a way to define what's shared across your fleet (the operating system, Kubernetes version, security baseline) while leaving room for what has to vary locally, like networking or sizing at a given site.

**Deploy:** A versioned cluster profile defines the shared components of your stack — OS, Kubernetes version, security baseline — while approved variations handle what has to differ by site, like networking or sizing. New sites deploy from that profile instead of a one-off build.

**Manage:** Your central team owns the shared standard — the approved cluster profile — and rolls out changes to it across your fleet. Sites that have adopted an update are visible at a glance; sites that haven't are just as visible, so attention goes to what still needs it. Local teams retain control over the site-specific settings the profile leaves open.

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**Secure:** Palette VerteX supports FIPS 140–3 validated cryptography and STIG-hardened OS options as part of the deployed stack. These capabilities support your agency's security requirements — the specific configuration and assessment for your environment still need to be completed and reviewed.

**Update:** Every site follows the same configuration and governance approach, even though the delivery steps differ. Connected sites receive updates directly; air-gapped sites receive the same approved update content, brought in and applied locally. What's consistent is the standard being applied, not the exact mechanics of delivery.

**Observe:** Central visibility shows each site's last reported status — close to real time for connected sites, the most recent information received for a disconnected or isolated one. Local visibility remains available at the site itself, and central status catches up once connectivity allows it.

**Govern:** The same declarative configuration approach applies across your fleet. Where immutable OS images are supported for a given deployment mode, they're available as an option for sites that need that extra level of consistency.

Palette VerteX's management plane can run as multi-tenant SaaS, dedicated SaaS, or fully self-hosted, including behind an air gap. The clusters it manages can be deployed even more broadly across cloud, virtualized, or bare-metal data centers, and edge locations, including AWS GovCloud and Azure Government. Existing Kubernetes clusters that meet supported requirements can often be brought under management as-is; others may need configuration changes first.

## What this can look like in practice

Illustrative scenarios, not documented case studies.

### Bringing a new field office online

Consider an agency delivering citizen-facing services from a central data center and dozens of regional field offices. Standing up a new office means deploying the same approved cluster profile instead of building configuration by hand. That way, the office is online running a known, already-secured stack from day one, rather than how the on-site team happens to configure it.

### Allowing an approved variation at a lab

Consider an agency like DOE or NASA running Kubernetes environments that support research networks across national labs and cloud environments, alongside specialized on-site equipment the platform doesn't manage directly. A given lab might need a variation on the standard profile – different sizing, different networking – and that variation is deployed and tracked centrally as an approved exception, rather than quietly diverging as one-off drift.

### Delivering an update to an enclave

Consider a DoW organization or defense contractor rolling out a security update across a set of secure or tactical enclaves operating under degraded or disconnected connectivity. The update is prepared once and applied consistently, though connected and disconnected enclaves receive it through different delivery steps. Central teams can see which enclaves have received it and which still need it, without requiring the same live connection to every one of them.

## The payoff: A fleet you can see and control

Distributed operations doesn't have to mean losing track of a growing fleet. When your sites deploy from the same approved standard, you can see where they differ, apply changes with confidence, and focus your attention on the exceptions that need it.

**Walk through a representative set of your sites with our team**

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