High-Level Design

Hawaii PACAF HQ HPE Storage & Cisco UCS SIPR VDI 6 Sites 2025

HAWAII PACAF HICKAM

October 15, 2025

# Executive Summary

HAWAII PACAF HICKAM engaged WWT to design a modernized VDI platform leveraging **Omnissa Horizon**. This **HLD** recommends conceptual, logical, and physical architecture for **Hawaii PACAF HQ HPE Storage & Cisco UCS SIPR VDI 6 Sites 2025**, including POC‑to‑production guidance. The approach aligns to WWT practices and supports hybrid expansion when appropriate.

# Solution Overview

The solution centers on one or more Horizon **pods** across 6 sites - Air Force Osan AB, Korea Eielson, Fairbanks Alaska JBER, Anchorage Alaska Misawa AB, Japan Kunsan AB, Korea Kadena AB, Okinawa Japan, integrating with identity (UNKNOWN. DoD), profile management (DEM/FSLogix), and application delivery (App Volumes / Apps on Demand). External access is provided through **UAG** if required.

# Conceptual Architecture

* **Users & Access**: Secure HTTPS via Horizon Clients; UAG for external; internal connects to Connection Servers.
* **Identity & Policy**: UNKNOWN. DoD authentication and policy; MFA=yes.
* **Desktops & Apps**: Instant Clone non‑persistent desktops; apps via App Volumes / AoD.
* **Profiles**: DEM and/or FSLogix for consistency and performance.
* **Operations**: Image creation/validation; promotion pipeline as in scope.

# Logical Architecture

* **Core Services**: Connection Servers; Events DB; App Volumes; DEM; **UAG** (if remote).
* **Integrations**: vCenter/ESXi; DNS/NTP/Certificates; Load Balancer Other.
* **Namespace & Federation**: Unified namespace; optional **Cloud Pod Architecture (CPA)** for multi‑site/global entitlements.
* **Security**: TLS via UAG; segmented DMZ/Management/Desktop networks; MFA on remote flows.
* **Monitoring/Logging**: Integrate with enterprise platforms (syslog/SIEM/metrics).

# Physical Architecture

* **Platform**: vSphere (ESXi); Storage: Other.
* **Sites/Regions**: 6 sites - Air Force Osan AB, Korea Eielson, Fairbanks Alaska JBER, Anchorage Alaska Misawa AB, Japan Kunsan AB, Korea Kadena AB, Okinawa Japan with resilient connectivity.
* **Placement**:
  + **DMZ**: UAG behind external load balancer / GSLB
  + **Management**: Connection Servers, App Volumes, Events DB/SQL, DEM/FSLogix shares
  + **Desktop**: Instant Clone pools in dedicated clusters
* **Networking**: Segmented tiers; firewall rules per Horizon/UAG reference; optional GSLB for unified namespace.

# Cloud Integration (Optional)

1. **Horizon 8 + CPA** — unified namespace across sites; manual cloud pool scaling.
2. **Horizon Cloud + Universal Broker** — elastic provisioning with a different brokering model.

**Recommendation**: Start with **CPA** for simplicity; evolve toward Universal Broker as elasticity requirements grow.

# Assumptions & Constraints

* Provide identity (UNKNOWN. DoD), DNS/NTP, certificates, and load balancing.
* Supply firewall rules, IPs, and TLS materials before build.
* Sizing follows 500 and performance targets.

# Next Steps

* Finalize LLD and firewall matrix.
* Build POC/dev, validate ATP, iterate.
* Scale to production; enable DR/CPA/GSLB; complete KT and handoff.