

HOME LAB / LOGICAL ARCHITECTURE

VCF, shared services and nested lab / 22 October 2026

INFRASTRUCTURE / 18 VMs

vcis / is1 + is2 (MS-7D99) / 2-node vSAN + NFS

builder Lab Builder Appliance	depot VCF Offline Depot
jira Jira alternative	service ServiceNow alternative
opschat Mattermost	netbox NetBox IPAM
smtp SMTP relay	security Security Appliance
storage Storage Appliance	vcis vCenter 9.1
vcops / infra-ops VCF Operations 9.1	vclic / infra-lic VCF License Server
vcf VCF Installer	hst Health & Security Toolkit
ntp1 NTP service	splunk LogLab / Critical alerts
vmssp-toolkit VMSP Toolkit 3.0.1	ca1.jtec.local Windows Root CA

ops Critical alerts -> splunk / LogLab

IS3 / NUC13 / ESXi witness appliance host

Hosts the vSAN witness appliance for IS1 + IS2

PHYSICAL SERVICES

DC1 + DC2 / AD + DNS | TFTP / PXE

PHYSICAL VCF 9.1.1 / MANAGEMENT

vcm / mgmt-cl01 / 4 MS-A2 hosts / 14 VMs

Core + fleet vcm / nsxm1 / sddc ops / cloud / license	Workload + ROBO control vcw / nsxw1 / vce dsm / Data Services Manager	VCF Automation auto-run-t4b9g / 1 VM Services Runtime / 3 VMs
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Automation provisions the workload namespace and Private AI Services below.

PHYSICAL VCF 9.1.1 / WORKLOAD + PRIVATE AI

vcw / wkld1-cl01 / wkld1 + wkld2 + wkld3 / 3 MS-A2 with GPUs / vSAN + NFS

NSX: edgew1 + edgew2 / wkld1-ec1 / Tier-0 wkld1-t0-gw01 (Active Active)

BGP uplink -> Transit Gateways -> lab VPCs + Automation VPC default-wkld1-lab

Supervisor wkld1-sv1 / 1 control-plane VM

VCF Automation / default-project / pais-automation-f23bb

Private AI Services: Model Runtime | Agent Builder
Data Indexing & Retrieval | MCP Servers

PAIS VKS / 3 nodes / Kubernetes 1.34.9

Control plane: 4 vCPU / 16 GB
Llama 3.1 8B: 8 vCPU / 32 GB / 1 RTX 4000 SFF Ada
Granite embedding: 2 vCPU / 8 GB
Qwen3 14B AWQ endpoint: defined / 0 instances

DSM / pais-automation-db

PostgreSQL 18.6 / standalone / 60 Gi
Database: paisautomation

Lab VKS / wkld-vks-lab

2 nodes / chat.jtec.local
pais-chat + lab-status-mcp
Other lab VMs: nginx, photon1/2, ubuntu1

ROBO1 / VCF REMOTE SITE

vce -> UDM Pro -> WAN Ubuntu (40 ms each way) -> ROBO1 / native ZTP

NESTED LAB / DELL R650



VCF 5.2: 4 management + 3 workload hosts

VCF 9.x: 3 management + 3 workload hosts

QNAP: shared NFS + storage | HP: spare | WAN: separate admin path