

The Modern Private Cloud

Hybrid Cloud, Private-First



رامز شريف
مدير التسويق وتطوير الأعمال
بنك الثروة الحيوانية



محمد عوض
مدير إدارة تقنية المعلومات
مصرف السلام



كمال ميرغني
الرئيس التنفيذي
دال تكنولوجي



محمد حمزة
المدير التقني
دال تكنولوجي

Agenda

1

Cloud models in 3 minutes

2

Economics and TCO

3

Modern Private Cloud

4

Reference Architecture

5

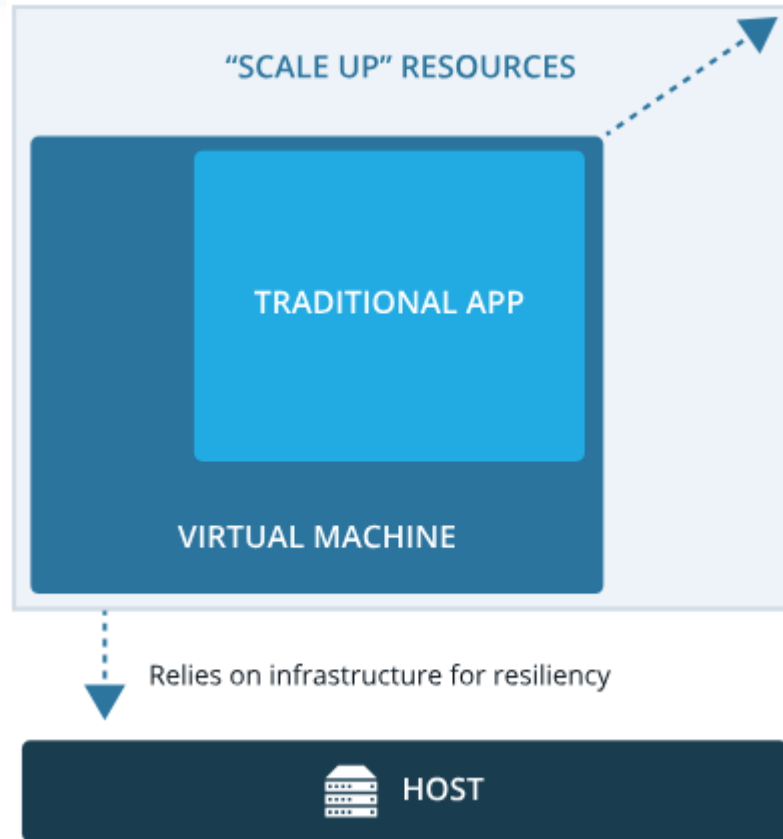
Demo

6

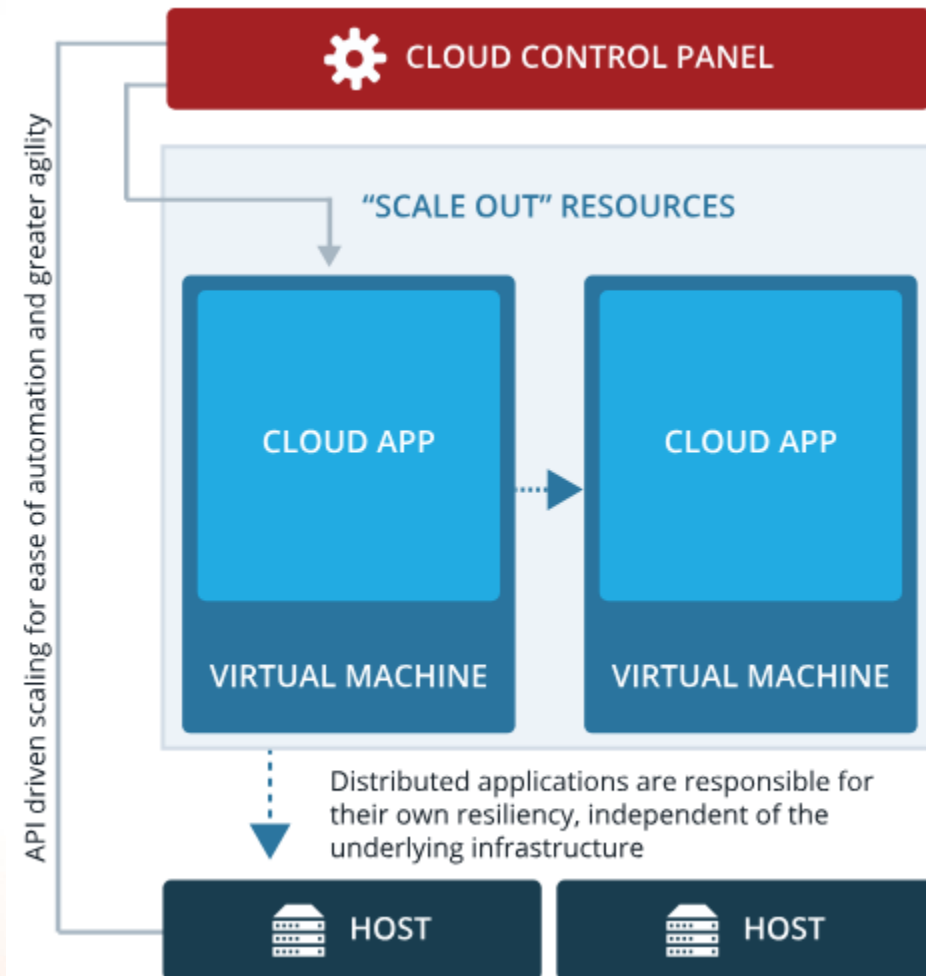
Knowledge Hub

What is Cloud?

Virtualized Traditional App



Cloud Aware App



Cloud Models at a Glance



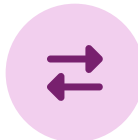
Public Cloud

Shared infrastructure, pay-as-you-go model



Private Cloud

Dedicated infrastructure, full control



Hybrid Cloud

Mix of both, connected environments

Who Controls What

Infrastructure	Provider	You	Shared
Network	Provider	You	You
Data	Provider	You	You

Public Cloud: Where It Shines



Speed to Experiment

Rapid deployment of new applications and services



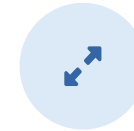
Global Reach

Worldwide presence with managed services



Managed Services

Reduced operational overhead



Flexible Burst Capacity

Scale resources on demand



But watch **cost volatility**, **egress**, and **pricing complexity**

Pricing Complexity and Lock-In

\$ Pricing Complexity

Beyond CPU and RAM: billed for egress, loadbalancer hours, firewall rules

Additional costs: storage IOPS, per-request operations

Forecasting becomes difficult at scale

Complex pricing models: on-demand, reserved, spot instances

On-Demand Pricing

Instance Type	AWS	Azure	Google	AWS pricing (per hour)	Azure Pricing (per hour)	Google pricing (per hour)
General purpose	m6g.xlarge	B4MS	e2-standard-4	\$0.154	\$0.166	\$0.134
Compute optimized	c6g.xlarge	F4s v2	c2-standard-4	\$0.136	\$0.169	\$0.208
Memory optimized	r6g.xlarge	E4a v4	m1-ultramem-40	\$0.202	\$0.252	\$6.293
Accelerated computing	p2.xlarge	NC4as T4 v3	a2-highcpu-1g	\$0.90	\$0.526	\$3.678

SIMFORM

AWS, Azure, and Google pricing comparison

Vendor Lock-In Risk

Lack of standard interfaces and open APIs

Proprietary VM formats and deployment interfaces

Difficulties in integration between different providers

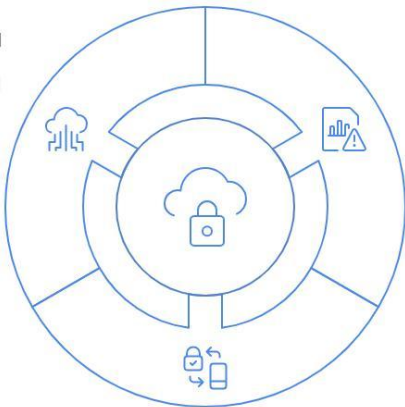
High cost of porting applications and data

Data incompatibility due to proprietary formats

Vendor Lock-In Risks

Infrastructure Transfer Risk
Variances in cloud infrastructure affecting cost and resource usage

Data Transfer Risk
Challenges in migrating data between cloud providers



Application Transfer Risk
Difficulties in reconfiguring applications for different clouds

Vendor lock-in risks: infrastructure, data, and application transfer

The "Everything Is Billable" Problem



Egress Bandwidth

Data transfer fees



Inter-Zone Traffic

Data transfer fees



Load Balancer Time

Per-hour + data processing



Firewall Rules

Per-rule charges



IOPS Tiers

Storage performance fees



PUT/GET Requests

API request charges



Snapshots

Backup storage fees



Data Retrieval Tiers

Data transfer fees



Calculators obscure compounding effects, Financial planning becomes guesswork when every dimension has a meter

Data Gravity Is Real

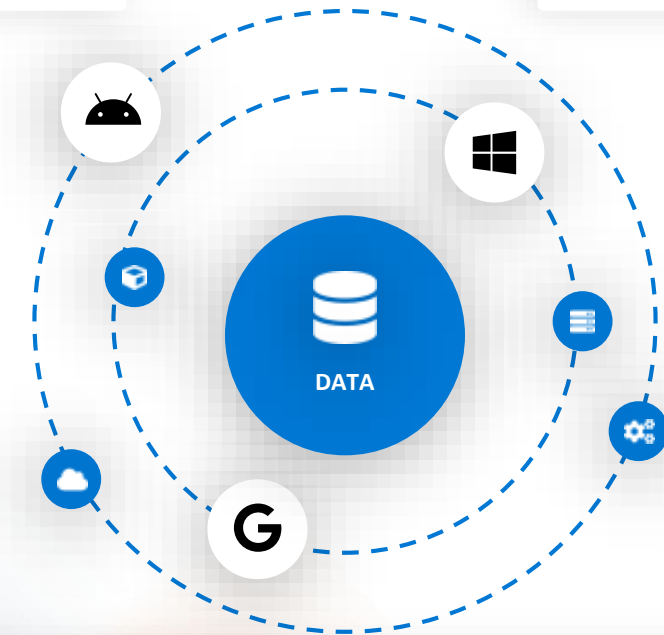
Data Accumulation

- The more data in one place, the harder to move

Digital Sovereignty Challenges

Jurisdiction Concerns

- Data potentially moved **across borders**
- Compliance with **multiple regulations**
- Unclear **legal jurisdiction**



Architecture choices early on determine future freedom, cost, and compliance posture



Predictable Cost

Reserved performance with fixed pricing



Data Sovereignty

Complete isolation and control



Standardization

Tailored to your organization



Compliance Ready

Meets regulatory requirements



Historically heavy to build, now deliverable "as a service"

Hybrid Cloud



Right Workload, Right Place

Optimize placement based on requirements



Unified Identity/Networking

Consistent policies across environments



Data Moves with Intent

Purposeful data placement and mobility



What Leaders Actually Want



Predictability

 Cost Variance



Performance

 Uptime



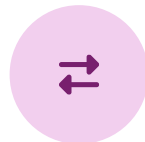
Security

 Compliance



Simplicity

 Time-to-Deploy



Portability

 Migration Time



Time-to-Value

 ROI Period

The Cost Curves



Public

OPEX volatility
Costs increase with usage
Pay-as-you-go model



On-Prem

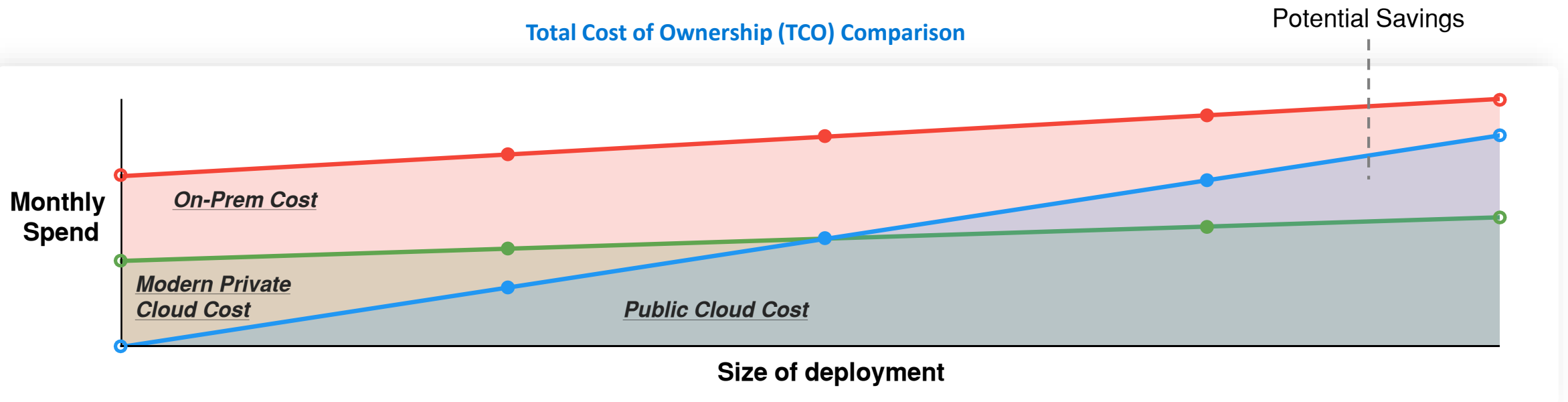
CAPEX spike
High initial investment
Slow to scale



Modern Private

Predictable OPEX
Dedicated resources
Consistent pricing

Total Cost of Ownership (TCO) Comparison



Modern Private Cloud



Dedicated Resources

Your cloud on your servers



Service Delivery

Operated as a service



Standards & SLA

Backed by service guarantees



Maintenance



Monitoring



Backup



Service Wrapper



Private Cloud



Isolation



Management

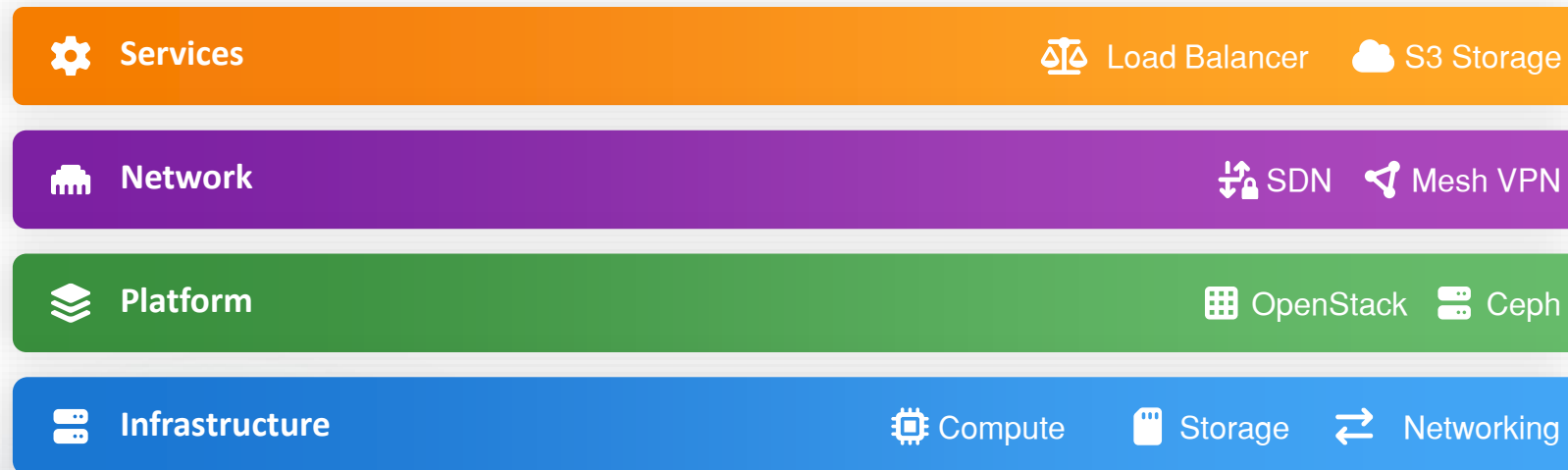
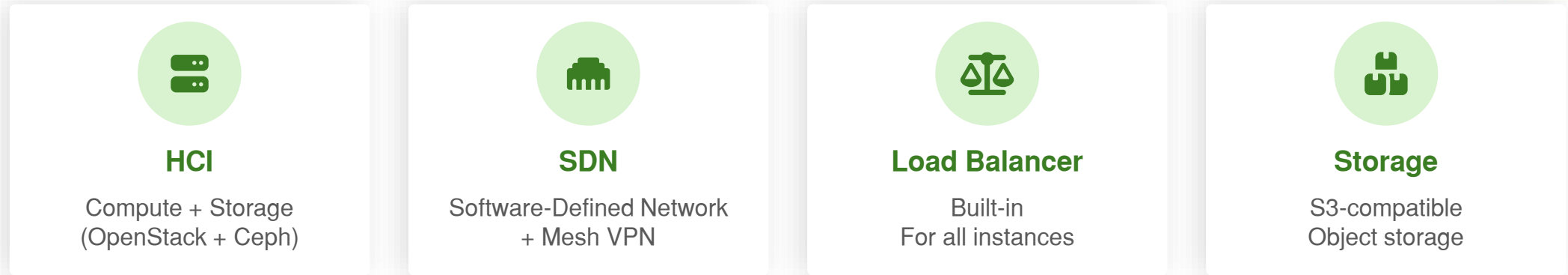


Support



Keep **isolation and control**, outsource undifferentiated heavy lifting

Reference Architecture (High-Level)

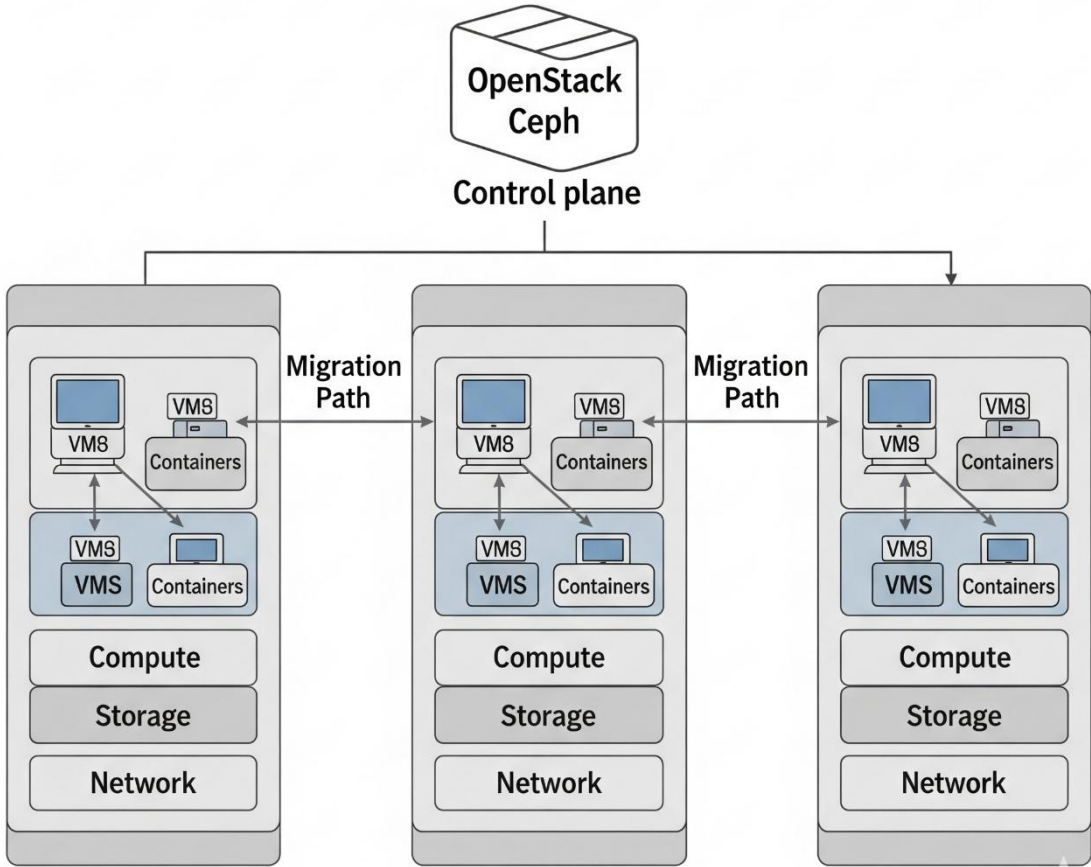


Open, proven, high availability by design, minimal jargon

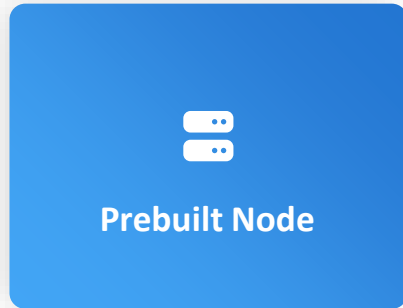
Who Is Using OpenStack?



Highly Available (HCI)
HAI Node HA, Human-Computer Interaction (HCI)
Converged unit compute, Storage and Network



Extend On-Prem Quickly (DAL Prebuilt Hardware)



Prebuilt Nodes with OpenStack DR

Disaster recovery ready out-of-the-box



Images and Configs Included

Pre-configured for rapid deployment



Drop-in On-Prem Integration

Seamlessly connects with hosted private cloud



Add capacity or locality without long procurement — keep one control plane

Reference Architecture (High-Level)



Built-In



HA by Default

High availability out-of-the-box



Load Balancer

For all instances



S3-Compatible Storage

Included at no extra cost



SDN with Mesh VPN

Secure networking built-in

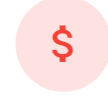


DIY



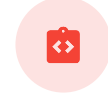
HA Configuration

Weeks of setup and testing



Load Balancer Setup

Additional licensing and cost



Storage Integration

Complex configuration required



Network Setup

Specialized expertise needed



Weeks to minutes, reduce integration overhead and per-feature bills

Hybrid Cloud: Pragmatic, Not Hype



Data

Ceph replication options



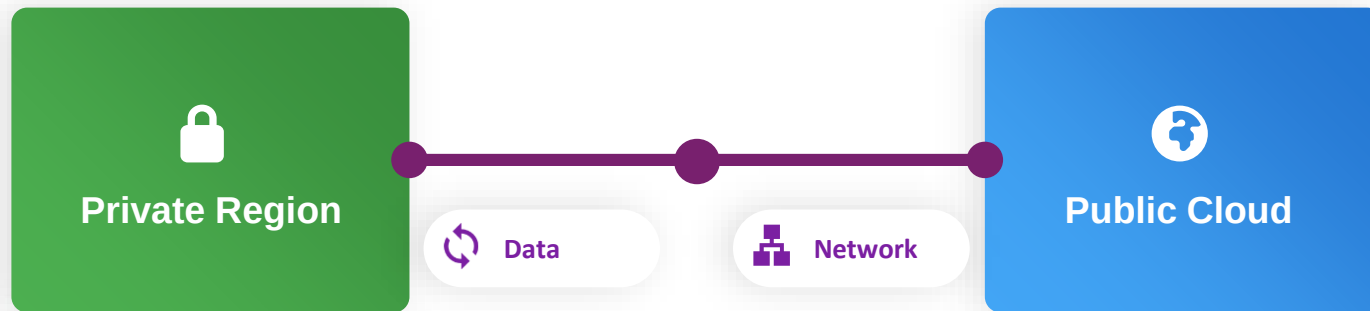
Network

Mesh VPN, consistent policies

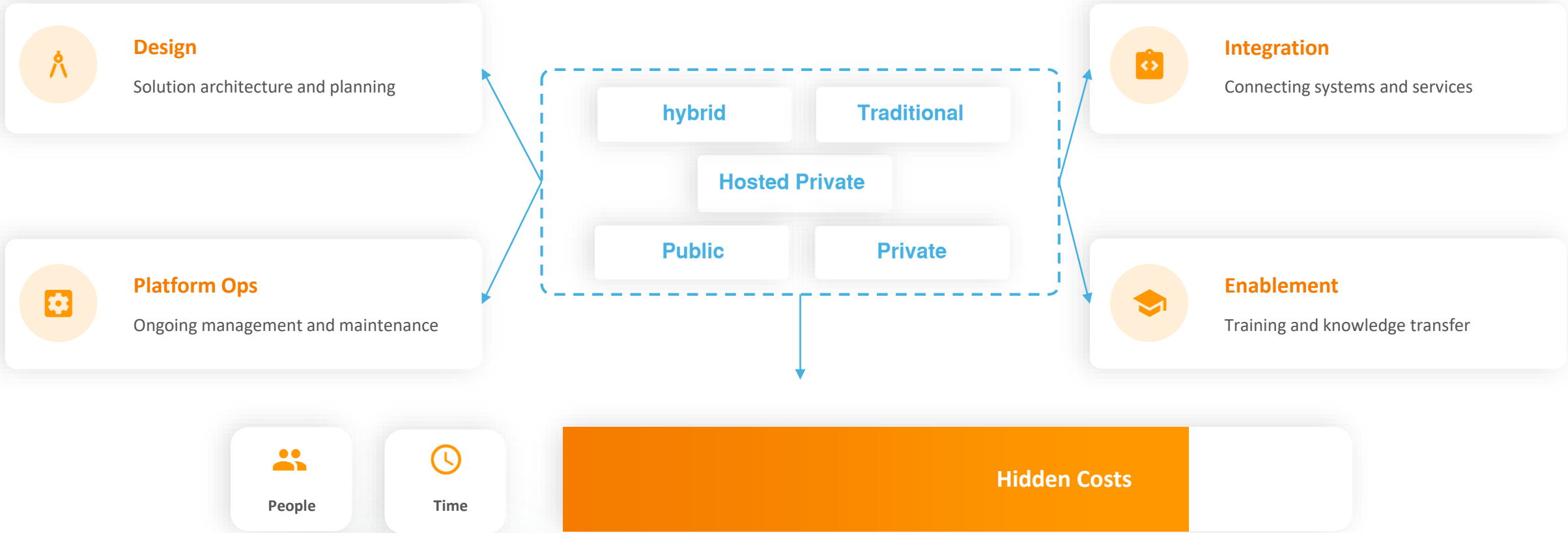


Identity

Federation patterns

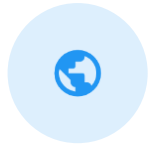


The Hidden Cost: R&D and Architecture



Whether on-prem or public—you still pay — Hosted private bundles architecture and ops; includes knowledge transfer to your team

When to Choose What



Public

-  Bursty experiments
-  Global managed services
-  Variable workloads



Hosted Private

-  Steady workloads
-  Regulated data
-  Predictable cost



On-Prem

-  Ultra-low latency
-  Specific licenses
-  Legacy systems



Portfolio thinking — place workloads where they fit best

Knowledge Hub: DAL Shared Mailing List



Reference Architectures

Proven patterns and designs



How-To

Step-by-step guides



Benchmarks

Performance metrics



TCO Templates

Cost analysis tools



Security Notes

Compliance guidelines



Office Hours & AMAs

Expert Q&A sessions



Join the Community



dal.tech/knowledge-hub



Not just updates — shared, reusable knowledge across similar technical fields. Your teams learn faster together.

How to Start + CTA



TCO/Feasibility Workshop

Assess costs and benefits



Pilot Environment

Test with limited scope



Migration Plan

Strategy and guardrails



Business Case

Executive-ready proposal



Get Started



[Book a Session](#)



Keep it small and measurable — we'll share templates and a pilot scope