Multi-cloud architecture: patterns that work and lock-in traps

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Using more than one cloud provider can improve resilience, meet regional rules or use a strength of one provider. It also multiplies complexity. Decide why you want it before deciding how.

TL;DR The short version

- Multi-cloud can improve resilience or meet regional rules, but it multiplies complexity, so decide why before how.
- The simplest and most common pattern runs each workload on the one cloud that fits it best.
- Avoid proprietary services with no exit plan and data that is cheap to bring in but costly to take out; price the cost of replacing each dependency.

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Reasons that hold up

- A regulator or customer requires a particular provider or region.
- One provider offers a service you genuinely need.
- An acquisition left you with two clouds.
- You want a real exit option for a critical workload.

Patterns

- **Workload per cloud:** each application runs on one cloud, chosen for fit. Simple, and the most common.
- **Portable core:** containers and open standards for the parts you may move.
- **Active-passive recovery:** a second cloud holds backups or a standby.

Lock-in traps

- Building on a proprietary service without an exit plan.
- Data that is cheap to enter and costly to leave.
- Team skills spread too thin across providers.
- Treating “portable” as free; abstraction layers have a cost too.

A decision test

For each dependency, ask what it would cost and how long it would take to replace. Accept lock-in knowingly where the benefit is high, and avoid it where the exit cost is out of proportion.

Related credential: Cloud Architecture Practitioner. Explore the exam facts and syllabus.

Sources and further reading

1. IICTP. Cloud Architecture Practitioner credential page. iictp.org/certifications/cap.

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