Decision Point for **Selecting Virtualized Compute**

VMs, Containers or Serverless

Which **virtualized compute** method should I use to deploy an application?

Before you decide:

Understand the **key principles.**

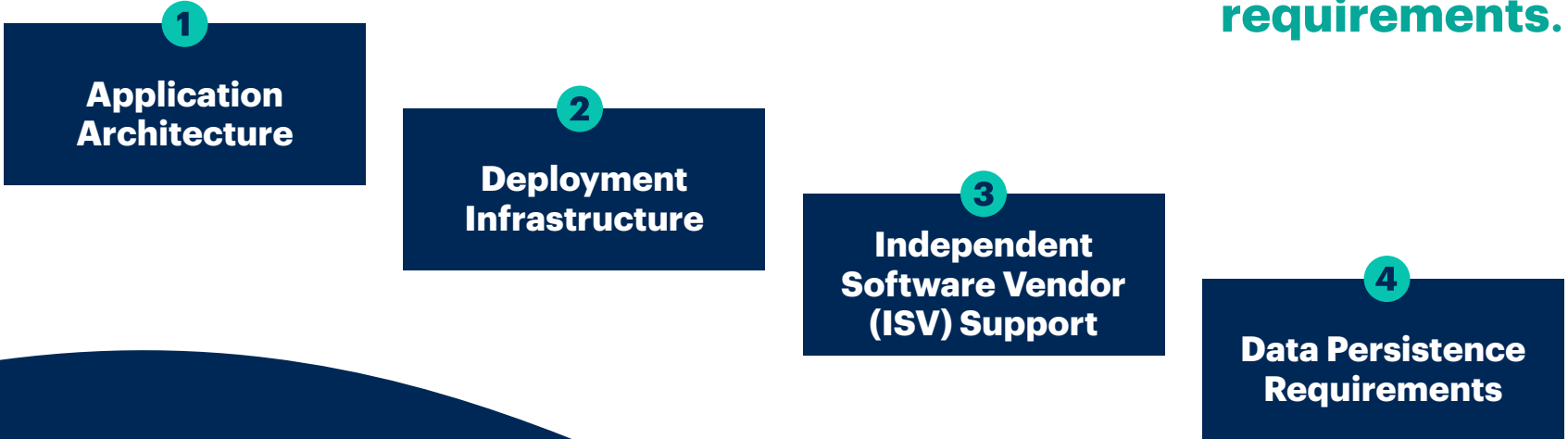Analyze the **requirements.**

Evaluate **selection factors.**

Two **key principles** influence this decision:

1 **Long-Term:** Optimizing Infrastructure for Cloud-Native Architectures

- Increase software velocity and enable developer agility
- Maximize application scalability
- Reduce technical debt

2 **Short-Term:** Prioritizing Operational Goals

- Maintain operational compatibility
- Minimize startup costs
- Improve resource utilization

Analyze the **requirements.**

1. **Application Architecture**
2. **Deployment Infrastructure**
3. **Independent Software Vendor (ISV) Support**
4. **Data Persistence Requirements**

Evaluate the **selection factors** to improve automation, efficiency and cost optimization.

	Virtual Machines	Containers	Serverless
Features	• Virtualize server hardware • Share a single physical server • Have their own copy of an OS	• Virtualize the OS user space • Maintain their own copies of OS libraries • Enable container orchestration using Kubernetes	• Virtualize the application runtime • Use shared resource pool for applications • Provision all necessary resources of the runtime environment and operate them automatically
Reasons to Use	• Require standard operating environments and processes	• Require mobility across on-premises, hybrid and multicloud	• Is committed to one public cloud platform • Require seamless auto scalability
Design Constraints	■■□	■■□	■■■
Portability	■■□	■■□	■■■
ISV Support Level	■■■	■■□	■■■
Storage Integration	■■■	■■□	■■□
IT Control	■■■	■■□	■■□

Final **Recommendations**

Choose the virtualized compute method **most aligned with the main operational priority** for the application.

Identify opportunities to **modernize and improve life cycle management** for existing applications.

Optimize for cloud-native architecture for new applications.