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Accelerare lo sviluppo di applicazioni moderne su Openshift grazie a Nutanix Database Service (NDB)

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Red Hat

Businesses are Driving Strategic Initiatives with Numerous Constraints

Initiatives

Transform

Operate in new ways, engage new customers, and deliver exceptional experiences.

Grow

Automate to protect existing revenue and innovate to develop new revenue streams.

Manage Risk

Secure everything and maintain compliance across diverse locations, systems, networks, and apps.

Constraints

Budget

Do more with less, focus on cost control, squeeze as much out of existing systems as possible.

Staffing

Address skills gaps and lack of specialized training that are barriers to transformation and growth.

Time

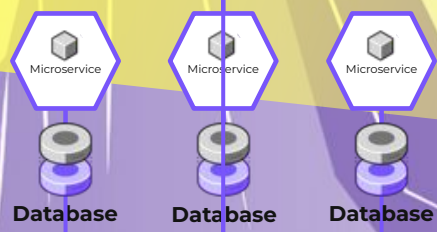
Accelerate development under economic and competitive pressure.



The Hidden Challenges of DevOps



API Gateway



Developer



RBAC | Hardening
Image Scanning | Multi-Tenancy



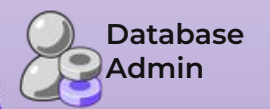
Scalability | Reliability
Performance | Observability



Kubernetes | DevEx
Self-Service | Automation | CI/CD



SQL | NoSQL | Performance
Self-Service | Patching | Data Protection



Location | Hardware | Storage
Scalability | Resource Optimization | Performance



Siloed Operating Models and Tools Just Can't Keep Up

Why?

- Too Slow
- Too Complicated
- Too Expensive
- Not Enough Skilled Talent

What's Needed?

- Adopt a DevOps culture
- Implement a Cloud Platform
 - Focus on Automation
 - Establish Best Practices



Common challenges in adopting a DevOps culture

Resistance to Change

It's important to explain that the impact of change can be minimized to make it sustainable

Employees familiar to traditional processes may resist adopting new DevOps practices especially in Operations. This resistance can manifest in reluctance to learn new skills or collaborate across teams.

Legacy Systems and Technical Debt

Leveraging a cloud platform can facilitate this transition

Outdated systems can complicate automation and create obstacles adopting DevOps, especially when transformation costs are high.

Communication Gaps

Working in team on procedures, prevent internal conflicts

Effective communication is critical for DevOps success, silos between development and operations often lead to misunderstandings.

Too Many Tool

It's important to start with essential tools based on immediate goals and gradually expand, ensuring team members are trained for effective use

Integrating multiple tools during the DevOps transition from the beginning can be overwhelming and inefficient.

Lack of Automation and Best Practices

Adoption of best practice to standardize and simplify it's crucial for adoption

Manual processes slow development and increase errors. Implementing automation and self-service options, particularly in continuous integration and deployment, is vital for accelerating the development lifecycle and enhancing consistency.



Research Says that Organizations Want One Place to Manage Everything: A Consistent Cloud Operating Model

74%

of IT teams are expected to leverage more than one IT infrastructure in the next 1-3 years, including a mix of private and public clouds, multiple public clouds, or an on-premises datacenter along with a hosted datacenter

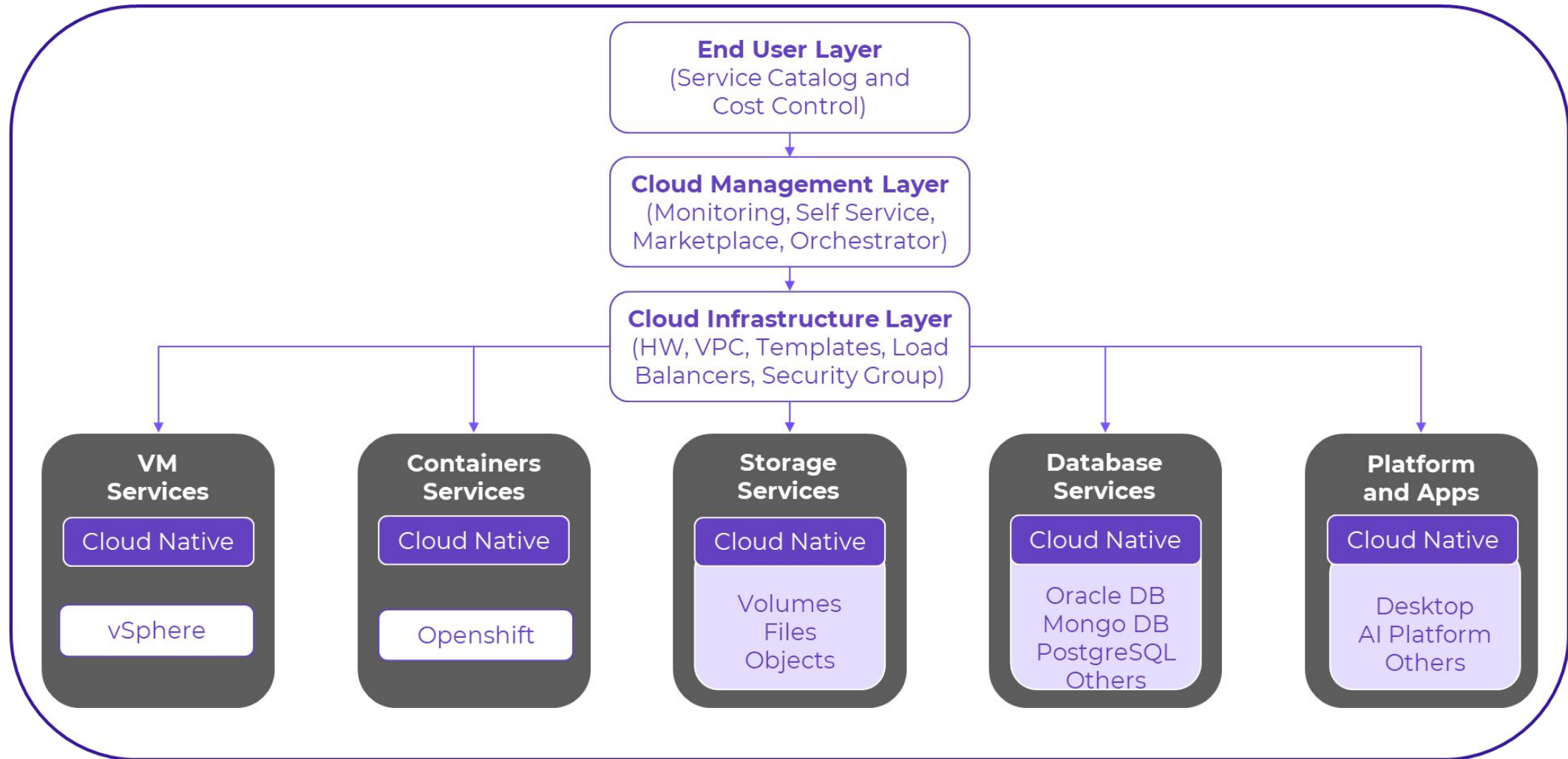
94%

say they'd benefit from having a single, unified place to manage applications and data across diverse environments

5th Annual Nutanix Enterprise Cloud Index Report, April 2023



Cloud Platforms give fully Self-Service Experience



The Nutanix Cloud Platform

for legacy applications, modern applications and AI-driven applications

Nutanix Cloud Management
(observability, cost control and self service)

Nutanix AI Service

Nutanix Storage as a Service

Nutanix Database as a Service

K8s Platforms Supported for Hybrid Cloud



Data Protection

Disaster Recovery

Data Mobility

Nutanix Software HCI Infrastructure

(different hardware vendors, different hypervisors, different clouds)

Private Cloud

Public Cloud (NC2)

Edge/Colo/MSPs



Automation is the key to simplify DevOps adoption

DEVELOPMENT



Developer teams need self-service capabilities to accelerate the transition from coding to production.



- **Innovation**
- **Time to Market**
- **Reliability**
by enhancing collaboration, reducing bottlenecks and not increasing costs

OPERATIONS



Operations teams should leverage existing skills and knowledges to effectively manage emerging technologies and navigate increasing complexity.



The Rise of Opensource Relational DB and NoSQL DB

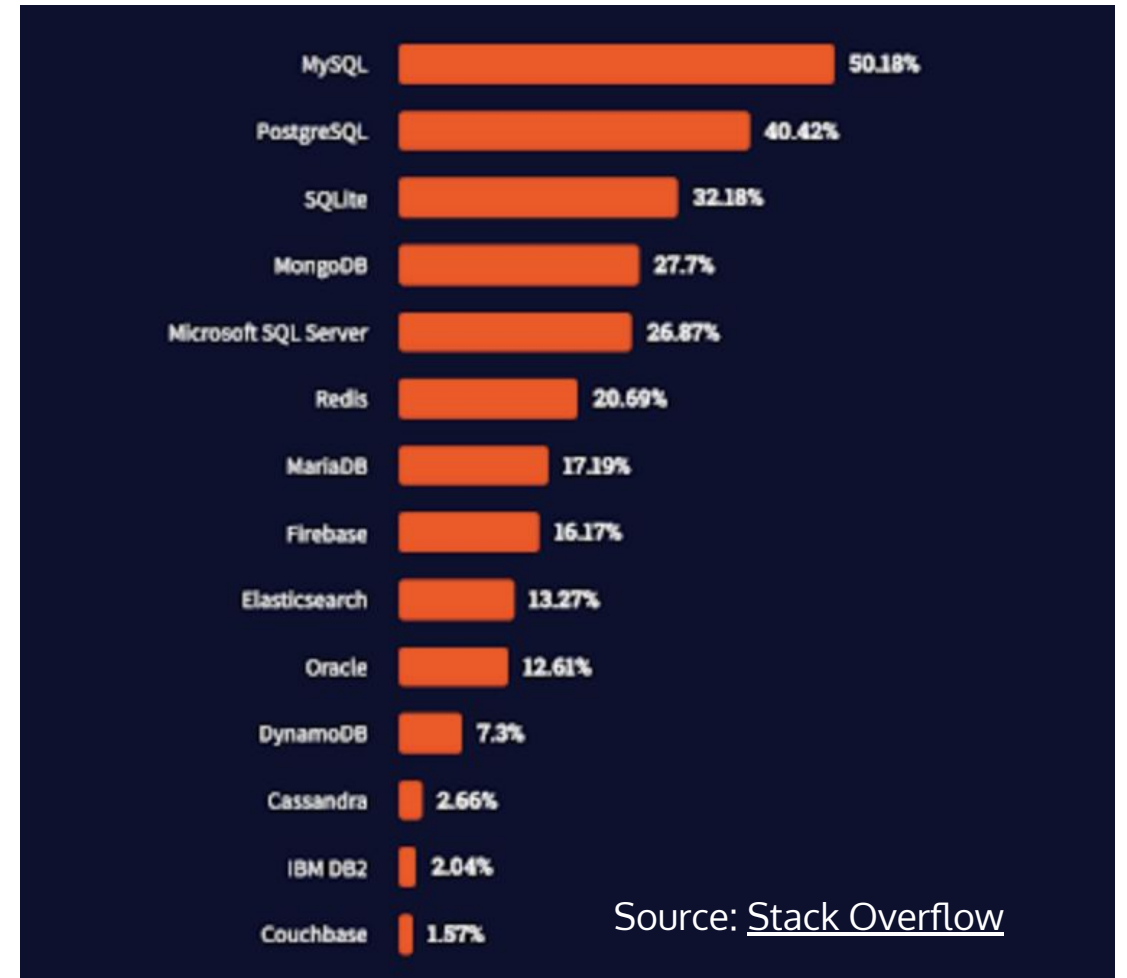
Modern applications are driving the adoption of specialized, primarily open-source database technologies. Business-critical applications demand complex architectures that require advanced skills, which are often hard to find in the market.

What Are the Main Support Challenges for the Open Source Data Technologies You Are Using?

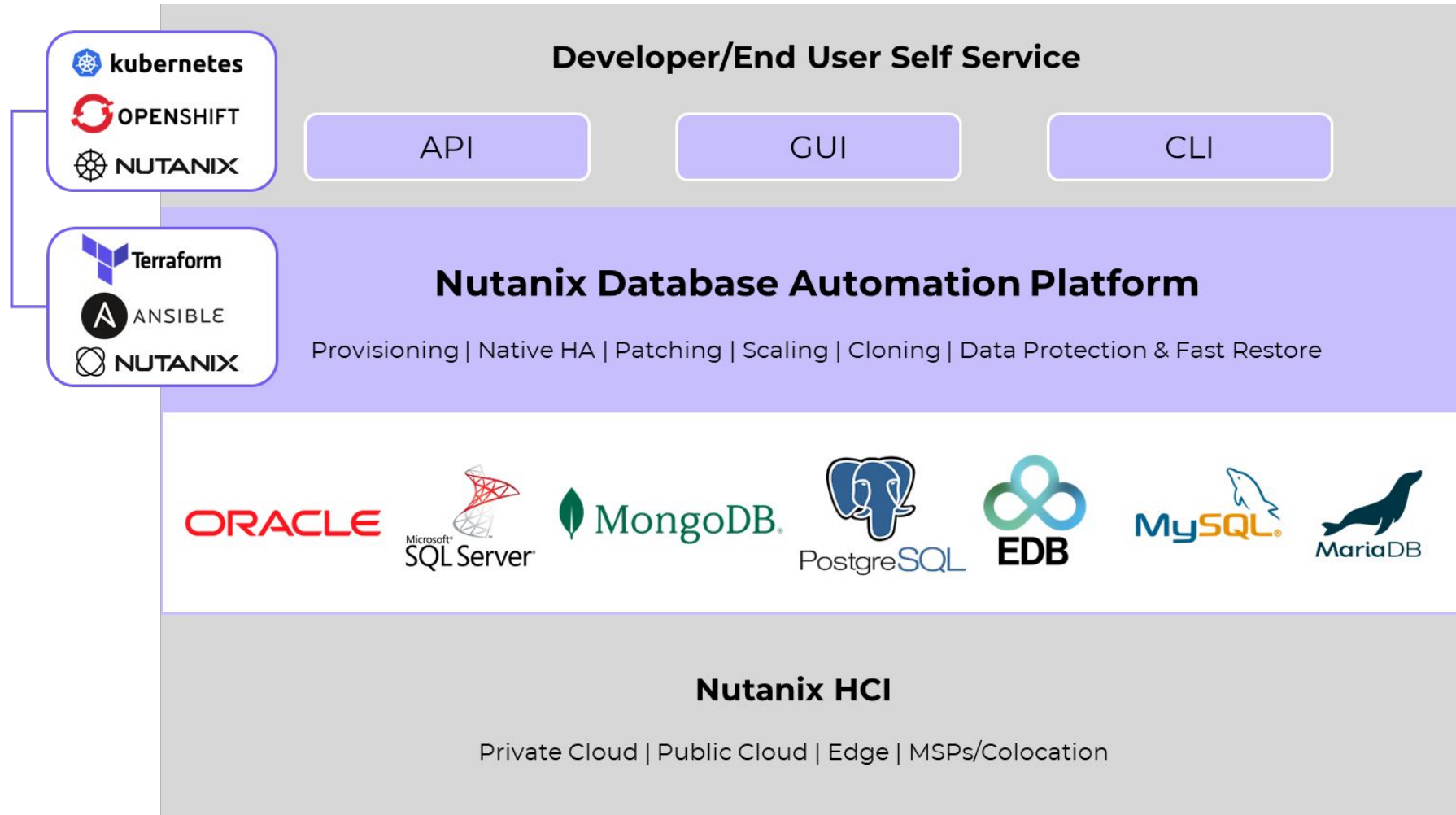


Source: <https://www.openlogic.com/resources/2022-open-source-report>

Top-rated databases in 2022



Nutanix Database Service (NDB)



The 4 Essential requirements to mitigate security risks on your Modern Apps Data

Data Encryption

Encrypting data is crucial for security. Works at Virtual Machine (VM) and at Database engine-level. Use robust key management systems for cloud native services without VM-level access

Network Segmentation

It adds a necessary layer of defense against vulnerabilities exposed by port-scanning techniques, restricting lateral (east-west) movement of threats. Access rules should adhere to a least-privilege principle, ensuring that only authorized users or processes can access sensitive data.



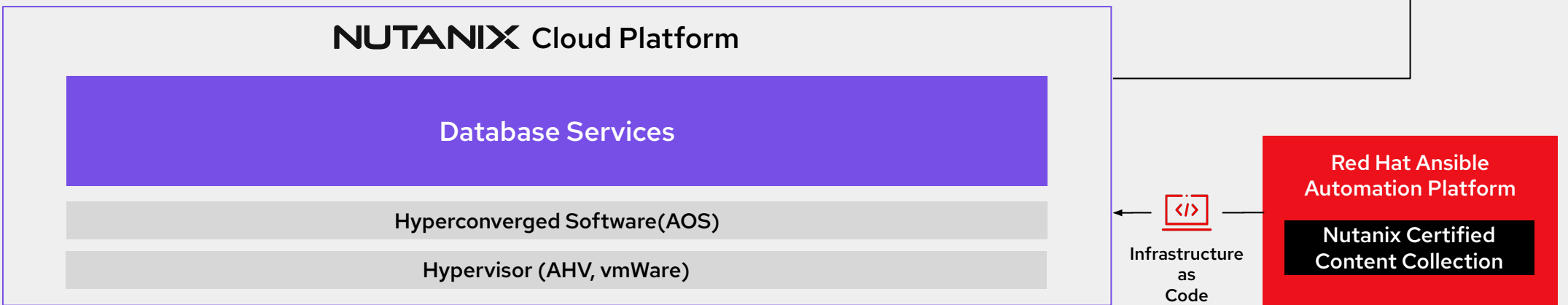
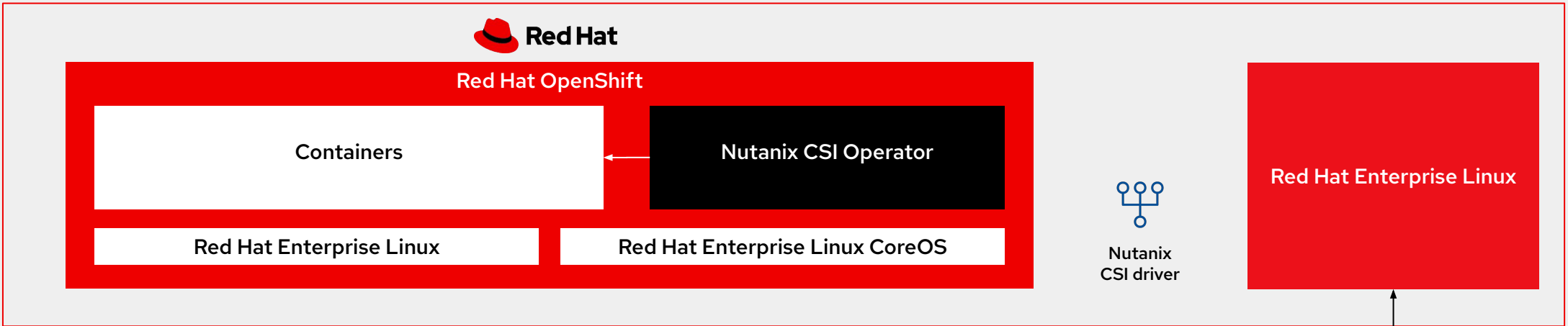
Regular Patching

Consistent patching for databases and operating systems is critical for mitigating both new and known vulnerabilities. Many IT teams struggle with this due to time and resource constraints. Automation can simplify and accelerate the patching process, ensuring continuous protection.

Certified Golden Images

While widely used for IT infrastructure, this approach often faces challenges when applied to database deployment, as manual hardening steps by Database Administrators (DBAs) are required. Automation can extend the benefits to databases ensuring security at every stage of development..





Private Cloud

Public Clouds/aaS

MSP/Telcos

Demo

```
! 02_ndb_create_connection.yaml
1  apiVersion: ndb.nutanix.com/v1alpha1
2  kind: NDBServer
3  metadata:
4    name: dur-ndb
5    namespace: tme-ndb-demo
6    labels:
7      tier: ndb
8  spec:
9    credentialSecret: ndb-secret
10   server: https://10.48.13.51:8443/era/v0.9
11   skipCertificateVerification: true
12
13
```



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Q&A



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Thank you

