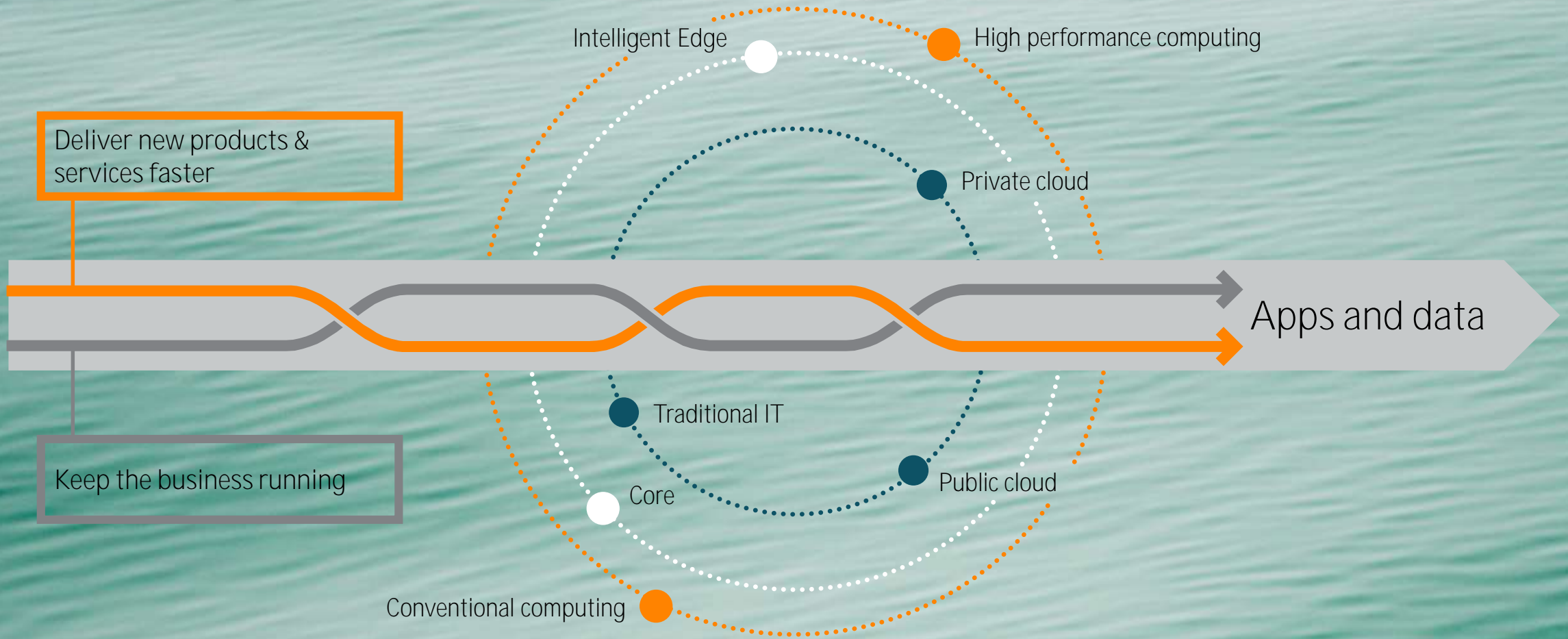# HPE NonStop Futures

Prashanth Kamath
HPE NonStop Product Management

May 16, 2023

Hybrid IT is the new normal—**and it's complex**

Deliver new products & services faster

Keep the business running

Intelligent Edge

High performance computing

Private cloud

Traditional IT

Core

Public cloud

Conventional computing

Apps and data

How HPE NonStop is poised in the new Hybrid IT world

Software is the differentiator!

Mission Critical Platform

HPE NonStop fundamentals

Modern Environment

Secure and stable

Enable HPE NonStop to be the platform of choice for
Mission Critical workloads in the HybridIT world!

HPE NonStop strategy

Stable operating environment
- Support the installed base
- Investment protection
- Capability evolution

Lock step with modern IT
- Enable for HybridIT
- Consume as a service
- Enterprise integration

Foster innovation
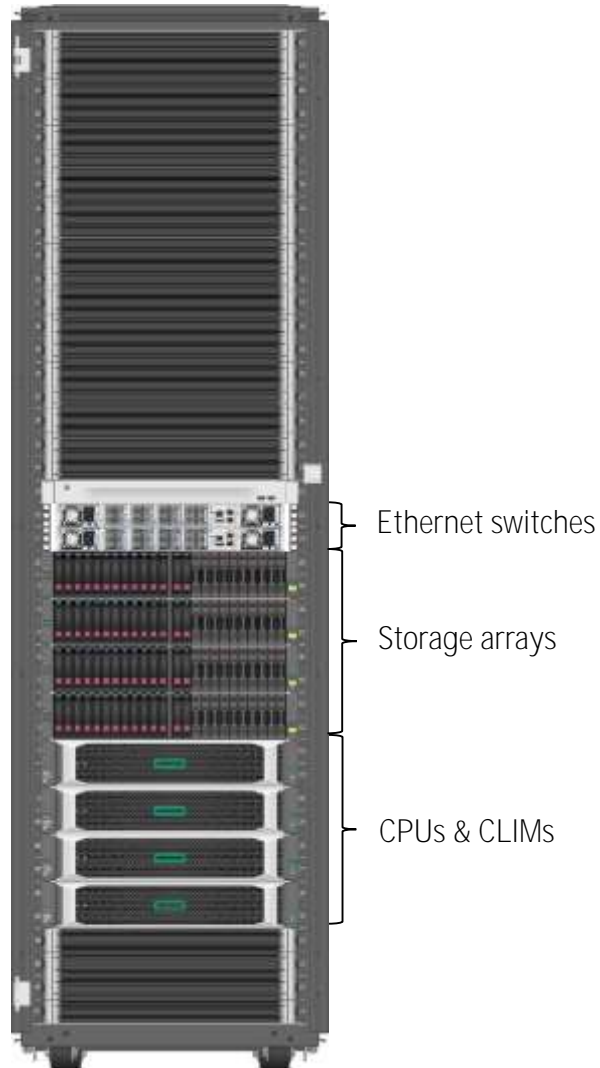- New solutions
- Development paradigms
- Open standards

HPE NonStop platform for HybridIT

HPE NonStop Integrated Solution (NIS)
## Futures

Ethernet switches

Storage arrays

CPUs & CLIMs

- HPE NonStop system, ready to switch on
- Same NonStop characteristics of availability, scalability, and security
- All NonStop capabilities supported
- Built on HPE industry standard hardware
- Uses Ethernet for fabric interconnect
- Runs the L-series RVU
  - No application change for L-series compatible applications
- Managed using the same tools as NonStop X
- Uses the power of virtualization

NonStop Integrated Solution – Customer Benefits
Futures

Seamless migration
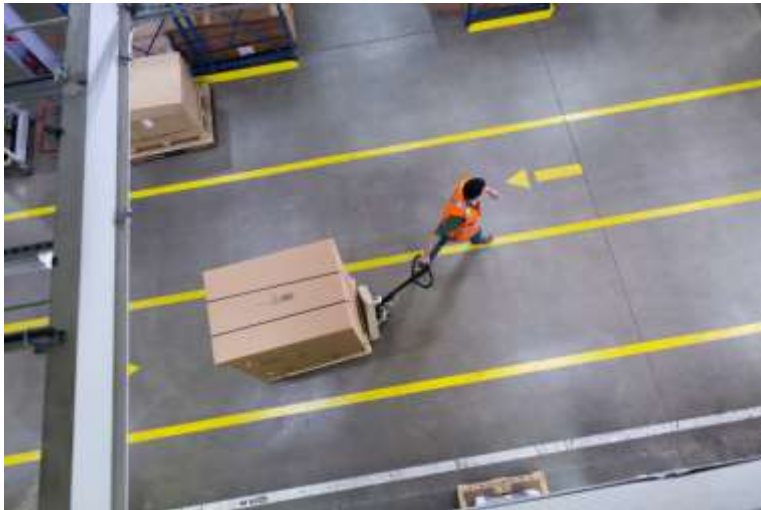
- Lift & shift L-series workloads
- Consistent customer experience
- Continuity of operating environment

Choice and capability

- Select right HW for your workload
- Transparent access to product features
- Responsiveness to product issues

Efficiency

- Denser footprint
- Lower running costs
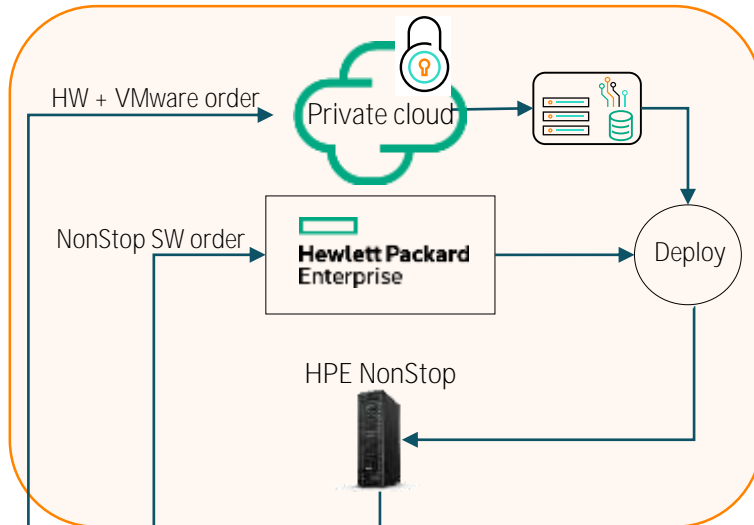- Hardware standardization
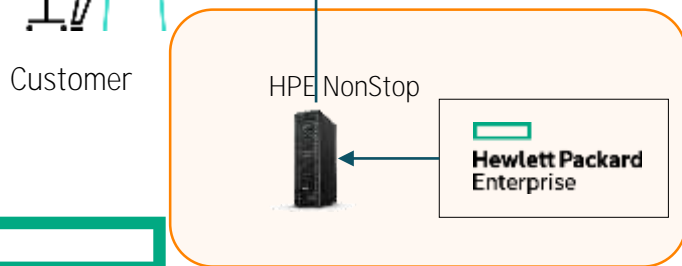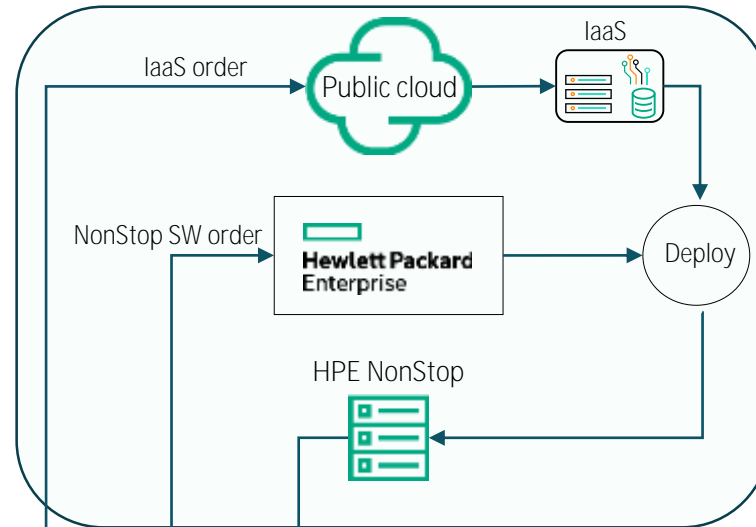
HPE NonStop for public clouds
Futures

Today	In public clouds

Virtualized

HW + VMware order

Private cloud

NonStop SW order

Hewlett Packard Enterprise

Deploy

HPE NonStop

Customer

Converged

HPE NonStop

Hewlett Packard Enterprise

Near term
Specialized compute(VMw) + BBYOL

IaaS order

Public cloud

IaaS

NonStop SW order

Hewlett Packard Enterprise

Deploy

HPE NonStop

Customer

Longer Term
NSaaS offered by HPE (and hosted in public cloud)

Public cloud

IaaS

NSaaS order

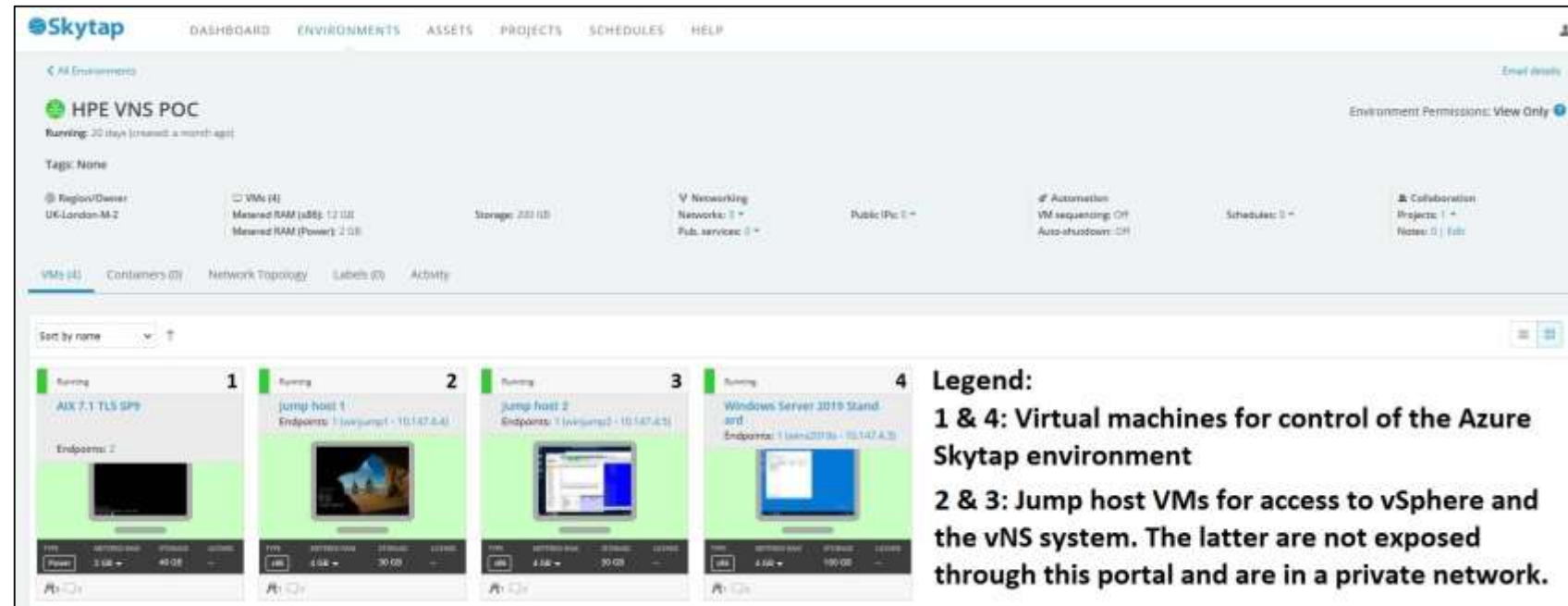Hewlett Packard Enterprise

Deploy
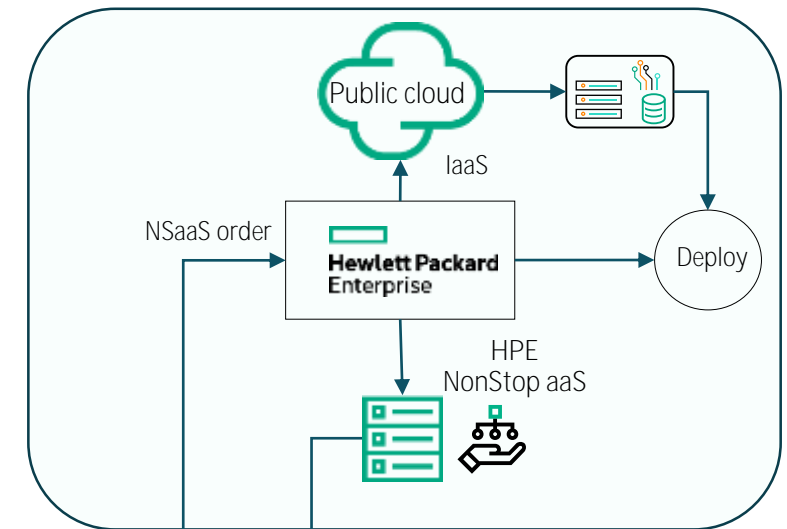
HPE NonStop aaS

Customer

HPE NonStop on Azure
Futures

- HPE and Microsoft are partnering to offer NonStop on Azure powered by Skytap
- To be available on a limited set of Microsoft Azure regions to begin with
- Customers purchase
  - Skytap on Azure IaaS
  - NonStop SW from HPE
- Customer PoCs are underway!
  - One in the EU
- Visit the booth for a live demo!
  - vNS running in Skytap on Azure

HPE NonStop on Google cloud
Futures

- HPE and Google are partnering to offer NonStop on Google Cloud VMware Engine (GCVE)
- Available on a limited set of regions currently
- Customers purchase
  - GCVE IaaS from Google
  - NonStop SW from HPE
- A partner is doing PoC of an exciting new solution on this environment!
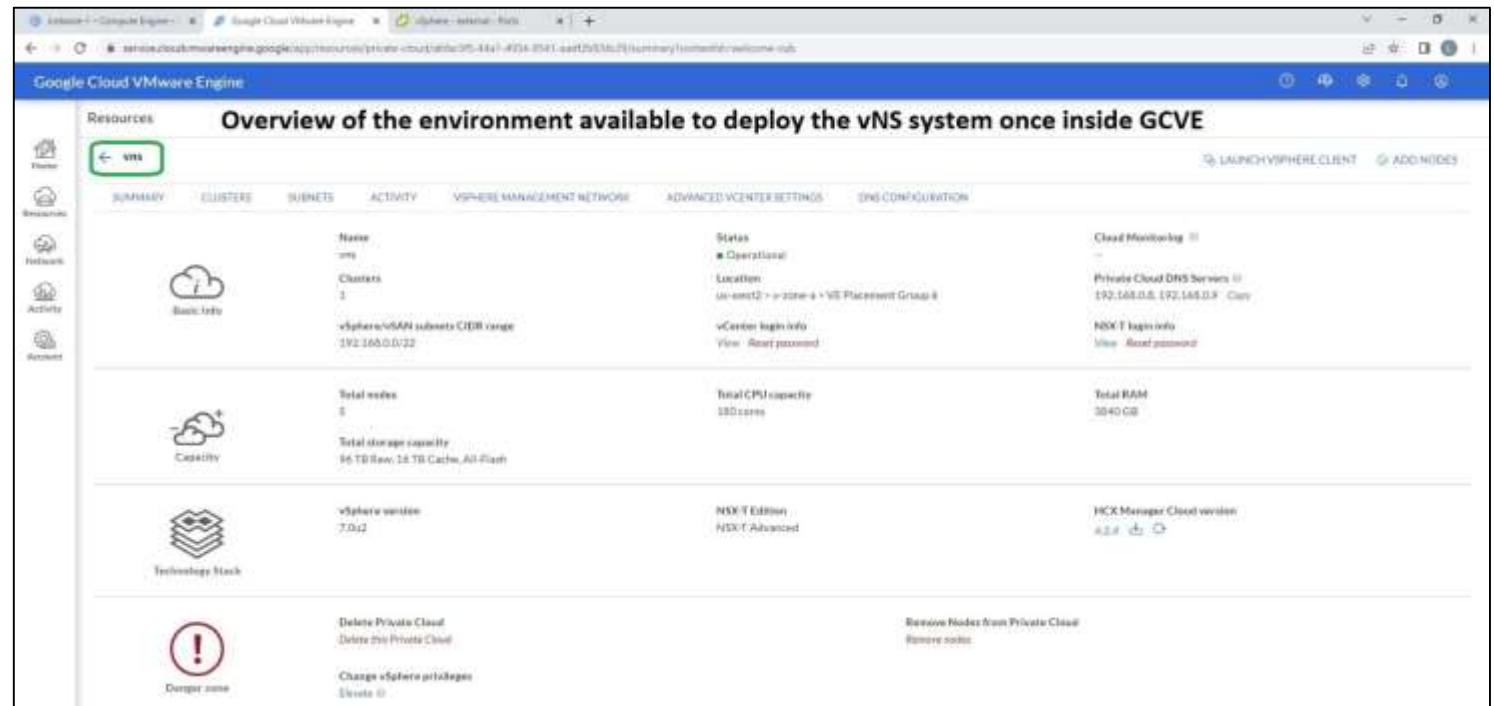
HPE GreenLake for NonStop
Future

<100% usage

- A new way of consuming NonStop through HPE GreenLake based on less than 100% system usage
- Supported on HPE NonStop NS8 or high-end virtualized NonStop systems
- Unit of Measure based on number of cores active in a month
- Allows CPU core changes across the NonStop system throughout the GreenLake term
  - 2c <-> 4c
  - 4c <-> 6c
  - 2c <-> 6c
- Commit to minimum usage and pay for actual core use in arrears as part of GreenLake monthly payment
- Use HPE GreenLake Central for usage and billing

HPE NonStop
One platform for your hybrid IT strategy
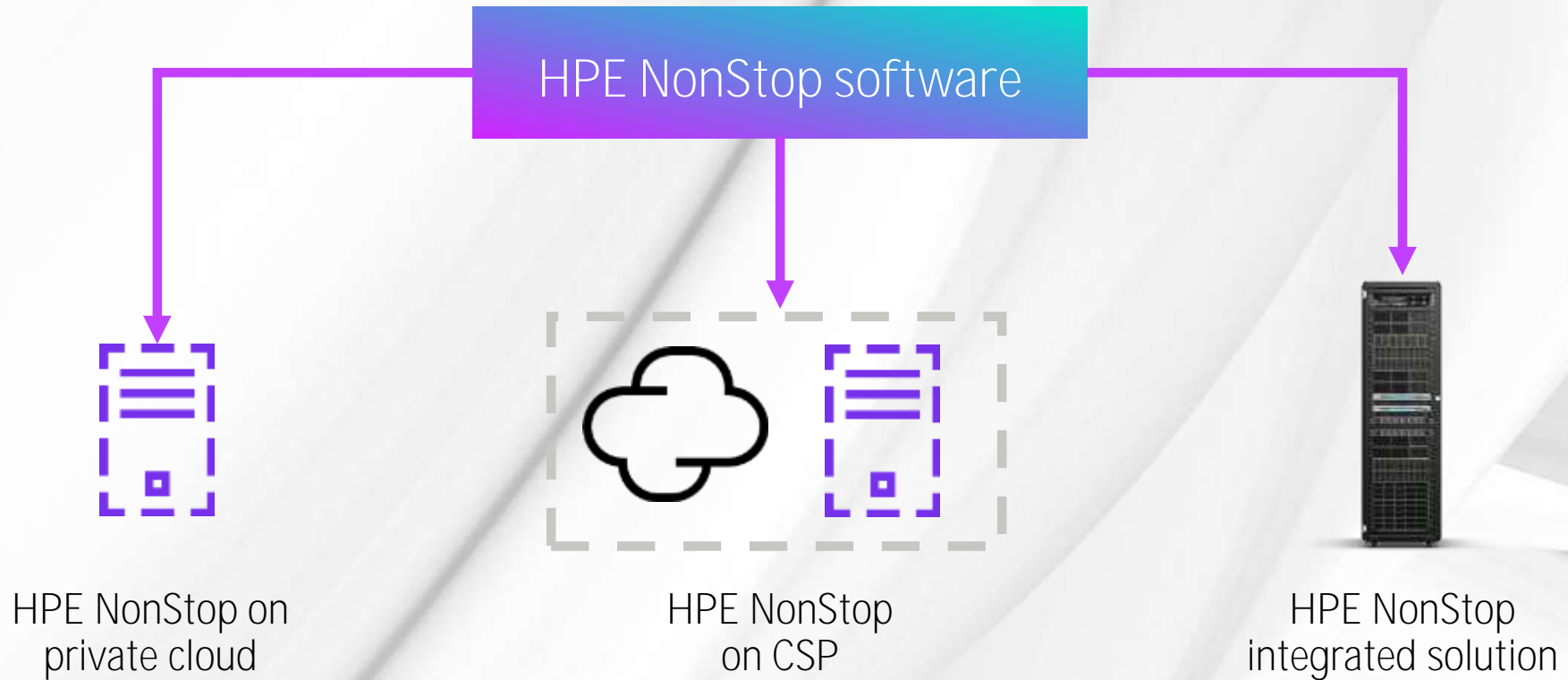
HPE NonStop software

HPE NonStop on private cloud

HPE NonStop on CSP

HPE NonStop integrated solution

HPE NonStop Software
Futures

Bare-metal recovery
Futures

S3

Dark room

Recovery volumes

HPE NonStop

$SYSTEM Backups

BackBox Qorestor

Tape drive
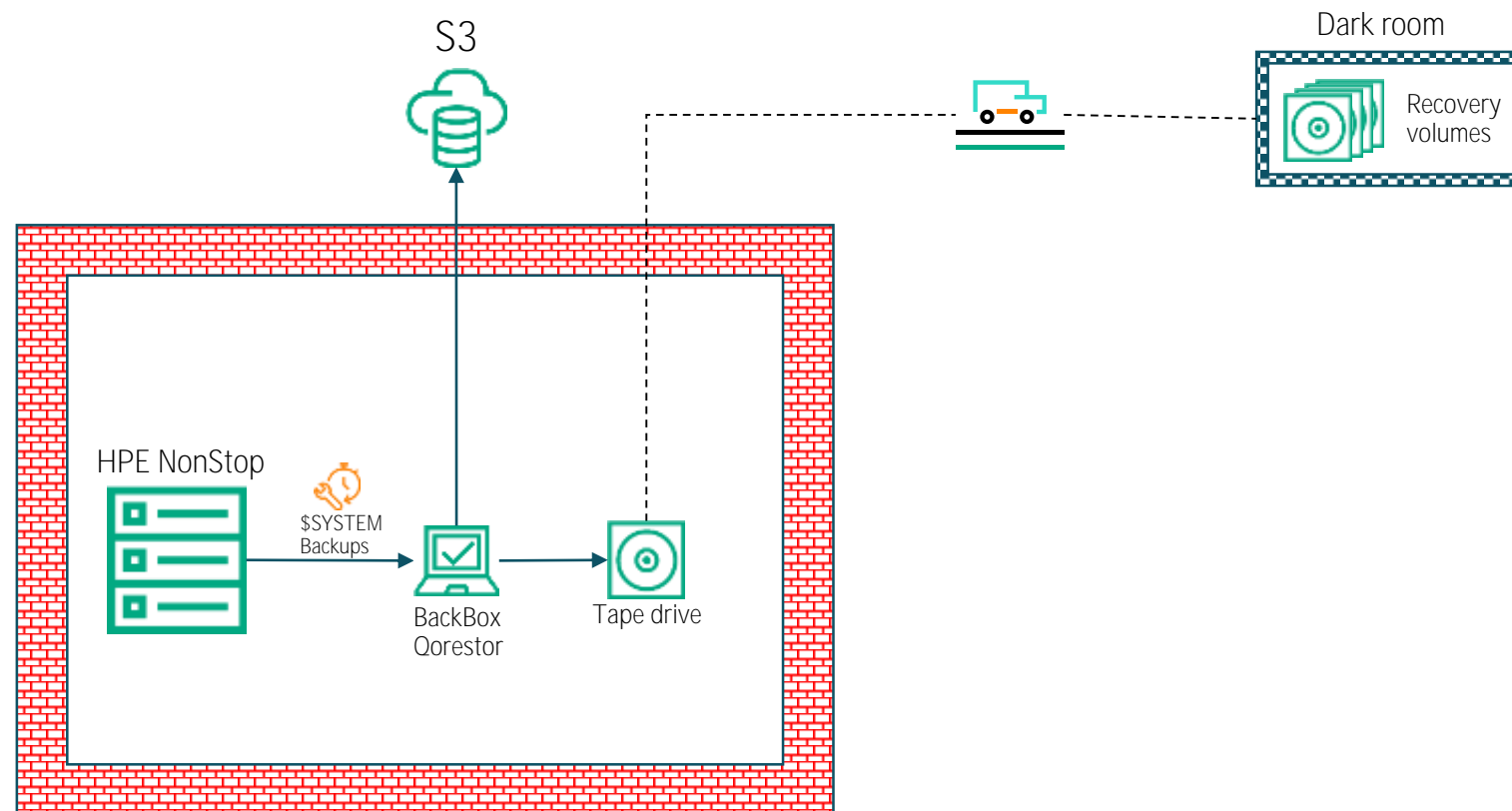
Kernel Level Threading (KLT) support on NSK
Future

NonStop OS	OSS File System	Standard Millicode	Compilers and runtime	Native Inspect and NSDEE
KLT DLL	TMF	Security	Measure	CIP
SQL/MP	SQL/MX	Java/JVM	TS/MP	JI
JDBC	ODBC/MX	Apache	IMC	Pathsockets

NonStop Database
Futures

- SQL/MX Security
  - Transparent Data Encryption (TDE) capability
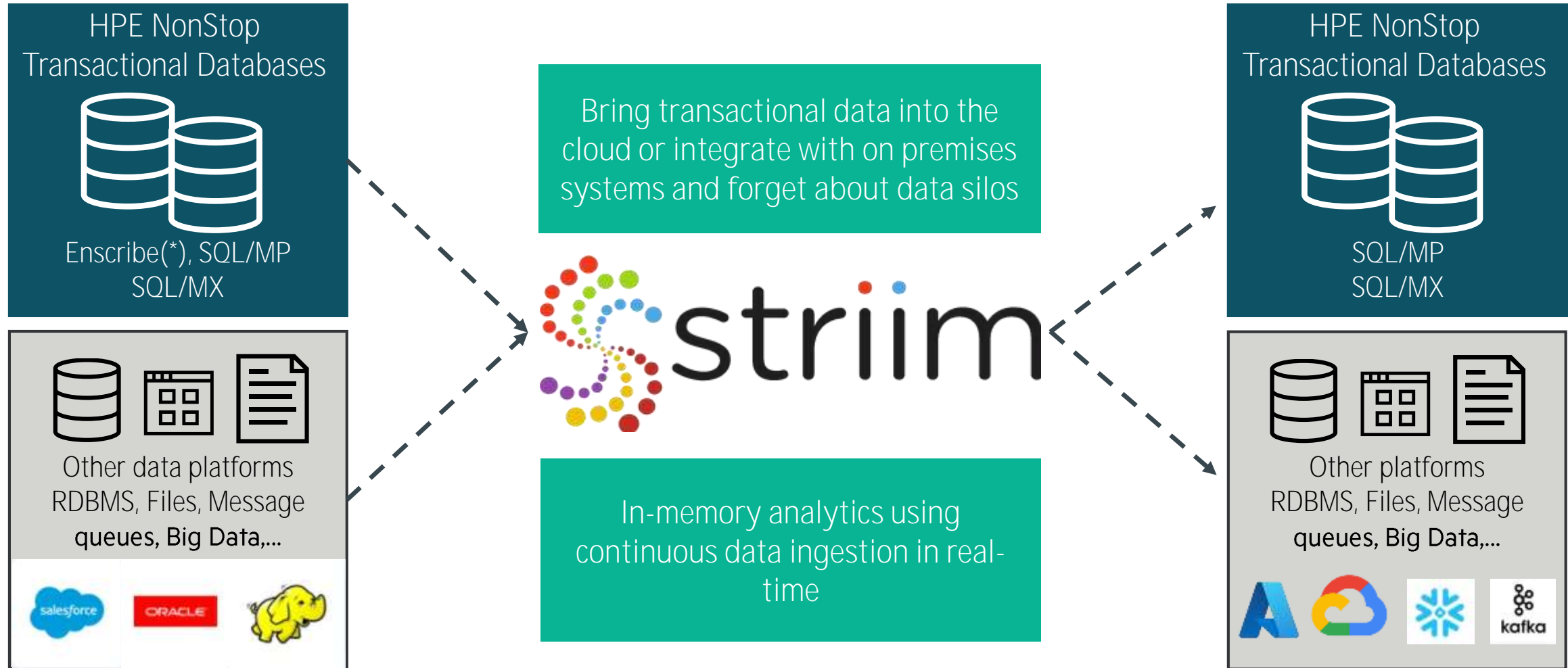 - DBMS_CRYPTO package for user level encryption of data
  - Native SSL support for Linux ODBC driver
  - Enhancements to administrative privileges
- DBaaS
  - Admin privileges, platform management integration, SSL support, enhanced resource management functions
- SQLXPress
  - SQL/MX 3.8: Full DML support for native LOBs, runtime stats, row count, built-in functions & expressions
  - WMS API support: RTS/WMS performance monitoring
  - Extended PL/MX package support
  - SQL/MX DBS: SQLXPress as a DBS client, SQLXPress as DBS administration
- Shadowbase
  - Native blob/clob **support, DDL Command replication, SBMAP data transformation, filtering and cleansing,...**
- Others:
  - Lob and Binary support for Linux and Windows ODBC drivers
  - Performance improvements

A complete data integration solution for NonStop

HPE NonStop Transactional Databases

Enscribe(*), SQL/MP SQL/MX

Other data platforms RDBMS, Files, Message **queues, Big Data,...**

Bring transactional data into the cloud or integrate with on premises systems and forget about data silos

In-memory analytics using continuous data ingestion in real-time

HPE NonStop Transactional Databases

SQL/MP SQL/MX

Other platforms RDBMS, Files, Message **queues, Big Data,...**

(*) Initial load not native

# HPE NonStop Shadowbase
New features in recent releases

1. New Shadowbase Ransomware, air-**gapped systems, and "cold" DR defense** mechanisms
   - **New queue file "fingerprint" and internal IPC message "fingerprint" checking feature**
   - Detects Man-In-The-Middle (MITM) tampering
2. Shadowbase Compare and Repair data validation enhancements
   - Significant performance improvements and automated parallelism
3. SBMAP scripting for data transformation
   - Develop complex transformations without coding
4. Shadowbase DDL Command Replication
   - Integrates DDL commands into the replication engine
5. New DDL and Schema conversion utilities
   - Simplifies building NonStop ↔ off-platform replication environments
6. Reduced usage of JULIANTIMESTAMP procedure calls
   - High volume x86 customers should consider upgrading <u>now</u> for this reason
7. Shadowbase Monitor in Idelji Web ViewPoint Enterprise

NonStop API Gateway
Futures

kafka Integration

API Gateway

Kafka Streaming Cluster
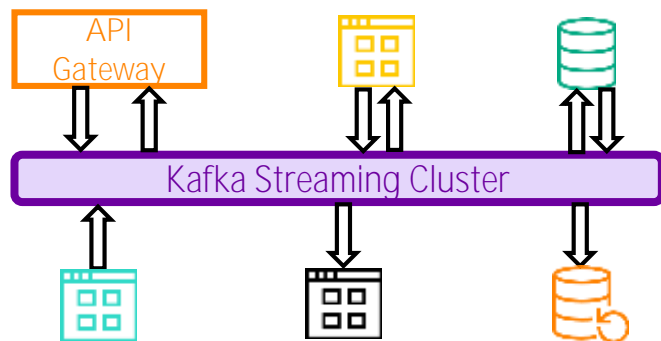
Token Based Authorization
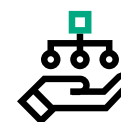
Service Aggregation

Pluggable interface

Logging enhancements

MFA

Management Infrastructure

Microservices

Grafana Labs – Apps perf monitoring

Other Middleware Products
Futures

NSHTTP Sever

Apache HTTPD Upgrade

Security Upgrade (MFA)

QOS field (DSCP)

Logical Network Partitioning

NSJ

OpenJDK

NSJ 11 Update 3

NSJ 17

Java Native Access (JNA)
or its equivalent

DevOps

Ref. Implementation
Run-time components
Starter Kit

Ongoing...

TS/MP

TS/MP capacity increase
Load balancing across domains
– Phase 2

TMF
Customer RFEs

NSJSP 10.x
Servlet 6.0, JSP 3.1, EL 5.0
Java API for WebSocket 2.1
Java Authentication SPI 3.0
MFA

NS In-Memory Cache 7.0
ACL enhancements (v2)
RESP3
Increments to many
functionalities & commands

Languages & Development Environment
Futures

- Cloud hosted NonStop development environment
  - Create NonStop development environment in AWS, Azure or Google
  - A Windows VM with NSDEE and cross compilers
  - Pay-as-you-use model
  - No lengthy purchase procedures – just login to the cloud platform and start using
- C++17
  - Functional compliance to the C++17 version of standards

- NSDEE
  - NSDEE 13.0
- Python 3.11.x

Questions?

HPE Slides and Materials Usage
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