SQL Server and SUSE Container as a Service Platform Benefits

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Agenda

IT Modernization

Containerization

Container as a Service Platform

Container Platform Benefits
More Than 25 Years of Joint Engineering and Innovation

- SUSE is a tier one Linux provider to HPE and HPE's preferred partner for Linux, OpenStack and Cloud Foundry
- SUSE technology is used in the HPE ProLiant factory and embedded into every ProLiant server
- SUSE Enterprise Storage is the only HPE certified, supported and sold Ceph-based storage solution
- Number one partner for SAP and SAP HANA sales
- Industry leading SQL server on Linux benchmark performance.
IT Transformation Required to Meet Changing Business Demands

**IT Infrastructure**
- Datacenter
- Hosted / Managed
- Cloud

**Application Deployment**
- Physical Servers
- Virtual Servers
- Containers

**Application Architecture**
- Monolithic
- N-Tier
- Microservices

**Development Process**
- Waterfall
- Agile
- DevOps
Why Containers?
VM’s vs Containers
VM’s vs Containers
VM’s vs Containers

Container

Library C
Library E
Library G

App

Container

Library A
Library C
Library E
Library G

Library A
Library C
Library E
Library G

OS

Config Data
Drivers
How do containers help transform IT?

Accelerate application development and delivery

Build and deliver new cloud native applications

Ease application transformation
Why Database Containers?
Containers and databases seem like an odd mix

Containers offer a lightweight way to run applications, and databases tend to be massive.

The idea is to maintain the persistence NOT within the container.

The data is on a own datastore which is used from the container.
Benefits of Containerized Databases

- No installation
- Consistent
- Portable
- Isolated
- Easy of Use
SUSE Container as a Service Platform?
Container Engine is Not Sufficient

- Micro Services
- Container Lifecycle
- Orchestration

Provision, Manage, Automate, Host Services

Scale
What is SUSE CaaS Platform

SUSE CaaS Platform is an enterprise class container management solution that enables IT and DevOps professionals to more easily deploy, manage, and scale container-based applications and services.

SUSE CaaS Platform is a {cncf} certified Kubernetes distribution on top of SUSE Linux Enterprise.
SUSE CaaS Platform

Management

Application
Application lifecycle management
Kubernetes
Datacenter integration
Container execution

Security

Enterprise Hardening
Install SQL Server on Linux:

1. Download the Microsoft SQL Server SLES repository configuration file:
   ```bash
   sudo zypper addrepo -fc https://packages.microsoft.com/config/sles/12/mssql-server-2017.repo
   ```
2. Refresh your repositories:
   ```bash
   sudo zypper --gpg-auto-import-keys refresh
   ```
3. Run the following commands to install SQL Server:
   ```bash
   sudo zypper install -y mssql-server
   ```
4. After the package installation finishes, run `mssql-conf setup` and follow the prompts to set the SA password and choose your edition:
   ```bash
   sudo /opt/mssql/bin/mssql-conf setup
   ```
SQL Server on Linux: Easier Deploy On Container Host

- Download the Microsoft SQL Server container image:
  - docker pull microsoft/mssql-server-linux:2017-latest

- Run the container:
  - docker run -e "ACCEPT_EULA=Y" -e "MSSQL_SA_PASSWORD=Sql2017isfast" -p 1401:1433 --name sql1 -d microsoft/mssql-server-linux:2017-latest
SQL Server on Linux: Easiest Deploy On SUSE Caas Platform

- Download, install and run the Microsoft SQL Server:
  - helm install --name mymssql stable/mssql-linux --set acceptEula.value=Y --set edition.value=Developer
HPE delivers the world’s most intelligent storage for your hybrid cloud world

AI-driven
Autonomous & aware

Built for cloud
Easy data mobility

As-a-Service experience
Aligned to economic needs

HPE 3PAR Storage

Flexible to easily adapt to any environment. Powerful to handle anything. Resilient for end-to-end data protection.
Powerful toolsets to automate and manage 3PAR for SUSE

Run traditional & containerized apps

Any container platform

Self-service storage automation

Multi-tenant Storage

Storage efficiency and Rich Data Services

Pre-built tools for DevOps friendly automation
Summary
Summary

• **SUSE is providing Kubernetes-based application delivery solutions**
  SUSE CaaS Platform: *Kubernetes for the Agile Enterprise*

• **SQL Server as container as workload**
  *No installation, easy to use*

• **HPE 3PAR Storage**
  Flexible to easily adapt and for CaaS Platform needs
HPE, SUSE, and Microsoft hold multiple TPC-H wins!

Key takeaways

— Overall lowest price/performance
— #1 TPC-H 2S @ 3000TB
— #1 TPC-H 2S SUSE Enterprise Linux Server @ 3000TB
— #1 TPC-H 2S Microsoft SQL Server @ 3000TB

More performance at a lower cost!

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Up to 20.8% more performance!

Up to 19.5% lesser cost!

Customer value

✓ HPE ProLiant DL380 Gen10.
An industry-leading server for multi-workload compute, the 2P/2U server is secure, resilient, and delivers supreme versatility for structured data analysis such as Decision Support for Large Databases.

✓ SUSE and SUSE Linux Enterprise Server (SLES) 15 are Tier 1 Partners for HPE and the only operating systems embedded into HPE ProLiant servers to power the intelligent provisioning feature.

✓ Microsoft SQL Server 2017.
This database provides comprehensive, mission-critical performance for demanding database and business intelligence requirements. It also provides the highest service and performance levels for Tier-1 workloads.

For more information:
HPE ProLiant DL380 Gen10
HPE servers performance benchmarks

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- Easy Scaling
- Always up-to-date
Call to Action

SUSE offers a 60 day trial of SUSE CaaS Platform

• Includes patches and updates
• No limitations
• Does not include phone support

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