

# SQL Server 2016

Everything built-in

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# SQL Server 2016: Everything built-in

Industry leader in Mission Critical OLTP

**built-in**

Most secure database

**built-in**

Highest performing data warehouse

**built-in**

End-to-end mobile BI on any device

**built-in**

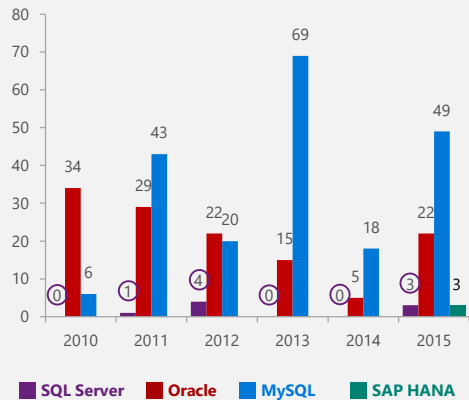
In-database Advanced Analytics

**built-in**

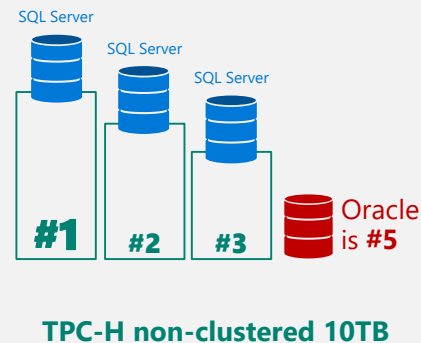
**Leader 2 years in a row**



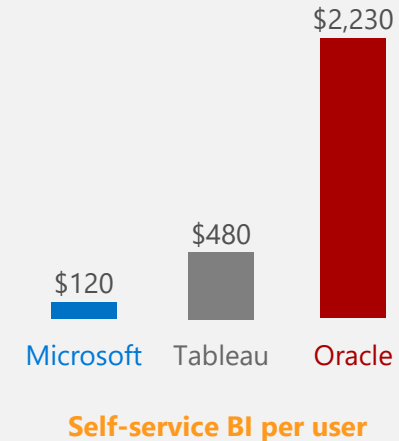
**6 years in a row**  
least vulnerable



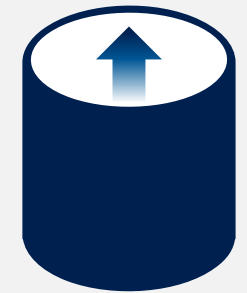
**#1 performance**



**A fraction of the cost**



**R + in-memory**

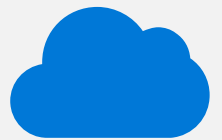


at massive scale

In-memory across all workloads



**Consistent experience** from on-premises to cloud

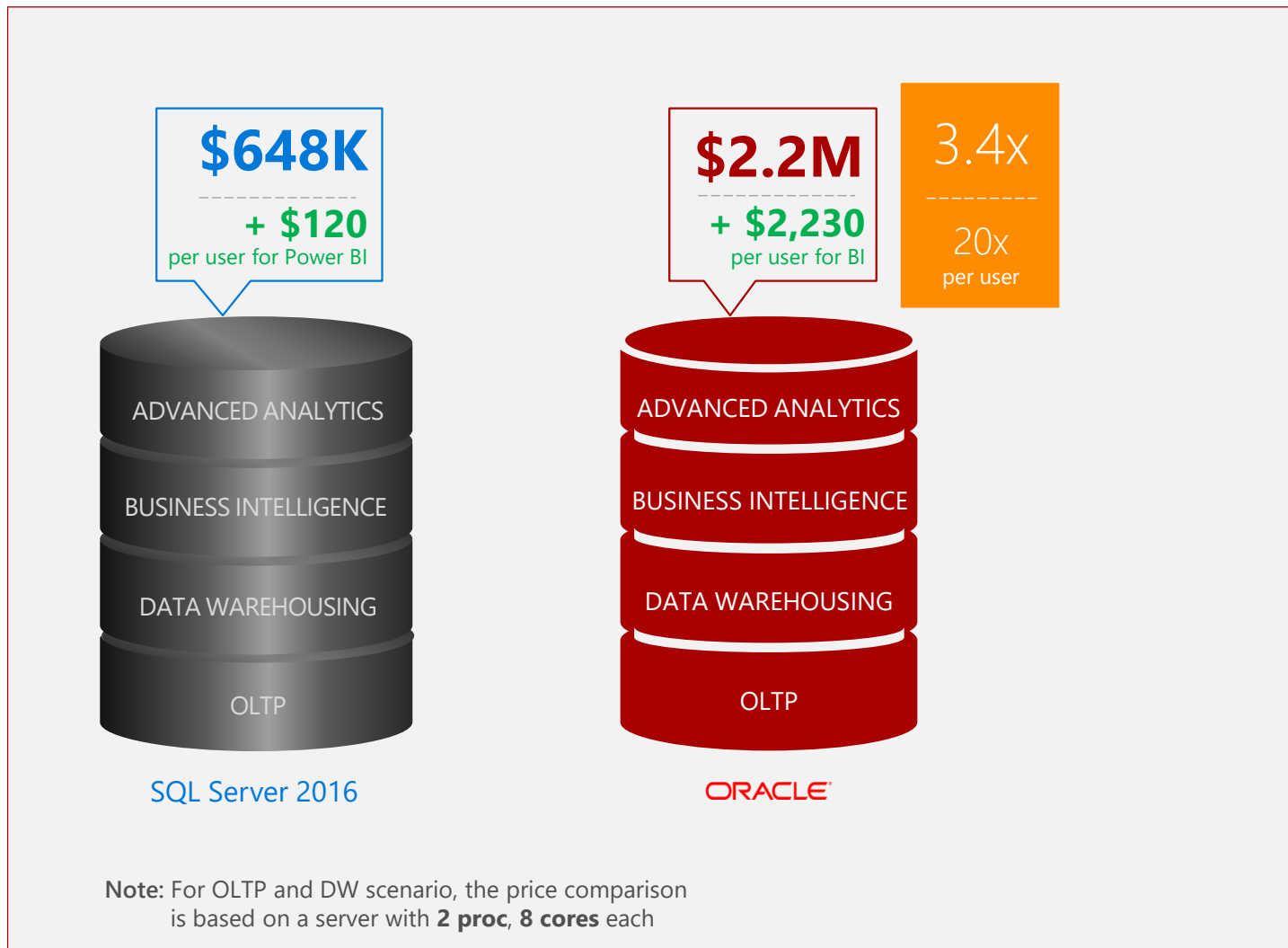


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National Institute of Standards and Technology Comprehensive Vulnerability Database update 10/2015

TPC-H non-clustered results as of 04/06/15, 5/04/15, 4/15/14 and 11/25/13, respectively. [http://www.tpc.org/tpch/results/tpch\\_perf\\_results.asp?resulttype=noncluster](http://www.tpc.org/tpch/results/tpch_perf_results.asp?resulttype=noncluster)

# Industry leading TCO

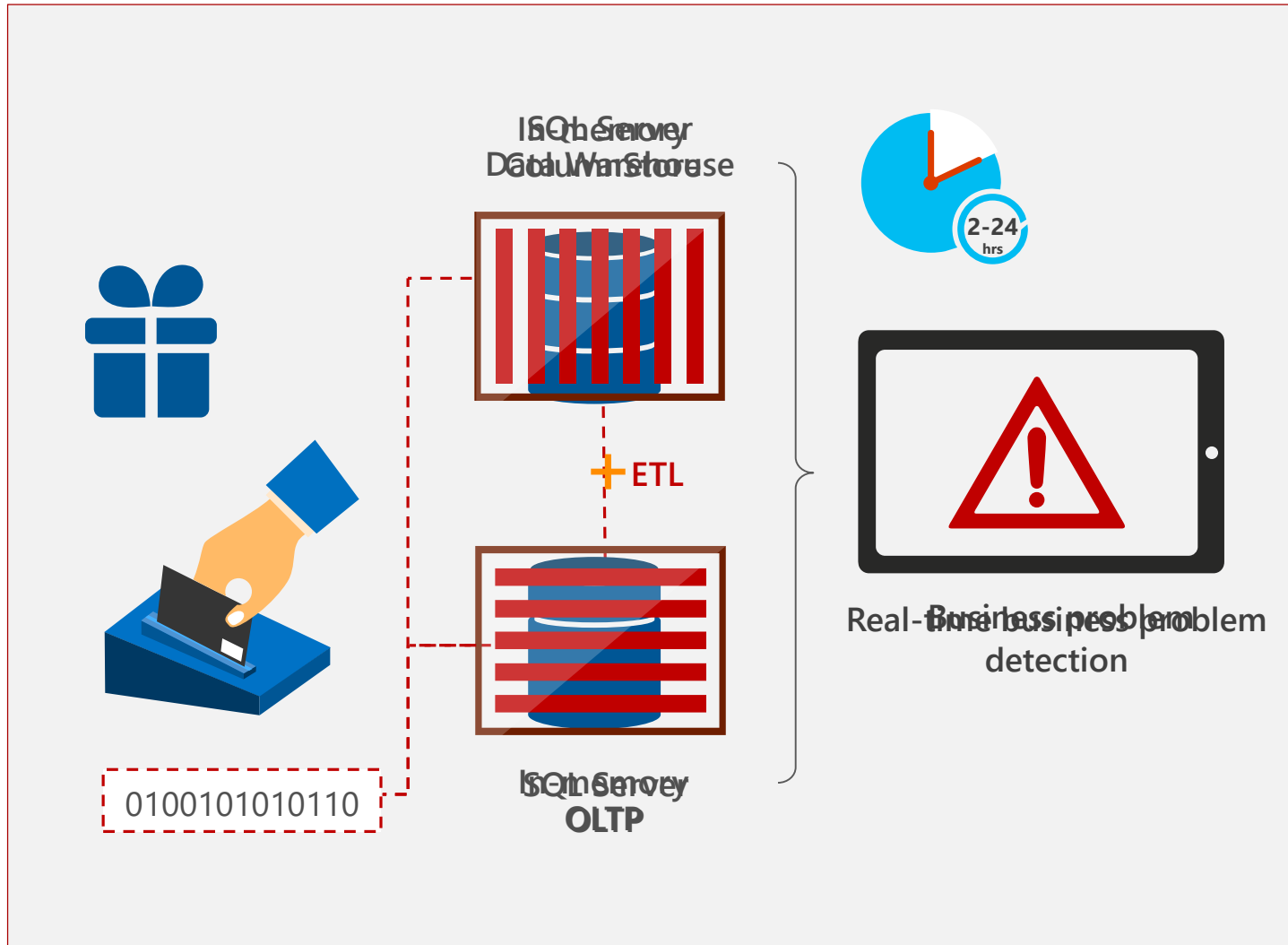


**Built-in with SQL Server** vs. expensive **add-ons with Oracle**

- ➔ In-memory **built-in**
- ➔ End-to-end security **built-in**
- ➔ Advanced Analytics **built-in**
- ➔ Complete mobile BI **built-in**

# Real-time operational analytics

In-memory **built-in**

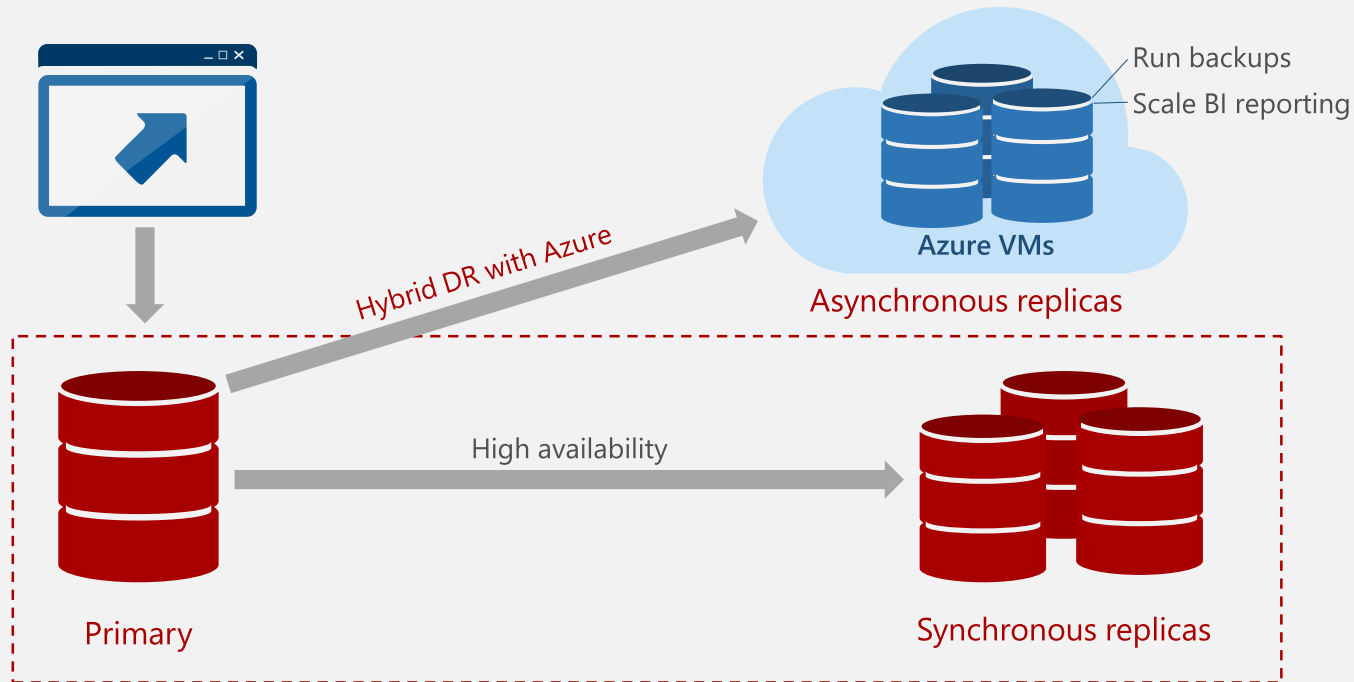


- ➔ Up to **30x** faster transactions with in-memory OLTP
- ➔ Queries from **minutes to seconds**
- ➔ **Real-time**<sup>NEW\*</sup> operational analytics

# Dramatically simplify HA & DR

**+35%** operational efficiencies with hybrid cloud

Enhanced AlwaysOn <sup>NEW\*</sup>



- ➔ **Easy Setup** of on-premises and hybrid cloud HA & DR
- ➔ **Load balancing** of readable secondaries
- ➔ **Fast failover** on-premises or to cloud



**Lufthansa Systems** **35%**

# Most secure database

## Layers of protection



Monitor activity

- Advanced Threat Analytics <sup>NEW\*</sup>
- SQL Server auditing



Control access

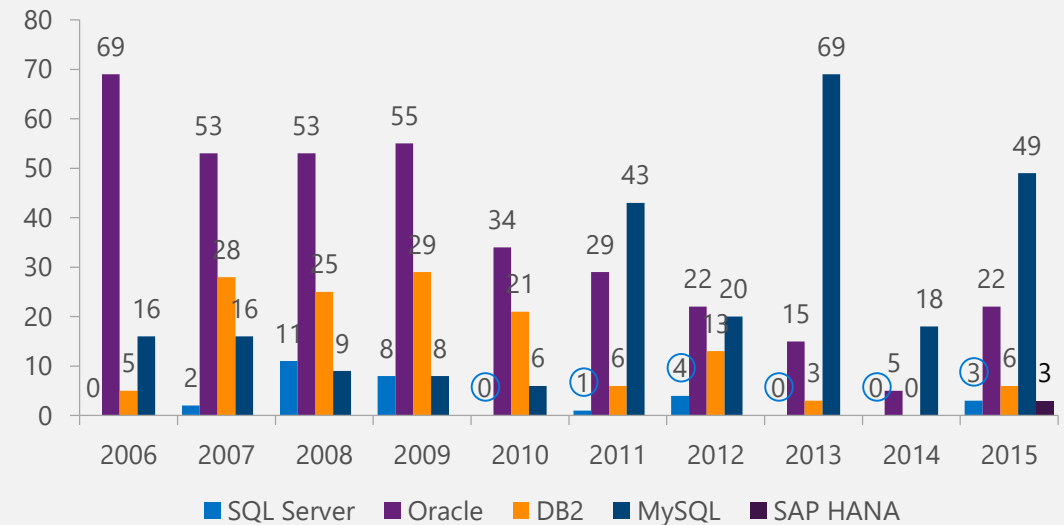
- Windows Authentication
- Row-level security <sup>NEW\*</sup>
- Dynamic data masking <sup>NEW\*</sup>



Protect data

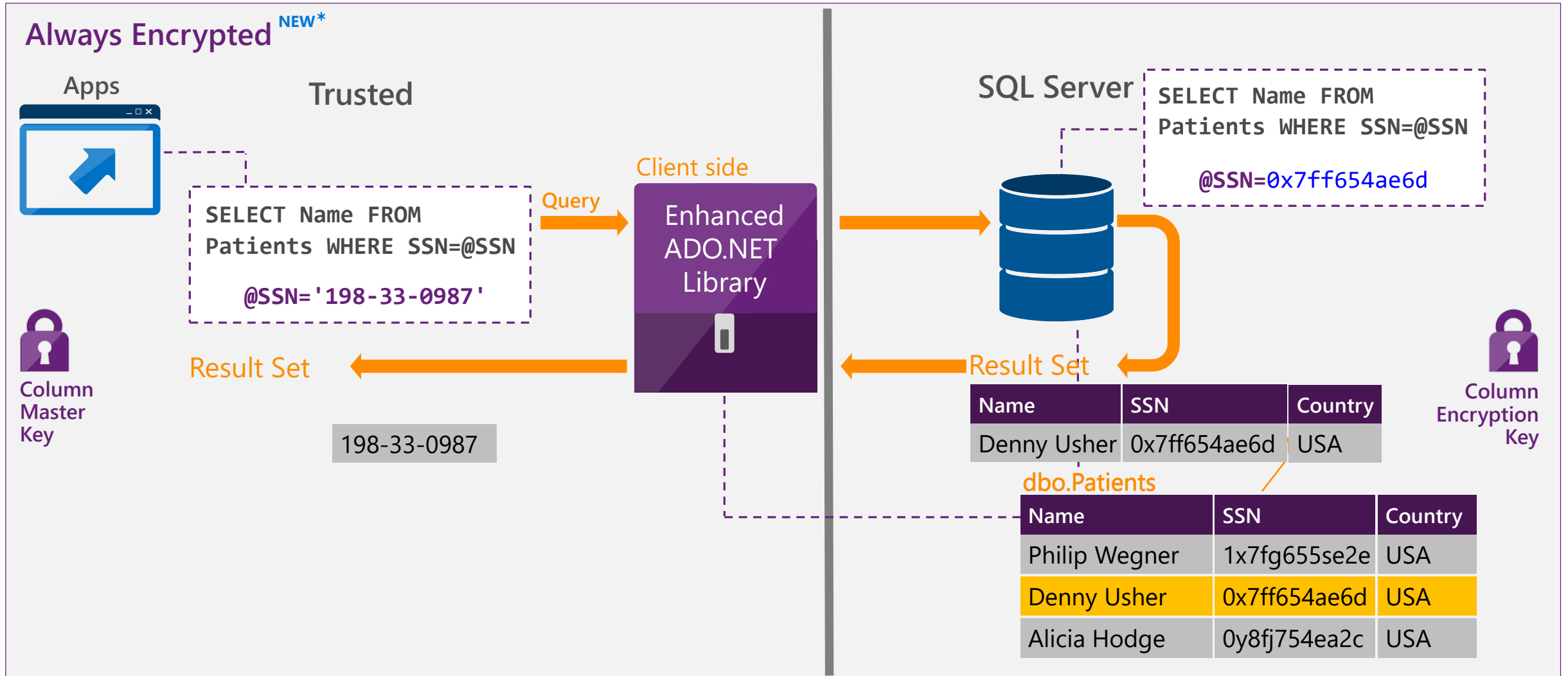
- Always Encrypted <sup>NEW\*</sup>
- Transparent data encryption

## Least vulnerable 6 years in a row & most utilized



\* National Institute of Standards and Technology Comprehensive Vulnerability Database update 10/2015

# Protect your data at rest and in motion without impacting database performance



# #1 Price/performance with massive scale

## #1 TPC-H



10 TB TPC-H world record\*  
@ 1/2 hardware costs

## 24X TPS boost



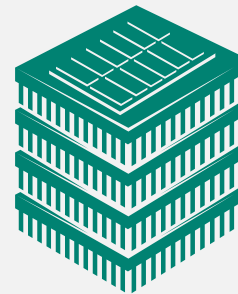
In throughput on the  
same hardware

## #1 SAP performance

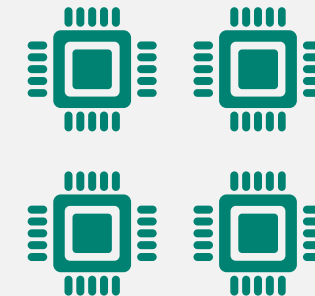


2-tier 16-processor SAP benchmark  
on Superdome X + SQL Server

**Unparalleled scalability**  
with Windows Server 2016



12TB of memory



WS 2016 max cores

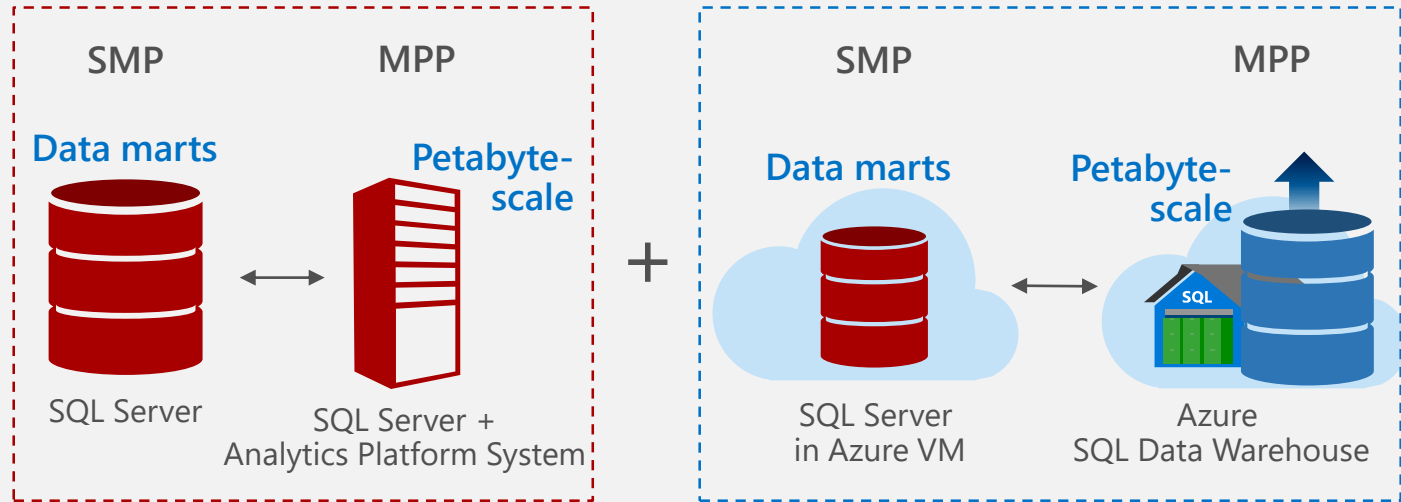
\* As of 4/6/2015 (<http://www.tpc.org/3312>)



# Highest performing data warehouse

In-memory **built-in**

On-premises, cloud, or hybrid



**Consistent experience** from on-premises to cloud



- ➔ **Scale to MPP**<sup>NEW\*</sup>  
on-premises & in the cloud
- ➔ **Simple T-SQL**<sup>NEW\*</sup>  
to manage structured and unstructured data
- ➔ **1/2 the cost**  
of Oracle Exadata

# End-to-end mobile BI on any device

## Lightning fast queries & reports

- ➔ **In-memory** **built-in**
- ➔ **Reduce time to insight** with direct query
- ➔ **Powerful modeling** support for 50+ new DAX functions



Reports in **minutes** not days

**PB scale DW** in SQL Server

## On all mobile devices

- ➔ **Mobile BI** **built-in** <sup>NEW\*</sup>
- ➔ **Online & offline** access <sup>NEW\*</sup>
- ➔ **Rich visualizations** using Power BI or enhanced Reporting Services <sup>NEW\*</sup>



Windows



iOS



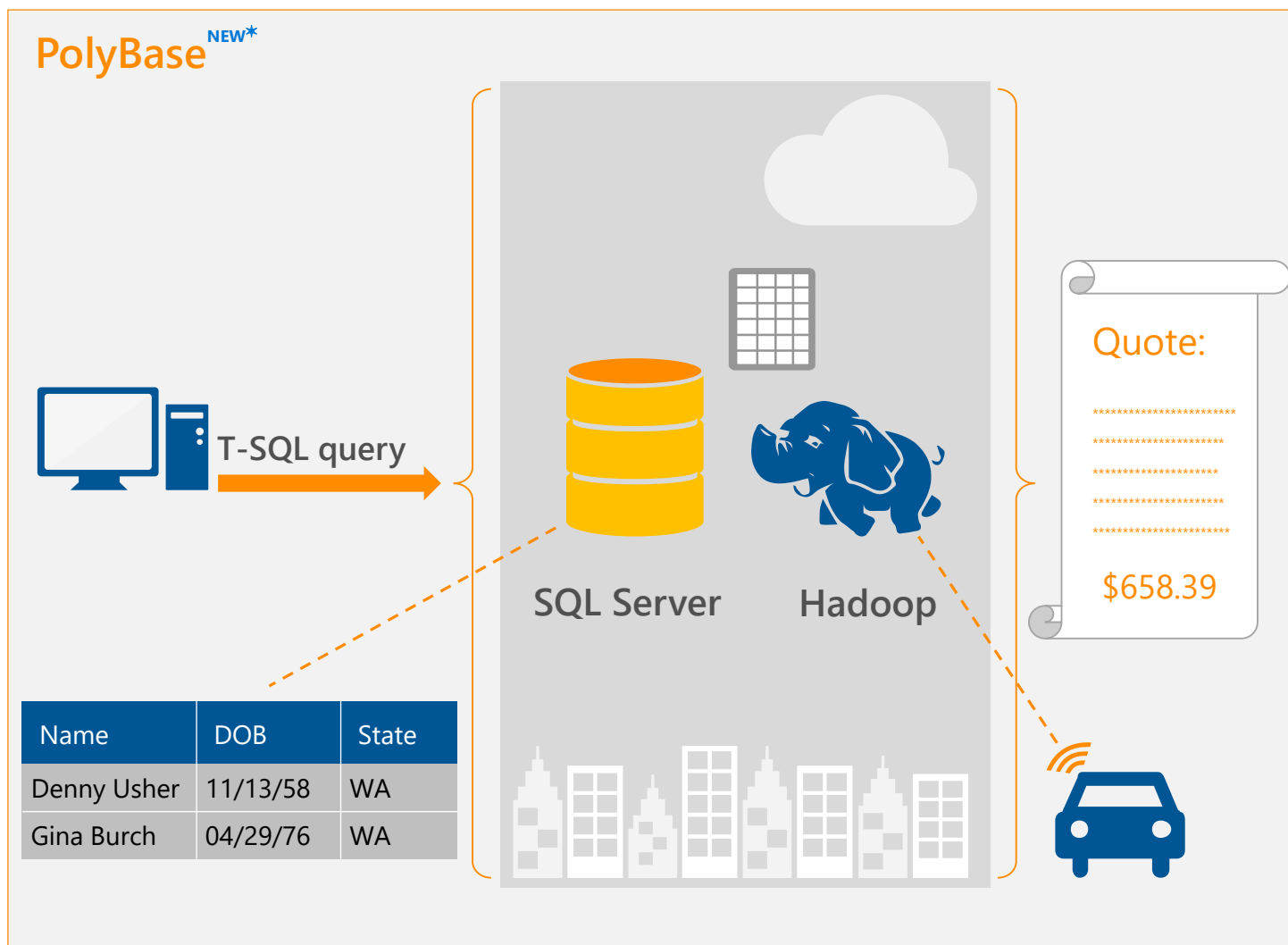
Android



HTML5

# Remove the complexity of big data

## T-SQL over Hadoop

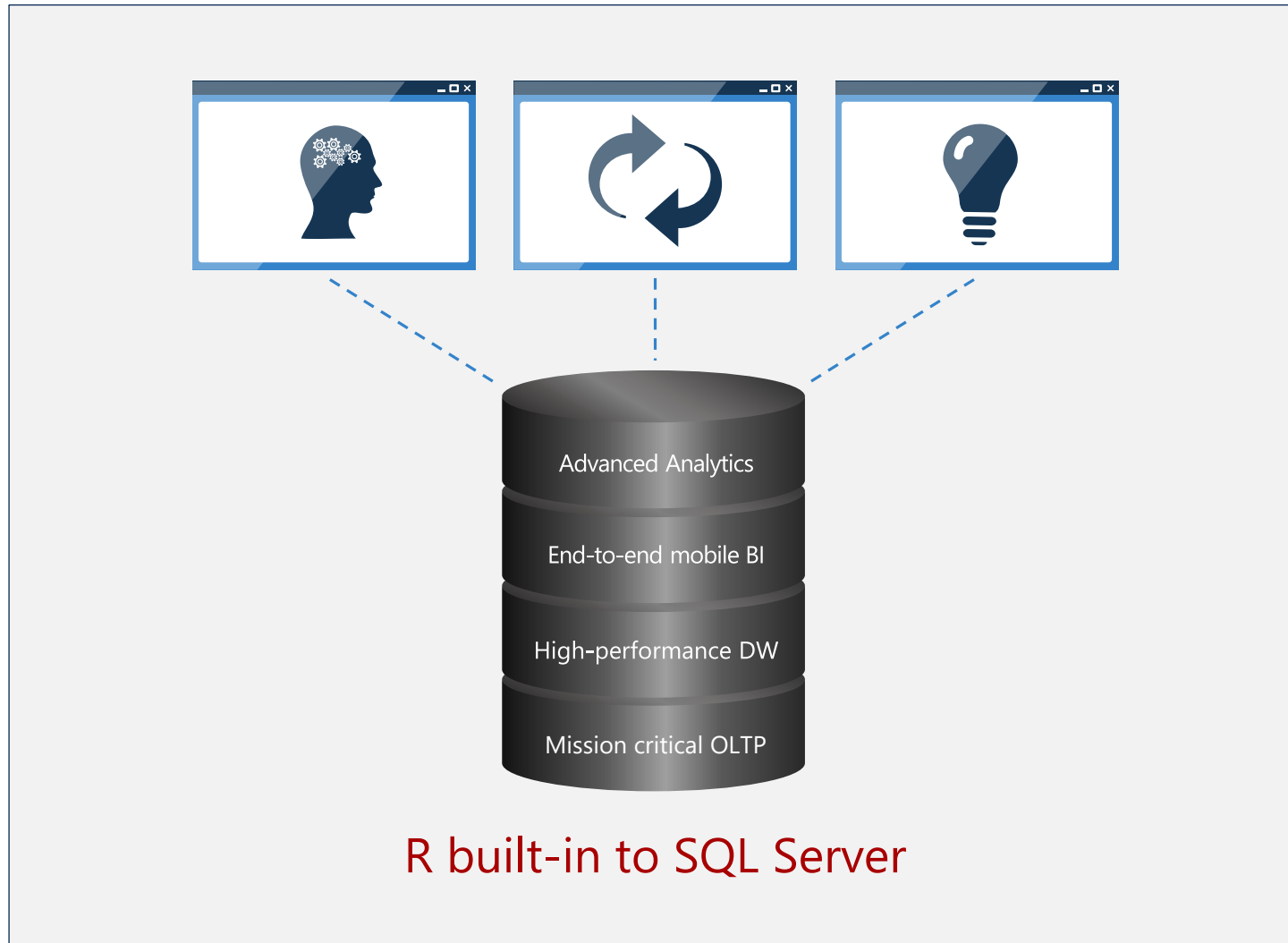


Manage structured & unstructured data

- ➔ **Simple T-SQL** NEW\* to query Hadoop data (HDFS)
- ➔ **JSON support** NEW\*

# In-database Advanced Analytics

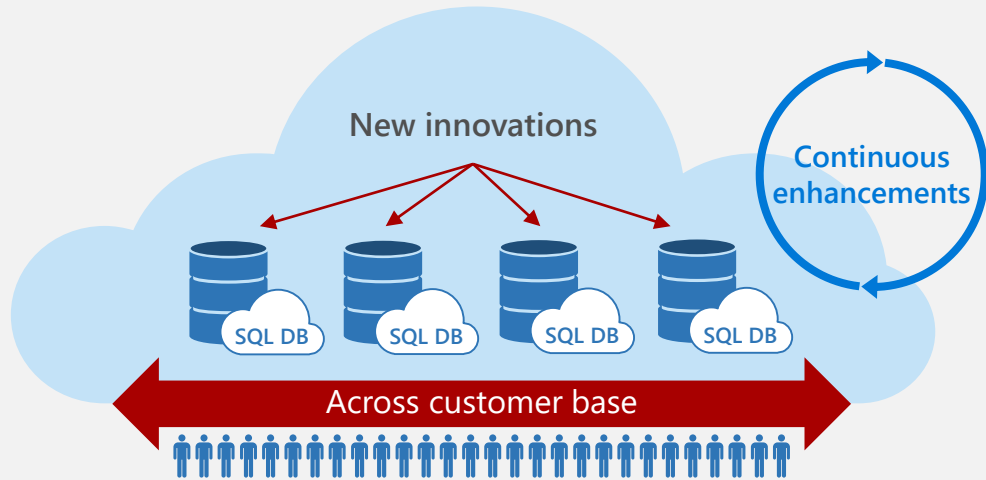
Build intelligent applications with SQL Server R Services



- ➔ **R built-in to your T-SQL** <sup>NEW\*</sup>
- ➔ **Real-time operational analytics** <sup>NEW\*</sup> without moving the data
- ➔ **Open Source R with in-memory & massive scale** <sup>NEW\*</sup> - multi-threading and massive parallel processing

# Continuous Innovation

## Cloud-First Approach



Speed



Proven



Agility



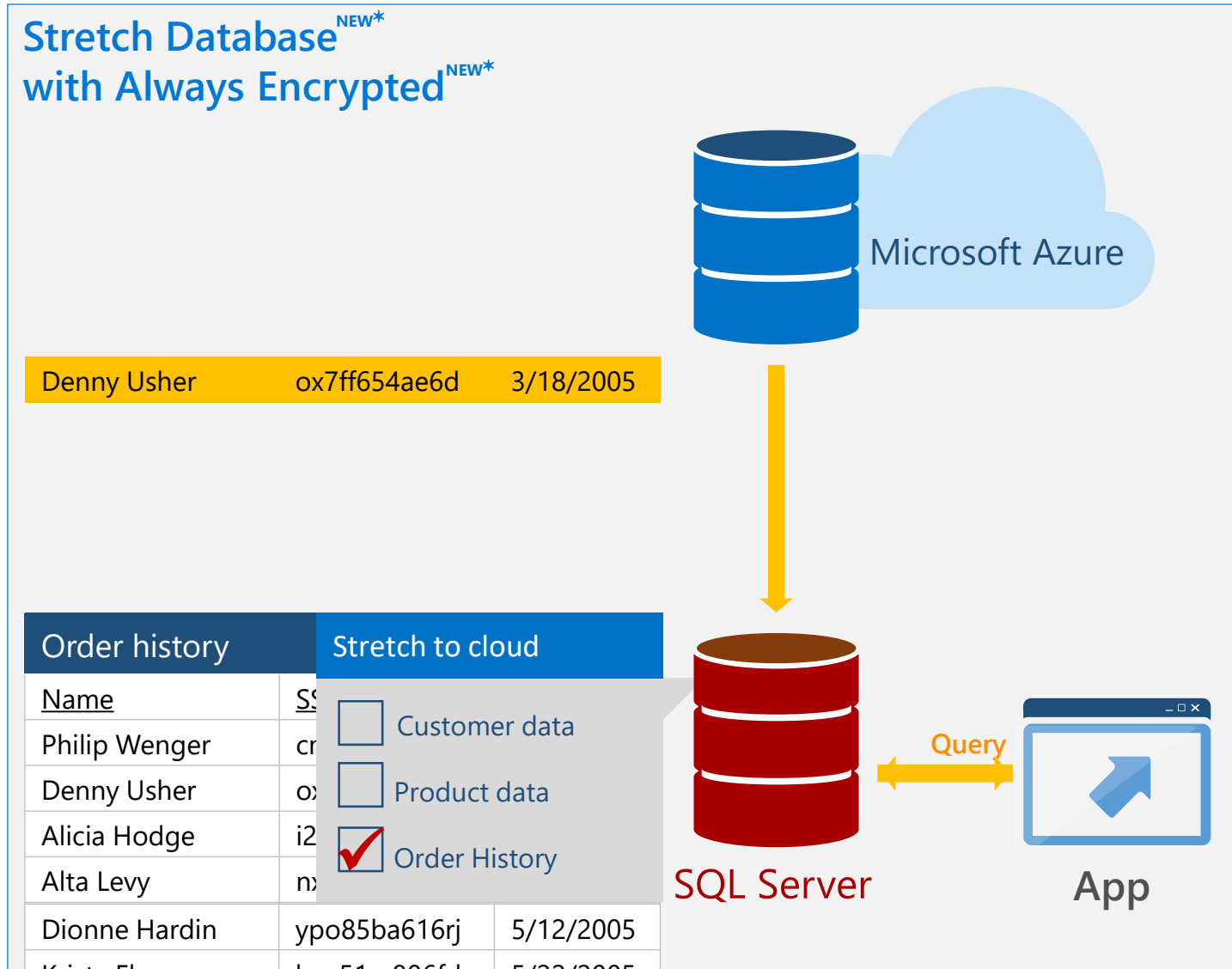
Feedback

## SQL Server 2016



**The best**  
SQL Server  
release in history

# Cut storage costs with Stretch Database



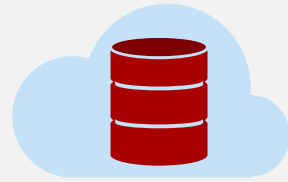
- ➔ Data is **encrypted & queryable**
- ➔ **Save money** & improve customer experience
- ➔ **No application changes**

# Only Microsoft delivers On-premises & cloud

## Consistent experience is everything



SQL Server



SQL Server in Azure VM



Azure SQL Database



Analytics Platform System



Azure SQL Data Warehouse

### Common tools

Dev ops tools

Management tools

Identity

Virtualization

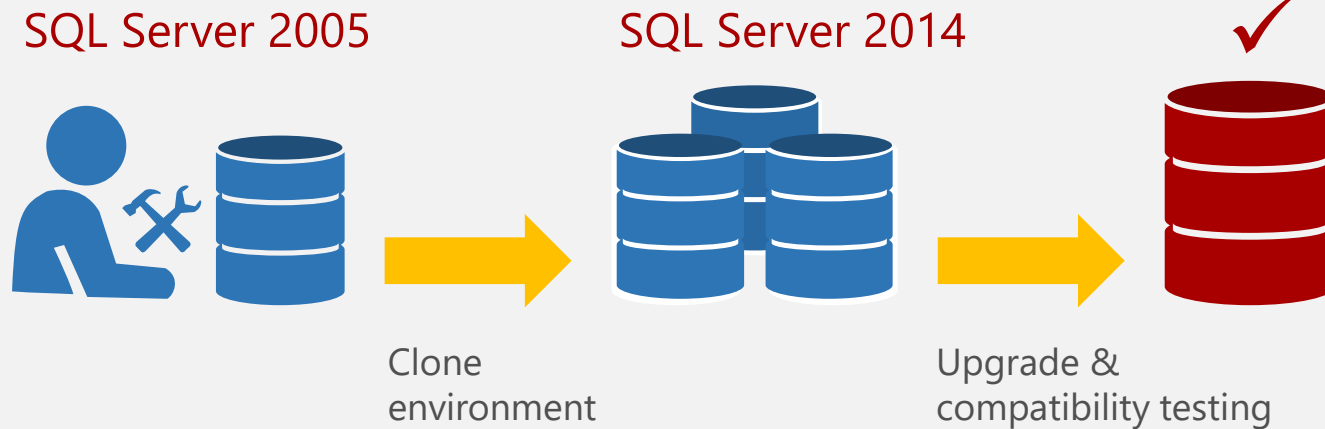
Single-vendor support

- ➔ **Common tools** for development and management
- ➔ **Common T-SQL** surface area
- ➔ **Simple** cloud migration

# Upgrade easily

## Without breaking changes

### New tools built-in to ease upgrades



### New upgrade advisors

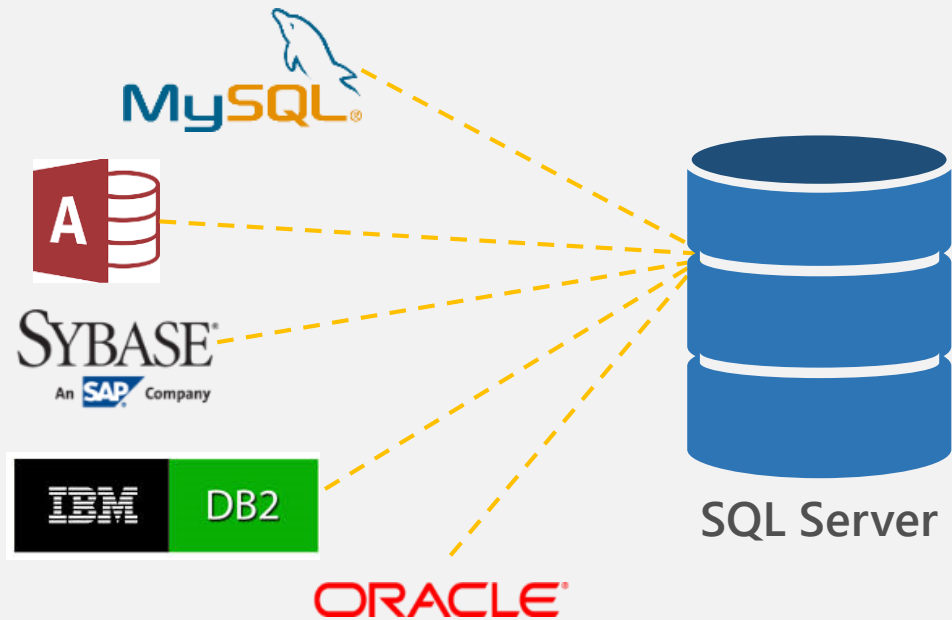
- ➔ **Accelerate upgrade cycle** with new tools built-in
- ➔ Upgrade and optimize existing query plans with new **Query Data Store** NEW\*



# Migrate from other top databases

## With free tools from Microsoft

### SQL Server migration assistant



- ➔ **Simplify migration** to SQL Server
- ➔ **Saves you** time and money

# For all your applications

## Innovations across all editions



Up to 30x faster transactions, 100x faster queries with **InMemory**



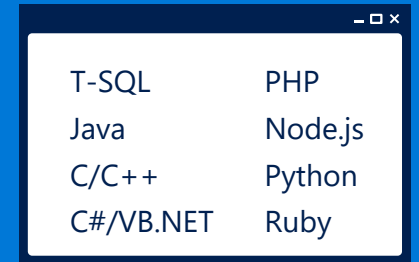
**Real-time operational analytics** without impacting performance



Only data solution to **encrypt your data** at rest and in motion



Connect your relational data to big data with **PolyBase**



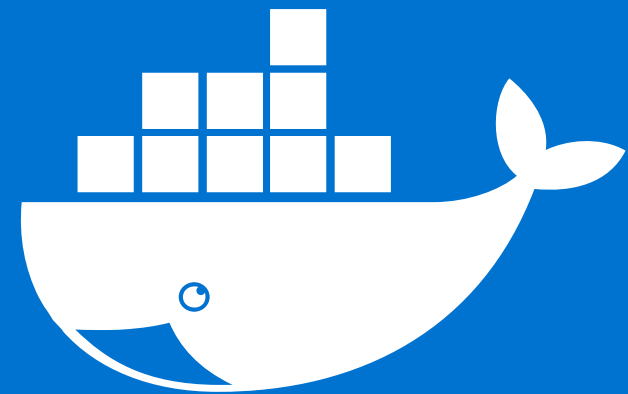
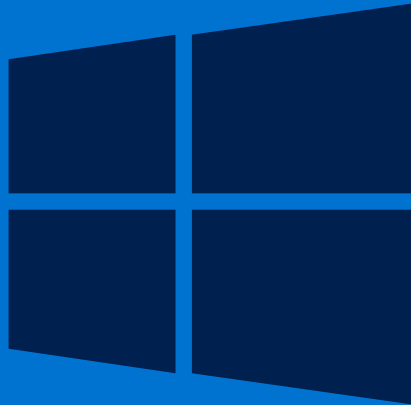
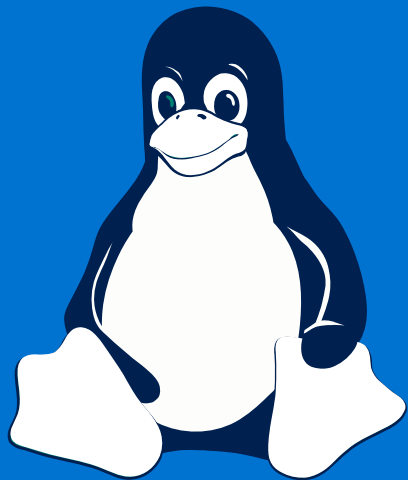
Unparalleled **choice** for developer tools and languages

SQL Server 2016 SP1

**Available now**

# On the platform of your choice

## SQL Server v.Next



SQL Server v.Next GA\*

Targeting CY2017

Database engine enhancements

# SQL Server on the platform of your choice

## Linux



## Linux/Windows container

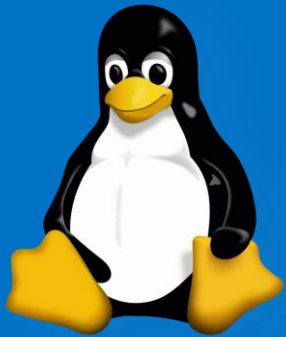


## Windows



- **Linux distributions** including Red Hat Enterprise Linux (RHEL), Ubuntu, and SUSE Linux Enterprise (SLES)
- **Linux containers for Docker engine on MacOS, Windows and Linux;** Windows and Hyper-V container for SQL Server on Windows
- **Package-based installation,** yum install, apt-get, zypper and more options

# Microsoft



“

Bringing SQL Server to Linux is another way we are making our products and new innovations more accessible to a broader set of users and meeting them where they are.

”

Scott Guthrie  
Microsoft

# Migrate to SQL Server v.Next

Get free SQL Server licenses today when you migrate!\*

Identify apps  
for migration

Use migration tools  
and partners

Deploy  
to production

Run  
SQL Server v.Next



SQL Server  
Migration  
Assistant  
**AND**

Global partner  
ecosystem

SQL Server 2016  
on Windows  
Deploy today and easily  
migrate to v.Next

**OR**

SQL Server v.Next CTP  
Test your app today and  
go live close to GA with  
the Early Adoption Program

Easily upgrade to  
SQL Server v.Next  
GA  
Use simple backup and  
restore from Windows  
to Linux

Easily upgrade to  
SQL Server v.Next  
GA  
Go-live

# Thousands of ISVs build on SQL Server

Healthcare



Manufacturing



Power & utilities



Banking & capital markets



Hospitality & travel



# Customers using SQL Server for Tier 1

