SQL Server 2016: Everything built-in

Industry leader in mission critical OLTP
built-in

Industry leader

Most secure database
built-in

6 years in a row least vulnerable

80
70
60
50
40
30
20
10
0

2010	2011	2012	2013	2014	2015

34, 6
29, 43
22, 20
69, 15
18, 5
49, 22, 3

(0) (1) (4) (0) (0) (3)

■ SQL Server ■ Oracle ■ MySQL ■ SAP HANA

Highest performing data warehouse
built-in

#1 performance

SQL Server #1
SQL Server #2
SQL Server #3
Oracle is #5

TPC-H

End-to-end mobile BI on any device
built-in

A fraction of the cost

$2,230
$480
$120

Microsoft   Tableau   Oracle

Self-service BI per user

In-database Advanced Analytics
built-in
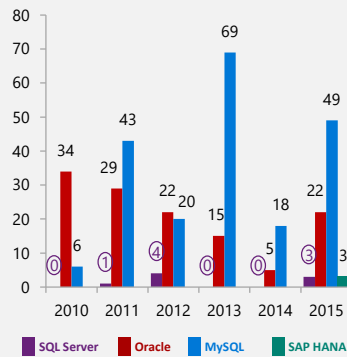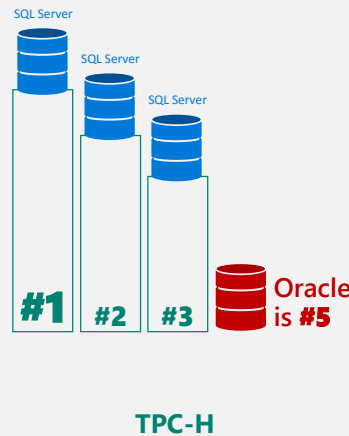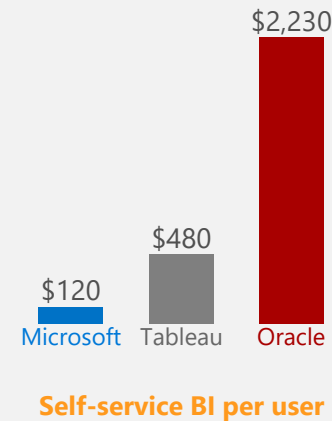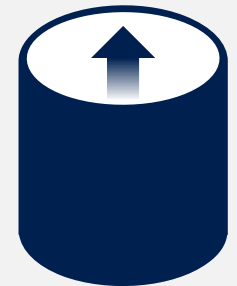
R + in-memory

at massive scale

← In-memory across all workloads →

Consistent experience from on-premises to cloud

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
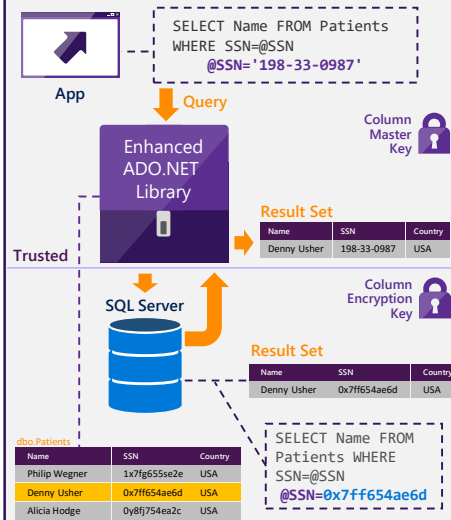
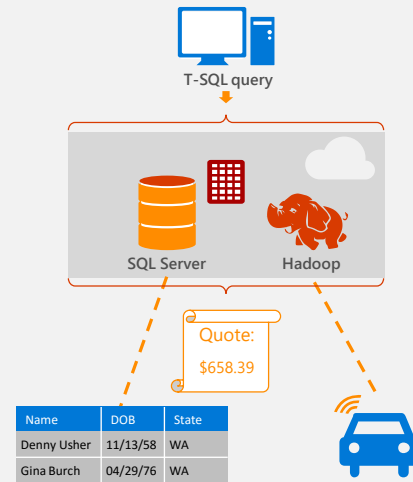Microsoft

Real-time operational analytics


```
0100101010110
```

In-memory ColumnStore + **In-memory OLTP**

ETL

2-24 hrs

Real-time business problem detection
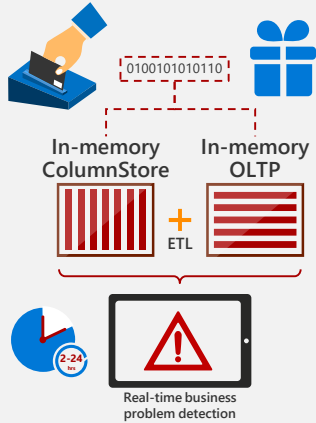
- Up to **30x** faster transactions with in-memory OLTP
- Queries from **minutes to seconds**

Always Encrypted

App

```
SELECT Name FROM Patients
WHERE SSN=@SSN
     @SSN='198-33-0987'
```

Query

Column Master Key 🔒

Enhanced ADO.NET Library

Trusted

Result Set

Name	SSN	Country
Denny Usher	198-33-0987	USA

SQL Server

Column Encryption Key 🔒

Result Set

Name	SSN	Country
Denny Usher	0x7ff654ae6d	USA

dbo.Patients

Name	SSN	Country
Philip Wegner	1x7fg655se2e	USA
Denny Usher	0x7ff654ae6d	USA
Alicia Hodge	0y8fj754ea2c	USA

```
SELECT Name FROM
Patients WHERE
SSN=@SSN
@SSN=0x7ff654ae6d
```

- Protect data **at rest and in motion**
- **Without impacting** database performance

PolyBase

T-SQL query

SQL Server   **Hadoop**

Quote: $658.39

Name	DOB	State
Denny Usher	11/13/58	WA
Gina Burch	04/29/76	WA

- Manage structured & unstructured data
- **Simple T-SQL** to query Hadoop (HDFS)
- **JSON support**

End-to-end mobile BI

5.57M

🪟 Windows   iOS   🤖 Android   HTML5

- **In-memory** built-in
- **Real-time** with direct query capabilities
- **Powerful modeling** with 250+ built-in analytical functions
- **Mobile reports** with online & offline access
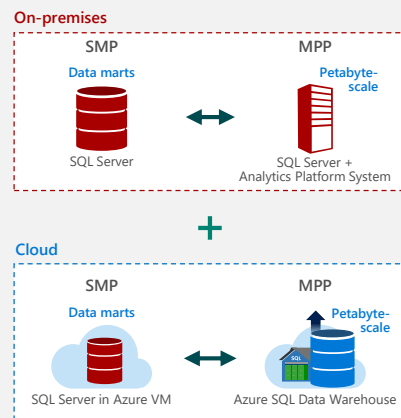- **Modern data visualizations** with Reporting Services or Power BI

In-database Advanced Analytics

Advanced Analytics

End-to-end mobile BI

High-performance DW
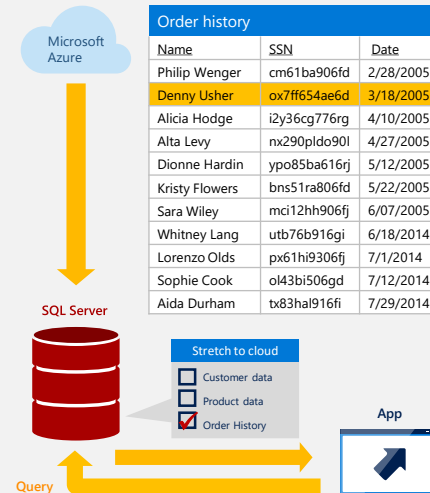
Mission critical OLTP
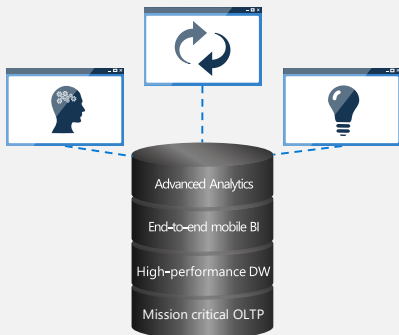
R built-in to SQL Server

- **R built-in to your T-SQL**
- **Real-time operational analytics** without moving the data
- **Open source R with in-memory & massive scale** – multi-threading and massive parallel processing

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Highest performing data warehouse

On-premises

SMP   **MPP**

Data marts   **Petabyte-scale**

SQL Server   SQL Server + Analytics Platform System

+

Cloud

SMP   **MPP**

Data marts   **Petabyte-scale**

SQL Server in Azure VM   Azure SQL Data Warehouse

- **Scale to MPP** on-premises & in the cloud
- **Simple T-SQL** to manage structured and unstructured data
- **½ the cost** of Oracle Exadata

Stretch database

Microsoft Azure

Order history

Name	SSN	Date
Philip Wenger	cm61ba906fd	2/28/2005
Denny Usher	ox7ff654ae6d	3/18/2005
Alicia Hodge	i2y36cg776rg	4/10/2005
Alta Levy	nx290pldo90l	4/27/2005
Dionne Hardin	ypo85ba616rj	5/12/2005
Kristy Flowers	bns51ra806fd	5/22/2005
Sara Wiley	mci12hh906fj	6/07/2005
Whitney Lang	utb76b916gi	6/18/2014
Lorenzo Olds	px61hi9306fj	7/1/2014
Sophie Cook	ol43bi506gd	7/12/2014
Aida Durham	tx83hal916fi	7/29/2014

SQL Server

Stretch to cloud
- ☐ Customer data
- ☐ Product data
- ☑ Order History

App

Query

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

Learn more!

www.microsoft.com/SQLServer2016