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

Year	SQL Server	Oracle	MySQL	SAP HANA
2010	0	34	6	
2011	1	29	43	
2012	4	22	20	
2013	0	15	69	
2014	0	5	18	
2015	3	22	49	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

$120 Microsoft
$480 Tableau
$2,230 Oracle

Self-service BI per user

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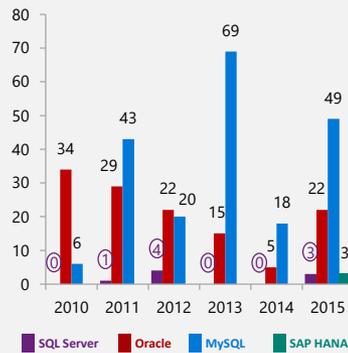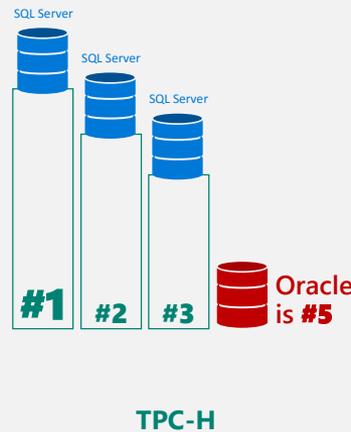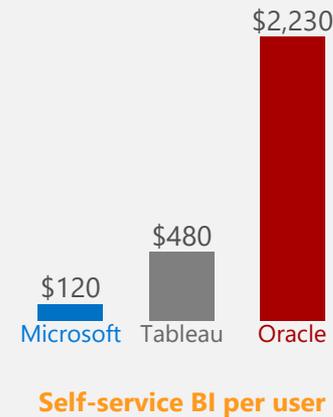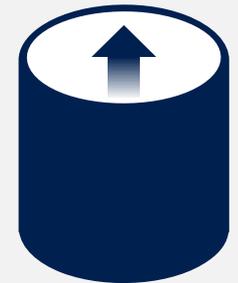
R + in-memory

at massive scale

← **In-memory across all workloads** →

Consistent experience from on-premises to cloud

Microsoft

Real-time operational analytics

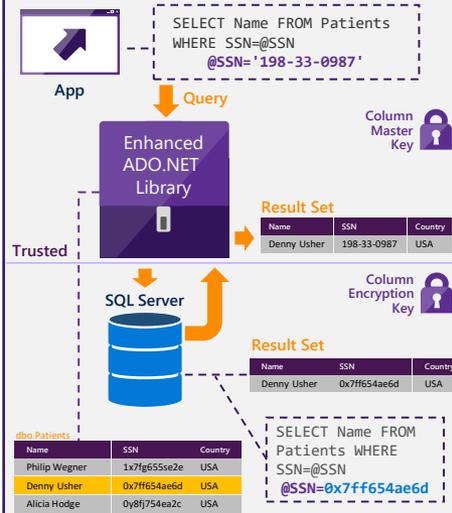In-memory ColumnStore + In-memory OLTP

ETL

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Real-time business problem detection

2-24 hrs

- 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

Enhanced ADO.NET Library

Column Master Key

Result Set

Name	SSN	Country
Denny Usher	198-33-0987	USA

Trusted

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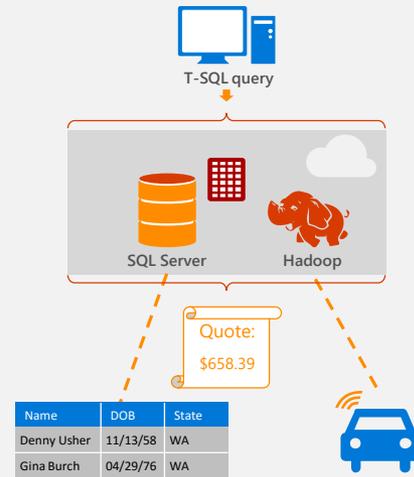
- Manage structured & unstructured data
- **Simple T-SQL** to query Hadoop (HDFS)
- **JSON support**

End-to-end mobile BI

5.57M
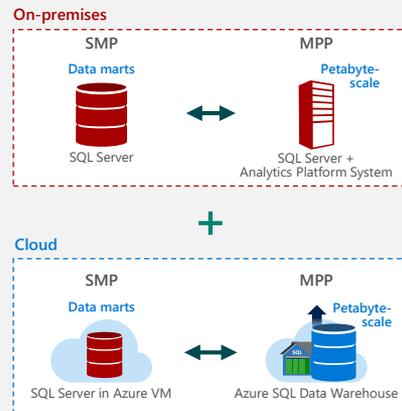
Windows   iOS   Android   HTML5

- **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
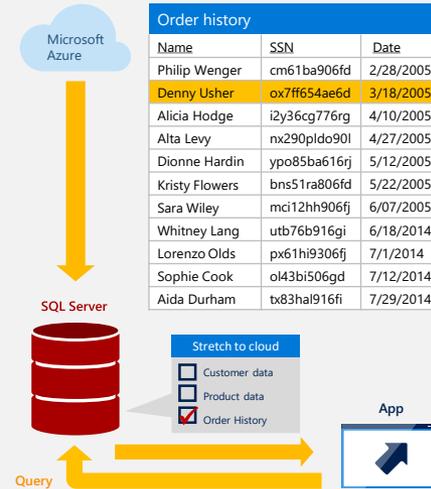Mission critical OLTP

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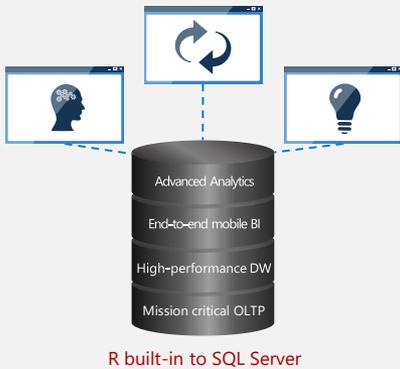
- **R built-in to your T-SQL**
- **Real-time operational analytics** without moving the data
- **Open source R with in-memory & massive scale** – multi-threading and massive parallel processing

Highest performing data warehouse

On-premises

SMP
Data marts
SQL Server

MPP
Petabyte-scale
SQL Server + Analytics Platform System

+

Cloud

SMP
Data marts
SQL Server in Azure VM

MPP
Petabyte-scale
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
- [x] Order History

Query

App

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

Learn more!