



Aas Trailblazers

Unleashing insights

Analytics & AI is the #1 investment for business leaders, however they struggle to maximize ROI

80%

report struggling to
become mature users
of data*

55%

report data silos and
data management
difficulties as roadblocks*

* Harvard Business Review (2019), Understanding why analytics strategies fall short for some, but not for others
<https://azure.microsoft.com/en-us/resources/why-analytics-strategies-fall-short-for-some-but-not-others/>

Businesses are forced to maintain two critical, yet independent analytics systems

Data science



Data lake

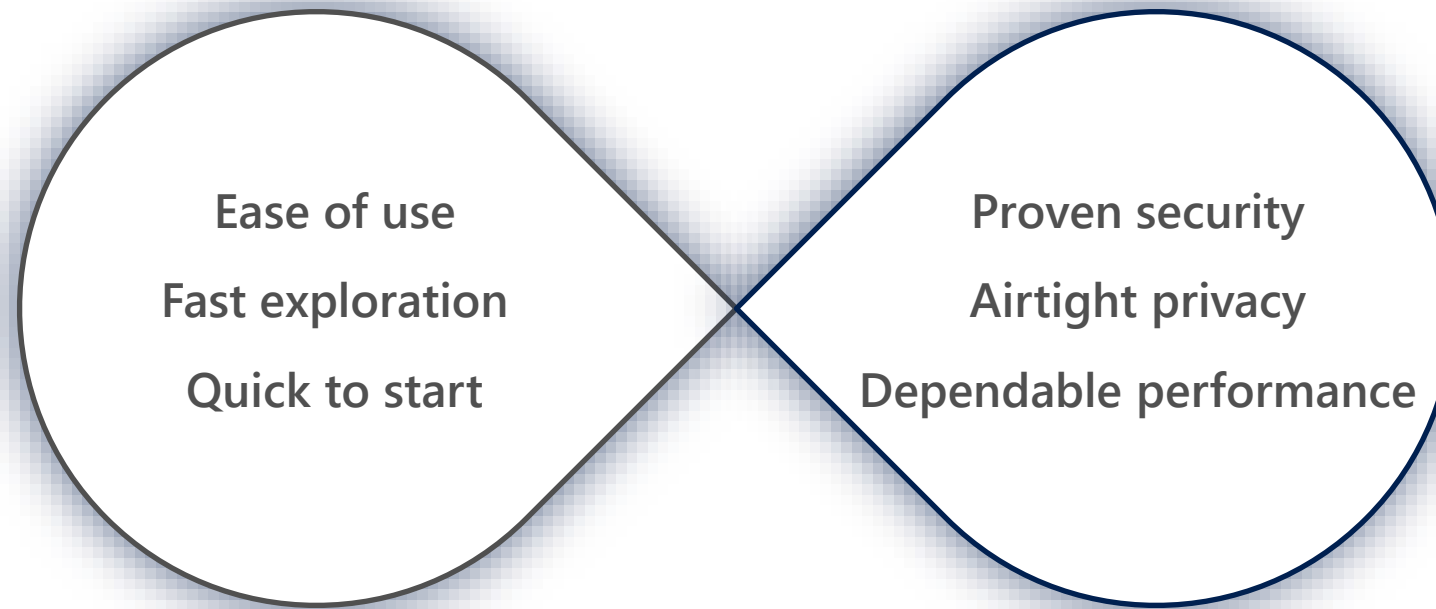
OR

Business analytics



Data warehouse

Azure meets these challenges
with a single service to provide limitless analytics



Welcome to limitless

Data warehousing & big data analytics—all in one service

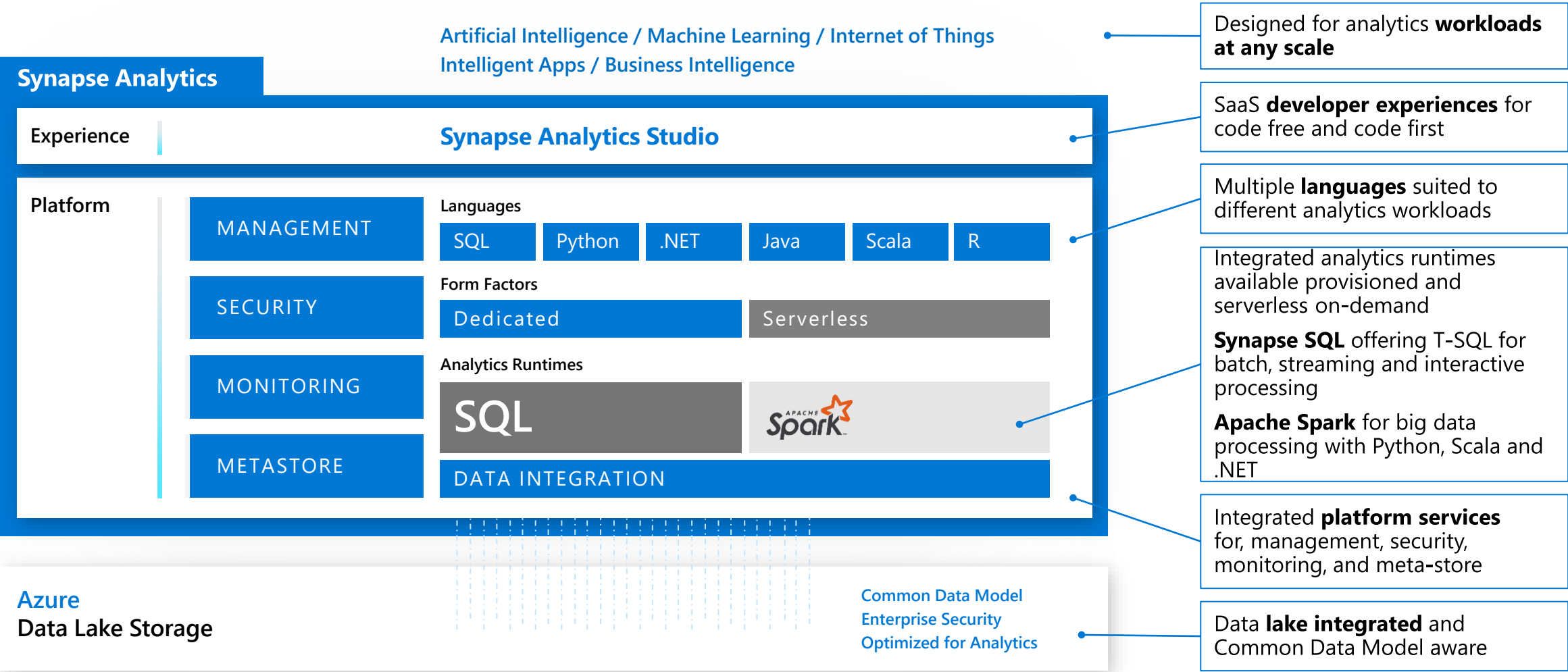


Introducing Azure Synapse Analytics

A **limitless** analytics service with **unmatched time to insight**, that delivers insights from all your data, **across data warehouses and big data** analytics systems, **with blazing speed**

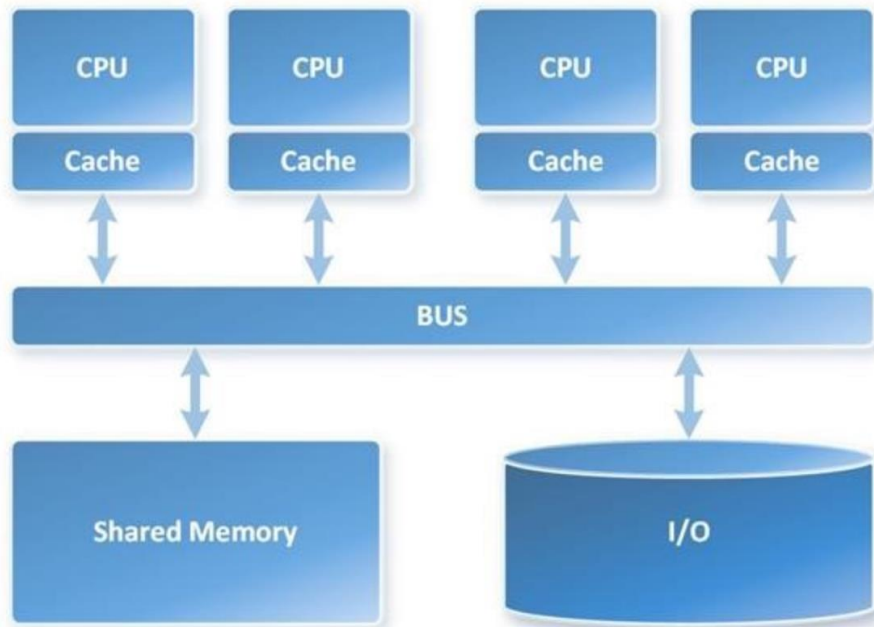
Azure Synapse Analytics

Limitless analytics service with unmatched time to insight



Parallelism – Scale up (SMP) vs Scale out (MPP)

Symmetric Multiprocessing (SMP)

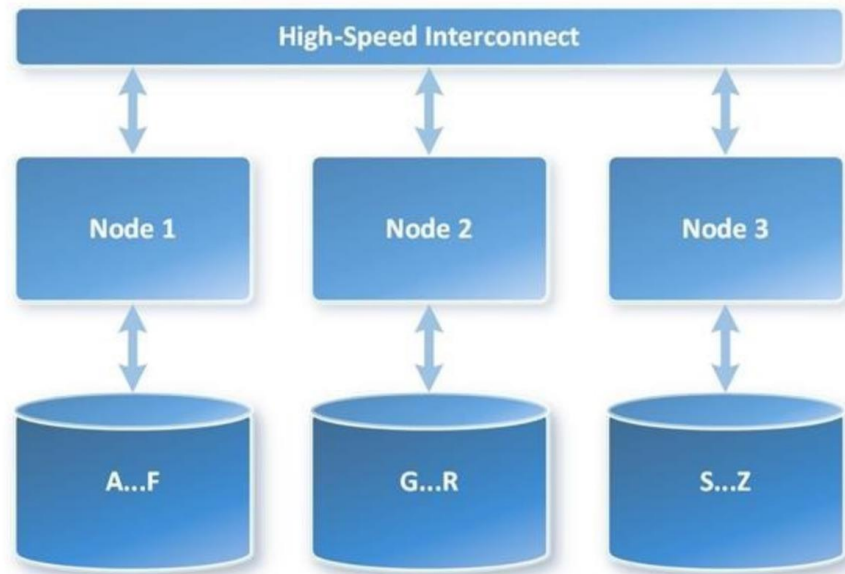


- Multiple CPUs used to complete individual processes simultaneously
- All CPUs share the same memory, disks, and network controllers (scale-up)
- All SQL Server implementations up until now have been SMP
- Mostly, the solution is housed on a shared SAN

<https://cloudblogs.microsoft.com/sqlserver/2014/07/30/transitioning-from-smp-to-mpp-the-why-and-the-how/>

Parallelism – Scale up (SMP) vs Scale out (MPP)

Massively Parallel Processing (MPP)



- Uses many separate CPUs running in parallel to execute a single program
- Shared Nothing: Each CPU has its own memory and disk (scale-out)
- Segments communicate using high-speed network between nodes

Synapse SQL – MPP Architecture

