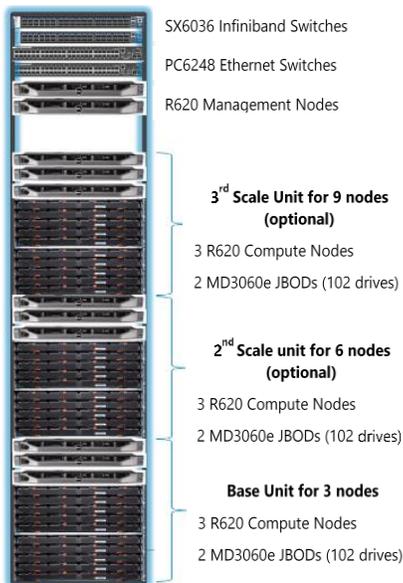
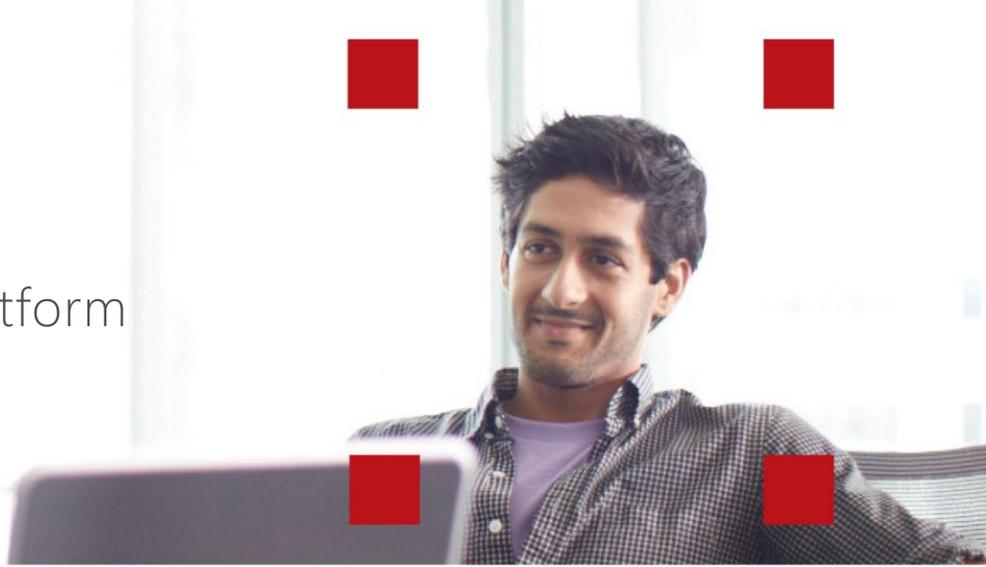


# Microsoft Analytics Platform System by Dell



## ***Built for Big Data, offering next-generation performance at scale, and engineered for optimal value***

Organizations that have highly demanding data warehousing workloads want a comprehensive and economical solution to meet their Big Data and business intelligence needs. Microsoft and Dell have partnered to offer such a solution: the Microsoft Analytics Platform System by Dell. The Analytics Platform System (APS) includes Microsoft SQL Server Parallel Data Warehouse (PDW) software and optional HDInsight software for Apache Hadoop processing on a certified hardware platform, as well as robust tools for working with data. The appliance experience is complemented by a unified Microsoft and Dell support model, with Microsoft acting as your single point of contact for all patches, upgrades, and issues.

This complete data warehousing solution spans desktop systems, data marts, and the enterprise data warehouse—all while operating seamlessly with Microsoft business intelligence tools.

## **Scalable and affordable power**

The Dell PDW appliance is built with the number of nodes (as many as 9) and the types of disks that meet your requirements. It is delivered as a single-rack solution and is then installed in your data center.

Based on award-winning, twelfth-generation Dell PowerEdge servers, the Dell PDW appliance offers built-in redundancy and high performance with low energy consumption. Each multiprocessor server node is specifically designed to provide optimal performance with minimal requirements for physical space, power, and cooling. Storage nodes in the Dell PDW appliance offer enterprise performance at low cost.

### Architecture

- Base unit has 113 terabytes of storage capacity, based on 5:1 compression and 1-terabyte disks.
- Capacity can be doubled or tripled by replacing the standard 1-terabyte drives with 2-terabyte or 3-terabyte drives.
- 3 scale units fit into 1 rack for more than 1 petabyte of usable storage.
- Multiple racks (as many as 6) can be configured for even more compute resources and usable storage.
- 3 compute nodes per scale unit provide the most fault-tolerant solution currently available.
- Backup zone and landing zone are optional features; customers have complete control over their options.

## Simplified data warehousing

Through extensive co-engineering and testing, Microsoft and Dell together are providing powerful and efficient data warehousing and Hadoop solutions on a certified hardware platform.

## Key features

**Dell design:** The Dell appliance is based on Dell PowerEdge R620 servers that have as many as 9 compute nodes per rack and can scale to as many as 6 racks. Raw disk capacity scales easily from 0 to 1.2 petabytes. The entire appliance is designed with robust redundancy throughout for high availability. Each scale unit is composed of 3 compute nodes to provide the most fault-tolerant Analytics Platform System solution currently available.

**One-call comprehensive support:** Customer support calls go to Microsoft APS Support. Microsoft then communicates with Dell for hardware solutions through a specialized Dell warranty queue to resolve issues quickly.

**Symmetry with SQL Server:** Microsoft has added features to unify the query and administrative experiences of the Analytics Platform System with those of SQL Server 2014 Enterprise Edition.

**Complete business intelligence solution:** With the Analytics Platform System, you can use familiar tools like Microsoft Excel, Report Builder, and Power View to create compelling visualizations for making important business decisions.

**Ready to use:** As a prebuilt appliance with optimized software, APS by Dell allows organizations to focus on developing solutions rapidly rather than building their environments from scratch.

**Easy data management:** The Analytics Platform System integrates with SQL Server Integration Services, which allows data architects to use a familiar ETL tool to move data into the appliance.

## Technical implementation

The Analytics Platform System hardware and software architectures have been greatly enhanced to take advantage of Windows Server 2012 platform capabilities.

## Intelligent query processor

PolyBase is the next-generation execution engine for querying, transforming, and indexing relational data and non-relational Hadoop data. PolyBase seamlessly manages

data where it originates and allows for SQL language-based queries of data stored in SQL Server and Hadoop clusters, on-premises or in the cloud.

## Software architecture

**In-Memory Columnstore:** The Analytics Platform System uses In-Memory Columnstore, which reorients data in a column rather than a traditional rowstore to deliver next-generation performance (as much as 100 times faster) and higher compression of data (as much as 15 times more).

**Massively parallel processing:** The Analytics Platform System uses the SQL Server PDW massively parallel processing (MPP) engine. Through parallel execution, the MPP shared-nothing architecture provides the highest performance at scale and can accommodate a high rate of concurrency during complex query processing.

**HDInsight:** HDInsight is a dedicated Hadoop region that shares metered access to CPU, memory, and storage alongside the PDW processing region. This enables seamless integration of any data within a shared hardware footprint and linear scale-out architecture.

## Summary

Microsoft and Dell make it easier to deploy a complete data warehousing solution that meets an organization's most complex Big Data and business intelligence needs. The APS by Dell appliance is prebuilt with software, hardware, and networking components already installed. This solution provides high-speed parallel query processing, highly scalable data storage, integration with Hadoop, and high-speed data transfer for the most demanding data warehousing workloads.

## Additional information

To learn more about the Microsoft Analytics Platform System or to contact Microsoft representatives and partners, visit: [www.microsoft.com/aps](http://www.microsoft.com/aps)

To learn more about the Microsoft Analytics Platform System by Dell, visit: [www.microsoft.com/sqlserver/en/us/solutions-technologies/Appliances/Dell-pdw.aspx](http://www.microsoft.com/sqlserver/en/us/solutions-technologies/Appliances/Dell-pdw.aspx)



The PolyBase technology and HDInsight are powered by Java.



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