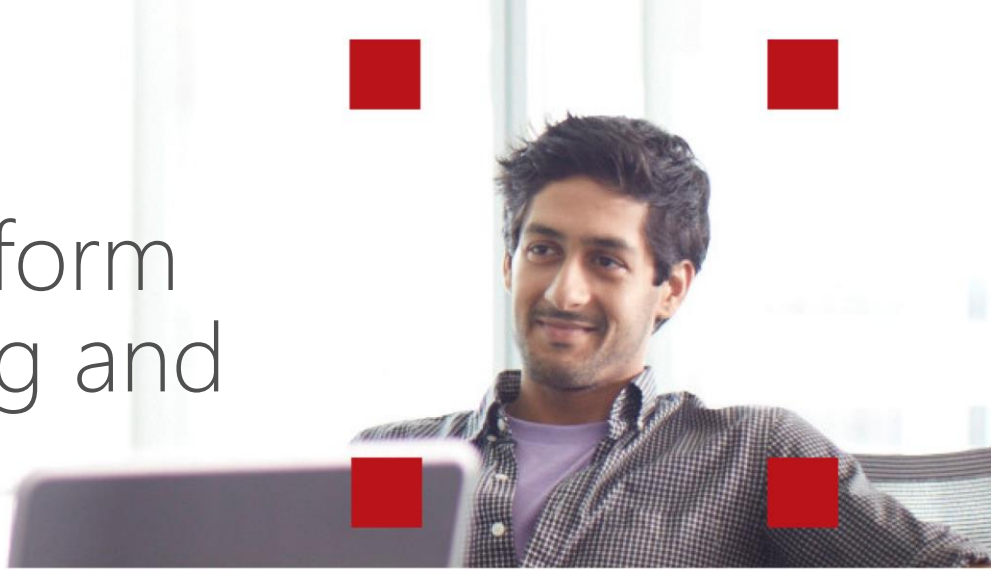




Analytics Platform System Pricing and Licensing



Product Overview

The Microsoft Analytics Platform System (APS) brings both Microsoft SQL Server 2012 Parallel Data Warehouse (PDW) and HDInsight into a single, pre-built Big Data appliance with tier-one performance, the lowest total cost of ownership in the industry, and accessibility to all their users through native Microsoft BI tools. HDInsight is Microsoft's 100-percent Apache Hadoop distribution, and Microsoft SQL Server 2012 PDW is a specialized edition of SQL Server software available only for appliance-based data warehouse solutions that have been co-engineered and offered through preferred partnerships with HP, Dell, and Quanta.

Simple to deploy, APS is delivered as a pre-built appliance with software, hardware, and networking components already pre-installed and configured to maximize data warehouse performance. Designed to grow with a customer's data warehouse needs, APS can scale from a quarter rack configuration to a multiple rack solution supporting petabytes of data.

Appliance Design – Built for Scale

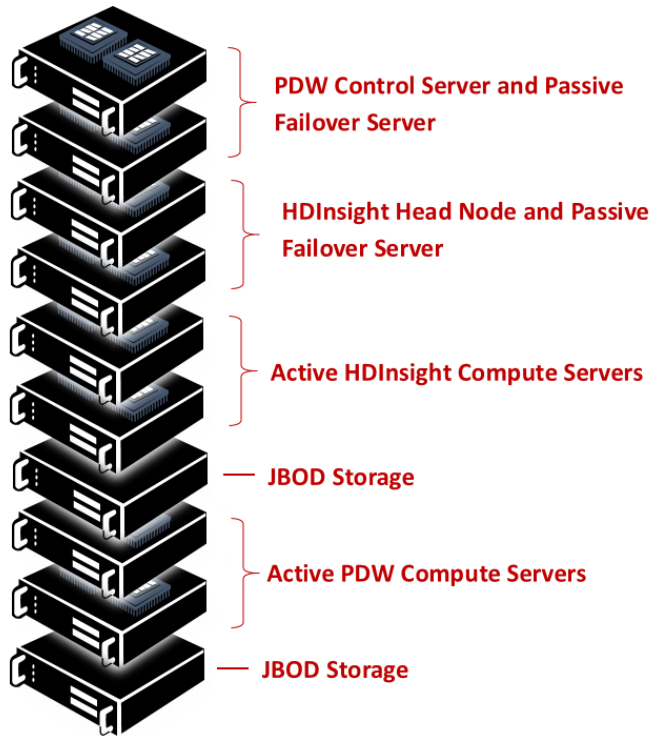
With traditional data warehouses that scale up, organizations typically need to rebuild entire servers once the maximum physical capacity and performance of servers hosting the data warehouse is exceeded. PDW featuring massively parallel processing (MPP) scale-out architecture and HDInsight both have true scale-out architecture, representing the most powerful distributed computing and scale. As more parallel processing is needed, more resources can simply be added to scale-out up to 6 petabytes.

A SQL Server 2012 PDW appliance is defined to be a single unit made up of two or more active compute servers (or compute nodes) that are controlled by a single PDW control server. Licensed exclusively under the Per Core licensing model, the number of SQL Server 2012 PDW core licenses required for a PDW appliance will depend on the total number of compute servers configured to the appliance.

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Analytics Platform System Appliance Architecture



This figure depicts the internal server architecture of an APS appliance configured with 2 active HDI compute servers and 2 active PDW compute servers.

Appliance Node	Function
PDW Control	Control for PDW compute and failover processes
PDW Passive Failover	Failover server for PDW compute nodes
PDW Compute	Compute resources for PDW
HDI Head Node	Control for HDI compute and failover processes
HDI Passive Failover	Failover server for HDI compute nodes
HDI Compute	Compute resources for HDI
JBOD Storage	Data storage for PDW and HDI

Analytics Platform System Component Licensing

Effective with the 2012 version release, SQL Server PDW software licensing moved from a processor-based model to a core-based model. Under the new Per Core licensing model, all physical cores on all active PDW compute servers must be fully licensed for SQL Server 2012 PDW software and include active Software Assurance (SA) coverage.

The Analytics Platform System (APS) introduces HDInsight (HDI) capabilities into the appliance offering. Compute servers that are properly licensed to run Windows Server and System Center are granted rights to run HDInsight. There is no separate license required for HDInsight.

The APS appliance offerings are currently built using compute servers with two 8-core processors per server. Similar to other editions of SQL Server software licensed under the Per Core model, SQL PDW core licenses are sold in packs of two.

Appliance Partner	Minimum Appliance Configuration	Maximum Appliance Configuration
HP	2 active compute servers (¼ Rack)	56 active compute servers (7 Full Racks)
Dell	3 active compute servers (¼ Rack)	54 active compute servers (6 Full Racks)
Quanta	3 active compute servers (¼ Rack)	54 active compute servers (6 Full Racks)

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- While SQL Server 2012 PDW licenses are only required for the active PDW compute servers in an appliance, all servers—including the control server, HDI head node server, passive failovers servers and HDI servers configured in the appliance—must be fully licensed for both Windows Server 2012 Standard Edition and System Center 2012 Standard Edition software, and include SA coverage. All users accessing an Appliance Platform System appliance must also be licensed with Windows Server CALs accordingly.
 - Note that Windows Server 2012 Standard Edition software is acquired with the appliance hardware through an OEM license, and SA coverage must be added through an applicable Microsoft Volume Licensing Program.
- SQL Server software running on the Analytics Platform System appliance control server is considered Additional Server Software and does not need to be licensed separately when all active compute servers are fully licensed as defined above.
- For more information on the Core-based licensing model, please download the **Introduction to Per Core Licensing** Volume Licensing Brief: <http://www.microsoft.com/licensing/about-licensing/briefs/licensing-by-cores.aspx>.

server. Windows Server Standard and System Center Standard

Appliance Software Requirements	PDW Control & HDI Head Node Servers	HDI Active Compute Servers	PDW Active Compute Servers	Passive Failover Servers
SQL Server 2012 PDW Core Licenses with SA	N/A	N/A	16 licenses per server*	N/A
Windows Server 2012 Standard Processor Licenses with SA	2 licenses per appliance	2 licenses per server	1 license per server	2 licenses per server
System Center 2012 Standard Processor Licenses with SA	2 licenses per appliance	2 licenses per server	1 license per server	2 licenses per server

each cover two Operating System Environments

*Note: PDW core licenses are sold in packs of two, so eight 2-core license packs must be purchased to cover each 16-core

Analytics Platform System Pricing and Licensing



Frequently Asked Questions

- Q. What Microsoft Volume Licensing programs offer the APS appliance software?
- A. APS appliance software can be licensed through Select Plus, Enterprise Agreement, Enterprise Agreement Subscription and Services Provider License Agreement programs
- Q. What software is licensed to create an APS appliance software solution?
- A. Windows Server Standard, System Center Standard and SQL PDW software make up the APS appliance software solution. HDI is provided as an additional software component of SQL PDW, and does not require separate licensing. Java is required to run certain software components in APS. The standard APS build includes Oracle Java, but a build without Java is available to customers who wish to bring their own Java license.
- Q. Is the APS appliance hardware acquired from Microsoft?
- A. No. APS appliance hardware is acquired directly from the authorized hardware provider and not from Microsoft.
- Q. Who are the authorized hardware providers for the APS appliance offerings?
- A. Authorized hardware providers for the APS appliance offerings are Dell, Hewlett Packard and Quanta. Quanta is authorized for distribution to the US and China only.
- Q. What if I want to have a full APS appliance solution that runs only HDI compute, can I do this?
- A. No. HDInsight has a dependency on PDW. The minimum for PDW on any appliance configuration is a ¼ rack of PDW compute. Once you have the minimum PDW compute configuration licensed, you can start building out the APS appliance with HDI Compute nodes.
- Q. How can I license the APS appliance for non-production use?
- A. SQL PDW Developer is how you license an APS appliance for non-production, develop & test usage. SQL PDW Developer is available through MSDN subscriptions that provide access to SQL Server, and is also sold as a standalone offering. PDW Developer is licensed per user, and all users accessing the appliance must have a user license for an applicable MSDN subscription level or PDW Developer.



The PolyBase technology and HDInsight are powered by Java.



Java is a registered trademark of Oracle and/or its affiliates.