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Suite	Manufacturing & Supply Chain Suite											
V14.3 May 2024 Platform Specifications	Petroleum Supply Chain (PSC)											
	Aspen Unified PIMS	**Aspen Virtual Advisor for Unified PIMS**	Aspen Unified Scheduling	**Aspen Unified Planning and Distribution**	Aspen Petroleum Supply Chain Planner (PSCP/DPO)	Aspen Petroleum Scheduler (APS)	Aspen Multi-Blend Optimizer (MBO)	Aspen PIMS	Aspen Verify	Aspen Fleet Optimizer (AFO) Web Server	AFO Connect	Aspen Fleet Optimizer (AFO) (Retail)
Operating Systems (64-bit only)												
Windows 11	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓
Windows 10 Enterprise & Professional (64-bit)	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓
Windows Server 2022 [33, 45]	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Windows Server 2019 [33, 45]	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Windows Server 2016 [33, 45]	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Ubuntu Server Edition 20.04 LTS												
Ubuntu Server Edition 18.04 LTS												
Ubuntu Server Edition 16.04 LTS												
RedHat Enterprise Linux 9.2+												
RedHat Enterprise Linux 8.8+												
Microsoft Office												
Office 365 (Desktop/Click-to-run) (32-bit/64-bit)	✓	✓	✓	✓	✓	✓	✓	✓	✓			✓
Office 2021 (64-bit)	✓	✓	✓	✓	✓	✓	✓	✓	✓			✓
Office 2021 (32-bit)	✓	✓	✓	✓	✓	✓	✓	✓	✓			✓
Office 2019 (64-bit)	✓	✓	✓	✓	✓	✓	✓	✓	✓			✓
Office 2019 (32-bit)	✓	✓	✓	✓	✓	✓	✓	✓	✓			✓
Office 2016 (64-bit)	✓	✓	✓	✓	✓	✓	✓	✓	✓			✓
Office 2016 (32-bit)	✓	✓	✓	✓	✓	✓	✓	✓	✓			✓
Database Servers												
Microsoft SQL Server 2022 (Enterprise/Standard Edition)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓
Microsoft SQL Server 2022 (Express Edition)	✓	✓	✓	✓		✓	✓	✓	✓			
Microsoft SQL Server 2019 (Enterprise/Standard Edition)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓
Microsoft SQL Server 2019 (Express Edition)	✓	✓	✓	✓		✓	✓	✓	✓			
Microsoft SQL Server 2017 (Enterprise/Standard Edition)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓
Microsoft SQL Server 2017 (Express Edition)	✓	✓	✓	✓		✓	✓	✓	✓			
Microsoft SQL Server 2016 (Enterprise/Standard Edition)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓
Microsoft SQL Server 2016 (Express Edition)	✓	✓	✓	✓		✓	✓	✓	✓			
SQL Server 2019 Local DB	✓[12]	✓[12]	✓[12]	✓[12]	✓[12]	✓[12]	✓[12]	✓[12]	✓[12]			
SQL Server 2014 -2019 Analysis Services												
PostgreSQL 13.2												

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Oracle Database 19.x.x 64-bit						✓	✓			✓		✓
MongoDB Database 5.0.x 64-bit												
Database Clients												
Oracle Client 19.x 32-bit												✓
Oracle Client 19.x 64-bit						✓	✓					
Runtimes												
.NET Framework 4.8	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓
.NET Framework 4.6												
.NET 6.0.3										✓	✓	
Aspen AIoT Cloud libraries												
ASP.NET Core 6.0.3												
32-bit Oracle Java 17 JDK LTS												
64-bit Oracle Java 17 JDK LTS												
64-bit Oracle Java 11 JDK LTS												
32-bit Oracle Java 8 JDK LTS												
64-bit Oracle Java 8 JDK LTS												
32-bit Eclipse Temurin OpenJDK Java 17 JRE LTS												
64-bit Eclipse Temurin OpenJDK Java 17 JRE LTS												
32-bit Eclipse Temurin OpenJDK Java 11 JRE LTS												
64-bit Eclipse Temurin OpenJDK Java 11 JRE LTS												
64-bit Eclipse Temurin OpenJDK Java 8 JRE LTS												
Python 3.10	✓	✓	✓	✓					✓			
Python 3.9							✓					
Python 3.8												
Python 3.7												
Python 3.6												
Visual Studio 2022												
Visual Studio 2019												
Visual Studio 2017												
Visual Studio 2015												
Visual Studio 2010 Tools for Office Runtime						✓	✓					
Microsoft Visual C++ Redistributable 2022										✓	✓	
Microsoft Visual C++ Redistributable 2019	✓	✓	✓	✓	✓	✓	✓	✓	✓			✓
Microsoft Visual C++ Redistributable 2017	✓	✓	✓	✓	✓	✓	✓	✓	✓			
Microsoft Visual C++ Redistributable 2015												

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Microsoft Visual C++ Redistributable 2013												
Virtualization												
Microsoft Hyper-V (Server)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓
VMware ESXi Hypervisor Server 6.x (Server)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓
VMWare vSphere Enterprise Plus												
Microsoft Terminal Services (Desktop)											✓	✓
Citrix Virtual Apps and Desktops 7.1912 (Desktop)											✓	✓
Web Browsers												
Microsoft Edge [25]	✓	✓	✓	✓	✓[23]	✓[23]	✓[23]	✓[23]	✓[23]	✓	✓	
Google Chrome Evergreen Version 75+	✓	✓	✓	✓	✓[23]	✓[23]	✓[23]	✓[23]	✓[23]	✓	✓	
Firefox												
Chrome on iOS 14+ for iPad Support												
Safari on iOS 14+ for iPad Support											✓[34]	
Android 10+												
Security Components/Services												
AZURE AD												
Aspen Framework (AFW) 5								✓				
TLS 1.2	✓	✓	✓	✓	✓	✓	✓	✓	✓			
TLS 1.3	✓	✓	✓	✓	✓	✓	✓	✓	✓			
Java App (Servers)												
Apache Tomcat 9.x												
Native Web Servers												
IIS 10												
Reporting Services												
Microsoft Report Viewer 2015												
Microsoft SQL Server 2014/2016/2017/2019/2020/2022 Reporting Services					✓	✓	✓	✓				
Integration Components												
Aspen Supply Chain Connect												
Informatica Powercenter 10.5.2												
Cloud Support *												
Azure VM (Microsoft)	✓	✓	✓	✓	✓	✓	✓	✓	✓			
AWS VM (Amazon)												
Azure VM - Linux												
Azure Virtual Desktop (AVD) [27]					✓	✓		✓				
AWS RDS (SQL)												
Azure SQL	✓	✓	✓	✓	✓	✓	✓	✓	✓			
Deployment Tools												
SCCM												

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Supported Versions of Fortran												
FORTRAN 2021								✓				
Container Support												
Docker Engine-Enterprise 19.03.x												
Docker Compose 1.26.x												
Desktop Types - Minimum Required												
Type I: Computer & processor: Intel Core-i5 family or faster Memory (RAM in GB): **16** Hard Disk (GB): **120** Free Space - SSD recommended Monitor: Graphics hardware acceleration requires a DirectX10 graphics card and a **1440 x 900** or higher resolution monitor Network (MB/s): **100Mbps**												
Type II: Computer & processor: Intel Core-i5 family or faster Memory (RAM in GB): **16** Hard Disk (GB): **250** Monitor: Graphics hardware acceleration requires a DirectX10 graphics card and a **1440 x 900** or higher resolution monitor Network (MB/s): **100Mbps**	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Type III: Computer & processor: 4CPU >= 2.8GHz (turbo max 3.2 preferred) Memory (RAM in GB): **16** Hard Disk (GB): **500** Monitor: Graphics hardware acceleration requires a DirectX10 graphics card and a **1440 x 900** or higher resolution monitor Network (MB/s): **100Mbps**												
Type IV: 2 x Intel Xeon 3.9GHz 8-core Memory (RAM in GB): **64GB** Hard Disk (GB): 356 GB SSD Graphics Card: NVIDIA RTX A6000 GPU Monitor: **2 x 27" UHD monitors** Network (MB/s): **100Mbps**												
Server Types - Minimum Recommended												
Type I: Computer & processor: Intel Core-i7 family or faster for standalone deployment Intel Xeon Gold series, **4** cores or more for multi-user environment Memory (RAM in GB): **16** + for standalone deployment, **32**+ for multi-user environment Hard Disk (GB): **150** for standalone deployment, **300** for multi-user environment Monitor: Graphics hardware acceleration requires a DirectX10 graphics card and a **1440 x 900** or higher resolution monitor Network: **100 Mbps**	✓	✓	✓	✓							✓	
Type II: Computer & processor: Intel Xeon Gold series type system (4 cores) or faster Memory (RAM in GB): **16 +** Hard Disk (GB): **300 +** Monitor: Graphics hardware acceleration requires a DirectX10 graphics card and a **1440 x 900** or higher resolution monitor Network: **100 Mbps**												
Type III: Computer & processor: Intel Cascade Lake-based Xeon processor with 8 cores or more per processor Memory (RAM in GB): 32 or above gigabytes (GB) RAM Hard Disk (GB): 500 gigabytes (GB) or more available Monitor: Graphics hardware acceleration requires a DirectX10 graphics card and a 1440 x 900 or higher resolution monitor Network: **100Mpbs** (Gigabyte network recommended)												
Type IV: (IIoT Gateways) Computer & processor: ARM or Intel based CPU or more Memory (RAM in GB): **256Mb** or more Hard Disk (GB): 100 GB or more												

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Type V Windows Server 2019 v1809+ Memory (RAM in GB): Minimum: **16** Recommended: **32** Cores: Minimum: **4**, Recommended: **8** Disk space (GB): Minimum: 64, Recommended: **100** Network: Minimum: 50, Recommended: **100 Mbps**												
Type VI Computer & processor: Intel Xeon E class processor or equivalent with dual core min. Memory (RAM in GB): Minimum**: 4** Hard Disk (GB): Minimum **50.** High IOPS drive, SSD preferred Network: **100 Mbps**												
Type VII Computer & processor: Intel Xeon E class processor or equivalent with dual core min. Memory (RAM in GB): **8 +** Hard Disk (GB): 100 GB min. High IOPS drive, SSD preferred Network: **100Mpbs**												
Type VIII Computer & processor: Intel Xeon E class processor or equivalent with 8 cores or higher Memory (RAM in GB): 12 or above gigabytes (GB) RAM Hard Disk (GB):: **2000** min. High IOPS drive, SSD preferred Network: **200**Mbps												
Type IX Single model environment: Computer & processor: 4 vCPU >+ 2.8 GHz Memory (RAM in GB): **8+** Hard Disk (GB): **100** Network: **100Mbps**												
Type X Single model environment: Computer & processor: 8 vCPU >+ 3.2 GHz Memory (RAM in GB): **16+** Hard Disk (GB): **100** Network: **100Mbps**												
Type XI Multiple models within single environment (max models<=10): Computer & processor: 4 vCPU >+ 2.8 GHz (add 1.5vCPU per concurrent user) Memory (RAM in GB): **8+** (add 3GB per concurrent user) Hard Disk (GB): **100** (add .5GB per concurrent user) Network: **100Mbps**												
Type XII Multiple models within single environment (max models<=10): Computer & processor: 8 vCPU >+ 3.2 GHz (add 1.5vCPU per concurrent user) Memory (RAM in GB): 16 or above gigabytes (GB) RAM (add 4GB RAM per concurrent user) Hard Disk (GB): 100 GB min. (add .5GB per concurrent user) Network: **100Mpbs**												
Type XIII Supports 20 concurrent users: Computer & processor: 16 vCPU >+ 2.2 GHz) Memory (RAM in GB): **64** Hard Disk: **100** Network: **10 Mbps**												
Type X1V Supports 100 concurrent users: Computer & processor: 16 vCPU >+ 2.2 GHz) Memory (RAM in GB): **32** Hard Disk (GB): **100** Network: **5 Mbps**												
Type XV Computer & processor: 16 vCPU >+ 2.2 GHz) Memory (RAM in GB): **32** Hard Disk (GB): **100Mbps**												
Type XVI Computer & processor: 16 CPU Memory (RAM in GB): 64 or above gigabytes (GB) RAM Hard Disk (GB): 2000 gigabytes (GB) or more available Monitor: Graphics hardware acceleration requires a DirectX10 graphics card and a 1440 x 900 or higher resolution monitor Network: 100Mpbs (Gigabyte network recommended)												

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Type XVII Computer & processor: 32 CPU Memory (RAM in GB): 256 or above gigabytes (GB) RAM Hard Disk (GB): 2000 gigabytes (GB) or more available Monitor: Graphics hardware acceleration requires a DirectX10 graphics card and a 1440 x 900 or higher resolution monitor Network: 100Mpbs (Gigabyte network recommended)												

Notes

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When running software on a virtual machine, the machine should meet the	
AspenTech does not support the in-place upgrade of the Operating System (for example: upgrade Windows 7 to Windows 10) with AspenTech software already installed. Our recommendation is to uninstall Aspen Software before upgrading the OS and reinstall it after the upgrade.	
Your Aspen SLM Server must be installed and running prior to installing any V14 product.	
If running standalone, 1280 x 800 is the minimum recommended resolution monitor for servers	
For SLM server using Type 1 Desktop configuration, the minimum memory is 4GB with 20GB hard drive.	
Microsoft Active Directory/Domain Services (Required for aspenONE Web	
A minimum of 10GB of free space is needed to install/upgrade products on the	
[1] This configuration is only practical for small scale models and deployments. For most applications, best deployment practice dictates the use of a separate and dedicated database server for acceptable performance	
[2] EDR does not use any database servers. Deploys its own LocalDB database files.	
[3] Aspen Batch Process Developer does not support the 64-bit version of Visio. Visio is used in ABPD to generate the block diagram and process flow diagram reports; it is an optional feature. The 64-bit versions of Word and Excel are fully supported by ABPD	
[4] When Aspen Utility model is driven by Aspen Online using Local System Account, then SQL Express 2014 is required.	
[5] When Exchanger Design and Rating is driven by Aspen Online using Local System Account, then SQL Express 2014 is required	
[6] Aspen Modeler family supports FORTRAN compiler version 2020	
[7] Oracle or AdoptOpenJDK Java is needed if the 3rd party scheduling application Primavera is used with Economic Evaluation (EE). Primavera is owned by Oracle and its API uses Java	
[8] Must be in compatibility mode for Aspen Process Sequencer	
[9] See "Basic Deployment Recommendations" in Appendix C of the Aspen Manufacturing Suite Advanced Process Control Installation Guide.	

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10 For new installations of APC Web Server, install IIS and JRE before installing APC Web Server

11 CIM-IO Interfaces can be installed on 32-bit desktops

12 This configuration is only practical for small scale models and deployments. For most applications, best deployment practice dictates the use of a separate and dedicated database server for acceptable performance.

14 Only Web Download Excel Add-in requires Excel.

15 Users need to install both the 32-bit and 64-bit Oracle Clients 19.x for building and running reports

16 Non-English OS's are not supported

19 SLM supported in cloud (Azure VM/Amazon VM) for ENG products that are supported in the cloud

20 If FIPS is enabled, aspenONE Exchange users must have the latest Windows Update patches installed on their machine.

21 Office 365 - 32-bit support only

22 Server-grade systems are not required but still supported.

23 Browser Support as it relates to Knowledge Delivery only

24 ATOMS Web does not support Oracle

25 Only the version of MS Edge that uses the Google Chrome engine is

26 Maestro supports Windows Server 2019 version 1809+

27 WVD Certification Notes –
1. Publishing WVD apps to users local machine start menu not supported
2. Interoperability with 3rd party products only supported with Office 365
3. Aspen Properties Enterprise Database (APED) via SQL Server not supported
4. The following products have not been certified for WVD: ABE, ABPD, AVCA

28 APEM does not support CDB-PDB database in Oracle 19.
Weigh & Dispense Client 32-bit does not support Oracle

29 SCCM support for APEx only

30 APM Insights must be installed on the same server as AEI.

31 When you have more than 8 simultaneous users, the recommendation is 2CPU's and 4GB RAM per user. Performance will vary based on product and

32 OptiPlant requires a graphic card which supports OpenGL 4.1

33 Includes support for Windows Server Datacenter

34 Browser support for AFO Connect

35 Type II is the minimum recommended when IP.21 is used with Aspen

36 Small SLM Server

37 Medium SLM Server

38 Large SLM Server

39 These applications can run on a desktop, but it is recommended to run

40 This Application Should be installed on a dedicated Web Server.

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41 Require db needs to be created in MS SQL using Mtell and then migrated to the target platform

42 "Desktop Experience" installation of Windows Server. Windows Server installers present the option to install with or without "Desktop Experience". For GDOT, "Desktop Experience" is required.

43 SQL is needed for S3D Layout, SQL versions 2014 and 2016 are supported by Hexagon

44 Resolution no higher than 1920x1080

45 Refer to the AspenTech Lifecycle Knowledge Base article to see a reference to the supported Windows Server upgrade path: https://esupport.aspentech.com/S_ProductLifecyclePolicy

46 The selected product uses Java 11 JRE as Oracle do not have an option to download JRE, please use Oracle JDK download

47 SQL Server 2014 does not support AT TIME ZONE functionality.. Due to this, Daylight Saving time will not be accounted for in the database views defined in Unified Scheduling Results database.

48 Only Excel Document template does require Excel

49 Only Core service requires MongoDB

50 Applicable only for OpenviewNET client applications that connect to the Operational Insights server.