*Aspentech Disclaimer Aspen Technology may provide information regarding possible future product developments including new products, product features, product interfaces, integration, design, architecture, etc. that may be represented as "product roadmaps or product visions." Any such information is for discussion purposes only and does not constitute a commitment by Aspen Technology to do or deliver anything in these product roadmaps or otherwise. Any such commitment must be explicitly set forth in a written contract between the customer and Aspen Technology, executed by an authorized officer of each company

Suite	Manufacturing & Supply Chain Suite											
	Manufacturing Execution Systems (MES)											
V14 Platform Specifications that are supported	Aspen Tank Operations Manager (ATOMS Server)	Tank Operations Manager (ATOMS Client)	Aspen Unified Reconciliation and Accounting	Plant Operations Reconcili ation and Accounting (AORA	Plant Operations Reconciliation and Accounting (AORA Client)	Aspen Production Execution Manager (APEM) Server	APEM Mobile	Weigh & Dispense Client	Batch Release Management	Aspen Reporting Framework		
Operating Systems (64-bit only)					1							
Windows 11		\checkmark	\checkmark		\checkmark							
Windows 10 Enterprise & Professional (64-bit)		\checkmark	\checkmark		\checkmark							
Windows Server 2022 ^{33, 45}	~	\checkmark	\checkmark	\checkmark	~	\checkmark	\checkmark	\checkmark		\checkmark		
Windows Server 2019 ^{33, 45}	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark		\checkmark		
Windows Server 2016 ^{33, 45}	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark		\checkmark		
Ubuntu Server Edition 20.04 LTS												
Ubuntu Server Edition 18.04 LTS												
Ubuntu Server Edition 16.04 LTS												
Microsoft Office						1						
Office 365 (Desktop/Click-to-run) (32-bit/64-bit)			\checkmark		√ ²¹							
Office 2021 (64-bit)			\checkmark									
Office 2021 (32-bit)			\checkmark		\checkmark							
Office 2019 (64-bit)			\checkmark									
Office 2019 (32-bit)			\checkmark		\checkmark							
Office 2016 (64-bit)			\checkmark									
Office 2016 (32-bit)			\checkmark		\checkmark							
Office 2013 (32-bit)					\checkmark							
Database Servers				1	1	1		1				
Microsoft SQL Server 2019 (Enterprise/Standard Edition)	\checkmark	\checkmark	~	\checkmark	\checkmark	\checkmark	~	\checkmark	~	\checkmark		
Microsoft SQL Server 2019 (Express Edition)			\checkmark									
Microsoft SQL Server 2017 (Enterprise/Standard Edition)	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark		
Microsoft SQL Server 2017 (Express Edition)			\checkmark									
Microsoft SQL Server 2016 (Enterprise/Standard Edition)	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark		
Microsoft SQL Server 2016 (Express Edition)			\checkmark									
Microsoft SQL Server 2014 (Enterprise/Standard Edition)	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark		
Microsoft SQL Server 2014 (Express Edition)			\checkmark									
SQL Server 2019 Local DB			√12									
SQL Server 2014 -2019 Analysis Services										\checkmark		
PostgreSQL 13.2												
Oracle Database 19.x.x 64-bit	\checkmark			\checkmark		√28						
MongoDB Database 5.0.x 64-bit												
Database Clients												
Oracle Client 19.x 32-bit	√ ²⁴	√ ²⁴		\checkmark	\checkmark							

Suite			М	anufactu	ring & Su	pply Ch	ain Suit	e					
	Manufacturing Execution Systems (MES)												
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Oracle Client 19.x 64-bit													
Oracle Client 18.x 32-bit													
Runtimes													
.NET Framework 4.8	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark			
.NET Framework 4.6													
.NET 6.0.3													
Aspen AloT Cloud libraries													
ASP.NET Core 6.0.3													
64-bit Oracle Java 17 JDK LTS													
64-bit Oracle Java 17 JDK LTS													
64-bit Oracle Java 11 JDK LTS						√46	√46						
64-bit Oracle Java 8 JDK LTS													
64-bit Oracle Java 8 JDK LTS													
32-bit AdoptOpenJDK Java 17 JRE LTS													
64-bit AdoptOpenJDK Java 17 JRE LTS													
32-bit AdoptOpenJDK Java 11 JRE LTS								\checkmark					
64-bit AdoptOpenJDK Java 11 JRE LTS						\checkmark	\checkmark						
64-bit AdoptOpenJDK Java 8 JRE LTS													
Python													
MSXML 6	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark		\checkmark		\checkmark			
Visual Studio 2022													
Visual Studio 2019	\checkmark	\checkmark		\checkmark	\checkmark	\checkmark		\checkmark					
Visual Studio 2017													
Visual Studio 2010 Tools for Office Runtime									\checkmark				
Microsoft Visual C++ Redistributable 2022													
Microsoft Visual C++ Redistributable 2019	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark		\checkmark	\checkmark				
Microsoft Visual C++ Redistributable 2017	~	\checkmark	~	\checkmark	\checkmark	\checkmark		\checkmark	1				
Microsoft Visual C++ Redistributable 2015													
Virtualization													
Microsoft Hyper-V (Server)	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark		\checkmark	\checkmark	\checkmark			
VMware ESXi Hypervisor Server 6.x (Server)	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark		\checkmark		\checkmark			
VMware ESXi Hypervisor Server 7.x (Server)	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark		\checkmark		\checkmark			
VMWare vSphere Enterprise Plus													
Microsoft Terminal Services (Desktop)	\checkmark	\checkmark		\checkmark	\checkmark	\checkmark		\checkmark					
Citrix Virtual Apps and Desktops 7.1912 (Desktop)						\checkmark		\checkmark					
Web Browsers													

Suite	Manufacturing & Supply Chain Suite												
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V14 Platform Specifications that are supported	Aspen Tank Operations Manager (ATOMS Server)	Tank Operations Manager (ATOMS Client)	Aspen Unified Reconciliation and Accounting	Plant Operations Reconcili ation and Accounting (AORA	Plant Operations Reconciliation and Accounting (AORA Client)	Aspen Production Execution Manager (APEM) Server	APEM Mobile	Weigh & Dispense Client	Batch Release Management	Aspen Reporting Framework			
Microsoft Edge 25	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark		\checkmark	\checkmark	\checkmark				
Google Chrome Evergreen Version 75+	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark		\checkmark	\checkmark	\checkmark				
Firefox									\checkmark				
Chrome on iOS 14+ for iPad Support									√				
Safari on iOS 14+ for iPad Support									\checkmark				
Android 10+							\checkmark						
Security Components/Services	-												
Aspen Framework (AFW) 5	\checkmark	\checkmark		\checkmark	\checkmark	\checkmark		\checkmark					
TLS 1.2									1				
TLS 1.3													
Java App (Servers)													
Apache Tomcat 9.x						\checkmark		\checkmark					
Native Web Servers													
IIS 10	\checkmark	\checkmark		\checkmark	\checkmark	\checkmark		\checkmark					
Reporting Services													
Microsoft Report Viewer 2015													
Microsoft SQL Server 2014/2016/2017/2019/2020/2022 Reporting Services													
Load Balancing													
F5 Load Balancing													
Integration Components													
Aspen Supply Chain Connect													
Informatica Powercenter 10.5.2													
Cloud Support *													
Azure VM (Microsoft)			\checkmark						\checkmark				
AWS VM (Amazon)									\checkmark				
Azure VM - Linux													
Azure Virtual Desktop (AVD) 27													
AWS RDS (SQL)									✓				
Azure SQL									\checkmark				
Deployment Tools													
SCCM										7			
Supported Versions of Fortran													
FORTRAN 2021													
Container Support													
Docker Engine-Enterprise 19.03.x													
Docker Compose 1.26.x													
Desktop Types - Minimum Recommended													
Type I: Computer & processor: Intel Core-i5 family or faster Memory (RAM in GB): 16 Hard Disk (GB): 120 Monitor. Graphics hardware acceleration requires a DirectX10 graphics card and a 1440 x 900 or higher resolution monitor Network (MB/s): 100Mbps													

Suite	Manufacturing & Supply Chain Suite											
	Manufacturing Execution Systems (MES)											
V14 Platform Specifications that are supported	Aspen Tank Operations Manager (ATOMS Server)	Tank Operations Manager (ATOMS Client)	Aspen Unified Reconciliation and Accounting	Plant Operations Reconcili ation and Accounting (AORA	Plant Operations Reconciliation and Accounting (AORA Client)	Aspen Production Execution Manager (APEM) Server	APEM Mobile	Weigh & Dispense Client	Batch Release Management	Aspen Reporting Framework		
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): 100 Monitor: Graphics hardware acceleration requires a DirectX10 graphics card and a 1440 x 900 or higher resolution monitor 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			~	\checkmark	\checkmark	\checkmark		\checkmark		\checkmark		
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												
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: 200Mbps												
Type IX Single model environment: Computer & processor: 4 vCPU >+ 2.8 GHz Memory (RAM in GB): 8+ Hard Disk (GB): 100 Network: 100Mbps												

Suite			М	lanufactu	ring & Su	pply Ch	ain Suit	e			
			M	ion Syste	n Systems (MES)						
V14 Platform Specifications that are supported	Aspen Tank Operations Manager (ATOMS Server)	Tank Operations Manager (ATOMS Client)	Aspen Unified Reconciliation and Accounting	Plant Operations Reconcili ation and Accounting (AORA	Plant Operations Reconciliation and Accounting (AORA Client)	Aspen Production Execution Manager (APEM) Server	APEM Mobile	Weigh & Dispense Client	Batch Release Management	Aspen Reporting Framework	
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											
Notes											
* In general, AspenTech aspenONE [®] software license agreements with customers permit use of the licensed software on Supported Computers at customer Sites. "Supported Computers" include computers with a manufacture, model and operating system for which AspenTech offers a supported version of the software, and that are controlled by the customer. "Sites" are customer facilities or locations specified in the license agreement. AspenTech permits customer use of licensed aspenONE software in the cloud where: (i) the Platform Support specifications published by AspenTech for the relevant version of the software hosted by the cloud service provider, and (iii) the user is accessing the software only from a Site specified in the applicable license agreement. Cloud deployment does not change any license restrictions, including the restrictions on which regions can access the software. When running software on a virtual machine, the machine should meet the same requirements.	Accounting bit (AORA S Mobile, We	(AURA), Plan Server), Plant	nt Operation Operations	ns 32-bit (ATO	sists of the follc MS Server), Plar Client), Aspen F g Framework	nt Operation	s 32-bit (ATC	OMS Client),	Plant Opera	tions 32-	
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 Server) A minimum of 10GB of free space is needed to install/upgrade products on the C drive. 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.											

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V14 Platform Specifications that are supported	Aspen Tank Operations Manager (ATOMS Server) Tank Operations Manager (ATOMS Client) Aspen Unified Reconciliation and Accounting (AORA Plant Operations Reconciliation and Accounting (AORA Plant Operations Reconciliation and Accounting (AORA Client) Aspen Production (APEM) Server (APEM) Server (APEM) Server ApEM Mobile Weigh & Dispense Client Batch Release Management Aspen Reporting								
A spen 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.									
When Exchanger Design and Rating is driven by Aspen Online using Local System Account, then SQL Express 2014 is required									
Aspen Modeler family supports FORTRAN compiler version 2020									
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.									
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.									
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									
ISLM supported in cloud (Azure VM/Amazon VM) for ENG products that are supported in the stude.									
20 If FIPS is enabled, aspenONE Exchange users must have the latest Windows Update patches nstalled on their machine.									
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 supported									
Aestro supports Windows Server 2019 version 1809+									
 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 									
Weigh & Dispense Client 32-bit does not support Oracle 19.									
29 SCCM support for APEx only									
APM Insights must be installed on the same server as AEI.									

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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 usage profiles. This can be										
²³ OptiPlant requires a graphic card which supports OpenGL 4.1										
33 Includes support for Windows Server Datacenter										
84 Browser support for AFO Connect										
35 Type II is the minimum recommended when IP.21 is used with Aspen Enterprise IP.21										
Small SLM Server										
Medium SLM Server										
38 Large SLM Server										
39 These applications can run on a desktop, but it is recommended to run models on a server										
40 This Application Should be installed on a dedicated Web Server.										
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										
14 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.										

2/27/2023