Aras Innovator 11

Platform Specifications

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Document Conventions

The following table highlights the document conventions used in the document:

Table 1:   Document Conventions

Convention	Description
Bold	This shows the names of menu items, dialog boxes, dialog box elements, and commands. Example: Click **OK**.
`Code`	Code examples appear in `courier` text. It may represent text you type or data you read.
`Yellow highlight`	Code with yellow highlight is used to draw attention to the code that is being indicated in the content.
`Yellow highlight with red text`	Red color text with yellow highlight is used to indicate the code parameter that needs to be changed or replaced.
Italics	Reference to other documents.
Note:	Notes contain additional useful information.
Warning	Warning contains important information. Pay special attention to information highlighted this way.
Successive menu choices	Successive menu choices may appear with a greater than sign (-->) between the items that you will select consecutively. Example: Navigate to **File** --> **Save** --> **OK**.

1 Platforms & Standards

Aras® is committed to standard Internet protocols and common platforms. Aras Innovator® provides businesses with flexible configuration options to manage based on tomorrow's market requirements not yesterday's decisions.

1.1 Client Specifications

Operating System	Supported Browser	Framework
Windows 8.1	Internet Explorer 11	Microsoft .NET 3.5 SP1
	Firefox 31 ESR	-
Windows 8	Internet Explorer 10	Microsoft .NET 3.5 SP1
	Firefox 31 ESR	-
Windows 7	Internet Explorer 11	Microsoft .NET 3.5 SP1
	Internet Explorer 10	Microsoft .NET 3.5 SP1
	Internet Explorer 9	Microsoft .NET 3.5 SP1
	Firefox 31 ESR	-
OS X 10.8 (Mountain Lion)	Firefox 31 ESR	-
OS X 10.7 (Lion) Mac	Firefox 31 ESR	-

1.2 Innovator Server Specifications

Operating System	Web Browser	Framework
Microsoft Windows Server 2012	IIS 8	Microsoft .NET 4.0
Microsoft Windows Server 2008 R2	IIS 7.5	Microsoft .NET 4.0

1.3 Vault Server Specifications

Operating System	Web Browser	Framework
Microsoft Windows Server 2012	IIS 8	Microsoft .NET 4.0
Microsoft Windows Server 2008 R2	IIS 7.5	Microsoft .NET 4.0

1.4 Database Specifications

Operating System	Database
Microsoft Windows Server 2012	• Microsoft SQL Server 2014 • Microsoft SQL Server 2012 • Microsoft SQL Server 2008 R2
Microsoft Windows Server 2008 R2	• Microsoft SQL Server 2014 • Microsoft SQL Server 2012 • Microsoft SQL Server 2008 R2

2 Recommendations and Requirements

To optimize Aras Innovator® performance Aras ® Corporation recommends the following software and hardware components. Please keep in mind that the minimum requirements are listed as a baseline and following recommendations ensures system performance. Recommendations also assume that Aras Innovator will be running with minimum additional network activity. Other active applications on the network or on the PCs will affect performance and must be taken into account when selecting hardware.

Database Server

Database Engine	Microsoft SQL Server 2008 R2, Microsoft SQL Server 2012, or Microsoft SQL Server 2014 – Recommend Enterprise Edition
Network OS	Any supported O/S platform for the selected database
CPU	Recommend for up to 1000 users 32 logical cores
	Minimum for up to 250 users 16 logical cores
Memory	Recommend for up to 1000 users 64 GB RAM
	Minimum for up to 250 users 32 GB RAM
HDD	Recommend RAID using 4 to 6 physically separate disks (RAID 0/1) – Striping data across disks improves performance
	NOTE: NEVER use OS based mirroring of the database – The OS should be on a separate disk from the Database
	It is recommended that the Operating system and virtual memory file be separated from the SQL server data and log files. Optimal SQL server performance is achieved when SQL server log files also reside on a separate physical disk. The following recommended guideline is a good price/performance compromise:

- Operating System disk(s) – could be RAID 1
- SQL Server data files (RAID 5 array, minimum of 3 drives)
- SQL Server log files (RAID 1 array, 2 drives)
- There should be 1 temp database per physical core up to but not more than 8 temp databases
- Disks for data and log files should be higher than 1000 IOPS – Disk speed impacts performance of concurrent users

Application Server

Network OS	Windows Server 2008 R2, or Windows Server 2012 – Recommend Enterprise Edition
Web Server	IIS version 7 or higher
.NET	Microsoft .NET Framework 4.0
CPU	Recommend for up to 1000 users 8 physical cores and 16 logical cores
	Minimum for up to 250 users 4 physical cores and 8 logical cores
Memory	Recommend for up to 1000 users 32 GB RAM
	Minimum for up to 250 users 16 GB RAM
HDD	Recommend 2.0 GB free disk space – Aras Innovator will use approximately 400 MB for the production instance
Connectivity	Internet connection suggested for online support and update downloading – recommend VPN to support remote access
Server Clustering	Recommend introducing additional app servers in high availability cluster if more than 1000 users

Vault Server

Network OS	Windows Server 2008 R2, or Windows Server 2012 – Recommend Enterprise Edition
Web Server	IIS version 7 or higher
.NET	Microsoft .NET Framework 4.0
CPU	Recommend for up to 1000 users 4 physical cores and 8 logical cores
	Minimum for up to 250 users 2 physical cores and 4 logical cores
Memory	Recommend for up to 1000 users 16 GB RAM
	Minimum for up to 250 users 8 GB RAM
HDD	Recommend RAID array – Vault disk capacity planning should consider 2-year growth of total file space consumption.
	NOTE: End-user predictions of Vault Server data volume are typically under estimated and quickly surpassed
	Recommend 1.0 GB free disk space for the OS and software – Aras Innovator will use 50MB
	Disks for storing vaulted files should be higher than 500 IOPS – Disk speed impacts performance of concurrent users

Conversion Server

Network OS	Windows Server 2008 R2, or Windows Server 2012 – Recommend Enterprise Edition
Web Server	IIS version 7 or higher
.NET	Microsoft .NET Framework 4.0
CPU	Recommend 8 physical cores and 16 logical cores
	Minimum 4 physical cores and 8 logical cores
Memory	Recommend 32 GB RAM
	Minimum 16 GB RAM
HDD	Disks for checking out files to be converted should be higher than 500 IOPS – Disk speed impacts conversion throughput
Application	The Conversion Server recommendations are subject to change based on the converter application requirements being executed on the server

Clients

Client OS	Windows 7, Windows 8, Windows 8.1, Mac OS X 10.8 (Mountain Lion), or Mac OS X 10.7 (Lion)
Browser	Firefox 31 ESR, Internet Explorer 9, Internet Explorer 10, or Internet Explorer 11
.NET	Microsoft .NET Framework 3.5 SP1
CPU	Minimum requirement CPU 2.0 GHz or higher
Memory	Recommend 8 GB RAM
	Minimum requirement 4 GB RAM
HDD	Minimum requirement 80 MB free disk space for Internet temporary folders
Monitor	Recommend 1280 x1024 monitor and adapter – Minimum requirement 1024 X 768

Network

Recommend 100 mbps network between Application Server and Clients

Recommend dedicated sub-LAN of minimum 1.0 GB between the Application Servers and Database Server

Backup Equipment

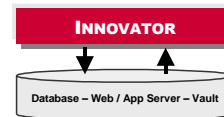Aras Corporation recommends investment in a reliable backup system

3 Hardware Configuration

Aras Innovator® offers numerous configuration options designed to meet your business requirements and technology environment with the ability to scale to meet future needs. Migrating from one configuration to the next is designed to be straightforward.

Option 1: Single Server
250 Users
Combined Database, File Vault,
and Web / App Servers

	CPU	RAM	HDD [1,2]
Single Combined Server	16 Logical Cores	32 GB	1000 IOPS

[1] HDD capacity requirements depend directly on the CAD, EDA and document formats employed in conjunction with the aggregate file count and total size.
[2] Disk speed is recommended for the Database Server Tier. Please see Section 2 "Recommendations and Requirements" for more details
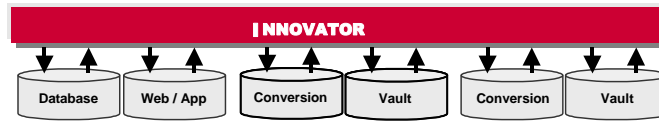
Option 2: Separate Servers
1000 Users
Separate Database, File Vault,
and Web / App Servers

	CPU	RAM	HDD
Database Server [2]	32 Logical Cores	64 GB	1000 IOPS
Web / App Server	4 Physical Cores with 8 Logical Cores	32 GB	
Vault Server [1]	4 Physical Cores with 8 Logical Cores	16 GB	500 IOPS
Conversion Server	8 Physical Cores with 16 Logical Cores	32 GB	500 IOPS

[1] HDD capacity requirements depend directly on the CAD, EDA and document formats employed in conjunction with the aggregate file count and total size.
[2] Please see Section 2 "Recommendations and Requirements" for more details

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Option 3: Distributed Servers
1000 Multi-site Users
Multiple Vault and Conversion,
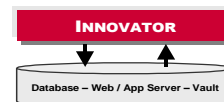Single App and Database Server

	CPU	RAM	HDD
Database Server [2]	32 Logical Cores	64 GB	1000 IOPS
Web / App Server	4 Physical Cores with 8 Logical Cores	32 GB	
Vault Server [1]	4 Physical Cores with 8 Logical Cores	16 GB	500 IOPS
Conversion Server	8 Physical Cores with 16 Logical Cores	32 GB	500 IOPS

[1] HDD capacity requirements depend directly on the CAD, EDA and document formats employed in conjunction with the aggregate file count and total size.
[2] Please see Section 2 "Recommendations and Requirements" for more details

Option 4: Development Server
Used for Customization, Testing,
or Training Environments

	CPU	RAM	HDD
Single Development Server [1]	4 Logical Cores	8.0 GB	4 GB

[1] A development server is not meant to be an environment for a large number of concurrent users, but rather is meant to be an all-in-one, self-contained environment for developing and testing new applications before deploying them to the production environment.