

## CONTRACT ADVANTAGE™ WEB System Requirements

Updated August 1, 2024

All requirements apply to client-hosted applications. If you are purchasing **CONTRACT ADVANTAGE** as a service, only the Workstation Requirements apply.

### SERVER HARDWARE REQUIREMENTS

Specification	Recommended	Comments																				
Server	Physical or Virtual Server	System verified under VMWARE and Hyper-V. Virtually all clients are running Contract Advantage on VM's.																				
Server Type	GMS recommends using Windows Server 2019 or 2022.	<div>The Windows Server Standard Version is the minimum version required.</div> <table><tr><th>Windows Server Versions</th><th>Release Date</th><th>End of Mainstream Support</th><th>End of Extended Support</th></tr><tr><td>2012 R2</td><td>11/25/2013</td><td>10/09/2018</td><td>10/10/2023</td></tr><tr><td>2016</td><td>10/15/2016</td><td>01/11/2022</td><td>01/11/2027</td></tr><tr><td>2019</td><td>11/13/2018</td><td>01/09/2024</td><td>01/09/2029</td></tr><tr><td>2022</td><td>09/18/2021</td><td>10/13/2026</td><td>10/14/2031</td></tr></table> <div>Server 2008 R2 and Server 2012 R2 have reached the end of support by Microsoft, so these versions will no longer be supported by GMS.</div>	Windows Server Versions	Release Date	End of Mainstream Support	End of Extended Support	2012 R2	11/25/2013	10/09/2018	10/10/2023	2016	10/15/2016	01/11/2022	01/11/2027	2019	11/13/2018	01/09/2024	01/09/2029	2022	09/18/2021	10/13/2026	10/14/2031
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Processors	GMS recommends using at least a dual processor configuration.	A dual or quad processor will improve performance. A single processor is not sufficient for good performance.																				
Memory	16 GB recommended.	We recommend 16GB of memory. In general, the more memory, the better.																				
Hard Disk	GMS recommends having 250 GB+ minimum free per storage device or partition.  RAID 5 architecture is recommended for installed systems.	Storage requirements greatly depend on the volume and size of the documents attached to the contract records. Documents are stored in a managed folder structure, not in the SQL Server database. It is better to have 250 GB free to avoid any space constraints. Some clients need 50GB or more for documents, with an average being 5-10 GB.																				
Processor Speed	2GHz or higher recommended	The faster, the better (2 GHz server, or faster, will provide the best performance).																				
Database Server	GMS recommends that the Database Server reside on a separate VM or drive.	The Database server can reside on the same VM as the Application Server, but we recommend using a separate VM. This is both a security issue and a performance issue.																				
Document Server	GMS recommends that the Document Server reside on a separate drive	The Document Server can exist on the same drive as the Application Server. However, running on a separate drive is strongly recommended. This is both a security issue and a performance issue.																				

## SERVER SOFTWARE REQUIREMENTS

Product	Description	Comments																																								
Database	<p>GMS recommends SQL Server 2019.</p> <p>Be aware that older versions are nearing their End-of-Life.</p>	<table><thead><tr><th>SQL Server Release + Latest Version</th><th>Original Release Date</th><th>End of Mainstream Support</th><th>End of Extended Support</th></tr></thead><tbody><tr><td>SQL 2012 SP4</td><td>05/20/2012</td><td>July 2017</td><td>July 2022</td></tr><tr><td>SQL 2014 SP3</td><td>06/05/2014</td><td>July 2019</td><td>July 2024</td></tr><tr><td>SQL 2016 SP2</td><td>06/01/2016</td><td>July 2021</td><td>July 2026</td></tr><tr><td>SQL 2017</td><td>09/29/2017</td><td>Oct 2022</td><td>Oct 2027</td></tr><tr><td>SQL 2019</td><td>11/04/2019</td><td>Jan 2025</td><td>Jan 2030</td></tr><tr><td>SQL 2022</td><td>Fall 2022</td><td>Pending</td><td>Pending</td></tr></tbody></table> <p>SQL Server 2008, all versions, are no longer supported (since Jan 2020). SQL Server 2012 SP4 and SQL Server SP3 have reached the end of extended support from Microsoft, so these versions will no longer be supported by GMS.</p>	SQL Server Release + Latest Version	Original Release Date	End of Mainstream Support	End of Extended Support	SQL 2012 SP4	05/20/2012	July 2017	July 2022	SQL 2014 SP3	06/05/2014	July 2019	July 2024	SQL 2016 SP2	06/01/2016	July 2021	July 2026	SQL 2017	09/29/2017	Oct 2022	Oct 2027	SQL 2019	11/04/2019	Jan 2025	Jan 2030	SQL 2022	Fall 2022	Pending	Pending												
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Report Writer	SAP Crystal Reports	<p>Report License required.</p> <table><thead><tr><th>Crystal Reports Versions</th><th>Release Date</th><th>End of Mainstream Support</th><th>End of Extended Support</th></tr></thead><tbody><tr><td>2011</td><td>Aug 2011</td><td>Dec 2015</td><td>Dec 2017</td></tr><tr><td>2013</td><td>Aug 2013</td><td>Dec 2018</td><td>Dec 2020</td></tr><tr><td>2016</td><td>Mar 2016</td><td>Dec 2022</td><td>Dec 2024</td></tr><tr><td>2020</td><td>Jun 2020</td><td>Dec 2025</td><td>Dec 2027</td></tr></tbody></table>	Crystal Reports Versions	Release Date	End of Mainstream Support	End of Extended Support	2011	Aug 2011	Dec 2015	Dec 2017	2013	Aug 2013	Dec 2018	Dec 2020	2016	Mar 2016	Dec 2022	Dec 2024	2020	Jun 2020	Dec 2025	Dec 2027																				
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PDF Writer	No longer required on the Application Server.	<p>Reads PDF files and highlights hits in document.</p> <p>Create PDF documents from Word documents.</p> <p>GMS uses Adobe Acrobat Pro on the server for convenience and problem resolution.</p>																																								
Office Software	Microsoft Office 365 PRO Versions	<p>Use the Professional version for the required support for Word, Excel, Outlook, PowerPoint, etc. On 04/21/2020, Office 365 was renamed Microsoft 365 Business Standard (installed) and Microsoft 365 Apps (subscription).</p> <table><thead><tr><th>Microsoft Office Versions</th><th>Release Date</th><th>End of Mainstream Support</th><th>End of Extended Support</th></tr></thead><tbody><tr><td>2010 SP2</td><td>Jul 2013</td><td>Oct 2015</td><td>Oct 2020</td></tr><tr><td>2013 SP1</td><td>Feb 2014</td><td>Apr 2018</td><td>Apr 2023</td></tr><tr><td>2016</td><td>Sep 2015</td><td>Oct 2020</td><td>Oct 2025</td></tr><tr><td>2019</td><td>Sep 2018</td><td>Oct 2023</td><td>Oct 2025</td></tr><tr><td>2021</td><td>Oct 2021</td><td>Oct 2026</td><td>Oct 2031</td></tr><tr><td>O365</td><td>Sep 2015</td><td>Open...</td><td>Open...</td></tr></tbody></table>	Microsoft Office Versions	Release Date	End of Mainstream Support	End of Extended Support	2010 SP2	Jul 2013	Oct 2015	Oct 2020	2013 SP1	Feb 2014	Apr 2018	Apr 2023	2016	Sep 2015	Oct 2020	Oct 2025	2019	Sep 2018	Oct 2023	Oct 2025	2021	Oct 2021	Oct 2026	Oct 2031	O365	Sep 2015	Open...	Open...												
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Web Server	Microsoft Internet Information IIS 8 Recommended.	<p>Server – IIS 7 or higher</p> <table><thead><tr><th>IIS Versions</th><th>Supported Server Version</th><th>Release Date</th><th>End of Mainstream Support</th><th>End of Extended Support</th></tr></thead><tbody><tr><td>7.0</td><td>2008</td><td>May 2008</td><td>Jul 2011</td><td>Jan 2020</td></tr><tr><td>7.5</td><td>2008R2</td><td>Oct 2009</td><td>Jan 2015</td><td>Jan 2020</td></tr><tr><td>8.0</td><td>2012</td><td>Oct 2012</td><td>Oct 2018</td><td>Oct 2023</td></tr><tr><td>8.5</td><td>2012R2</td><td>Nov 2013</td><td>Oct 2018</td><td>Oct 2023</td></tr><tr><td>10.0 v1607</td><td>2016</td><td>Sep 2016</td><td>Apr 2020</td><td>Oct 2027</td></tr><tr><td>10.0 v1709</td><td>1709</td><td>Oct 2017</td><td>Jan 2022</td><td>Jan 2029</td></tr><tr><td>10.0 v1809</td><td>2019</td><td>Oct 2018</td><td>Jun 2025</td><td>Jan 2029</td></tr></tbody></table> <p>Beginning with Contract Advantage Version 9, .NET Framework 4.8x must be installed and configured in IIS.</p>	IIS Versions	Supported Server Version	Release Date	End of Mainstream Support	End of Extended Support	7.0	2008	May 2008	Jul 2011	Jan 2020	7.5	2008R2	Oct 2009	Jan 2015	Jan 2020	8.0	2012	Oct 2012	Oct 2018	Oct 2023	8.5	2012R2	Nov 2013	Oct 2018	Oct 2023	10.0 v1607	2016	Sep 2016	Apr 2020	Oct 2027	10.0 v1709	1709	Oct 2017	Jan 2022	Jan 2029	10.0 v1809	2019	Oct 2018	Jun 2025	Jan 2029
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## SERVER SECURITY REQUIREMENTS

Features	Required	Recommended	Optional	Comments
TLS	✓			Transport Layer Security – Required for Email and Digital Signatures
HTTPS		✓	✓	<p>Hypertext Transfer Protocol Secure (HTTPS) is an extension of the Hypertext Transfer Protocol (HTTP). It uses encryption for secure communication over a computer network and is widely used on the Internet.</p> <p>GMS recommends using https on internal systems. Our SaaS version of Contract Advantage only allows https access.</p>
MFA		✓	✓	Contract Advantage supports Multi-Factor Authentication (MFA) using smartphone authenticator apps like Microsoft Authenticator and Google Authenticator.
SSO			✓	<p>Single Sign-On (SSO) is used to enable access to multiple applications while only signing in once. GMS supports OKTA and other SSO products.</p> <p>MFA (Multi-Factor Authentication) and SSO (Single Sign-On) can be used together<sup>1</sup>. SSO works alongside MFA by using MFA to authenticate a user when they first log in and sharing the authentication with different applications</p>

## WORKSTATION HARDWARE AND O/S REQUIREMENTS\*

Specification	Recommended	Comments
Workstation Type	Windows 10 Windows 11	Windows 10 and 11 preferred. The primary support factor is using a supported Web Browser, not the particular O/S used.
Memory	16 GB or more recommended	Browser performance will be affected by memory size and available memory. The CA app will generally use only 250MB-500MB of memory space, so the CA app is only one factor that adds to the system load.
Hard Disk	50GB recommended minimum free space	The space is only required for downloading, editing and viewing attached documents, web page caching, etc. Contract Advantage Web is a zero-footprint application on the desktop. However, we recommend that workstations always have at least 20% free space on the local drive (with 40% preferred).
Processor Speed	2GHz or higher recommended Current technology is in the range of 2.6-3.6 GHz.	The web page local processing is predominantly determined by Processor, Speed and Memory.
Video	GMS recommend 1600 x 900 or higher.	<p>The system directly supports the following video resolutions:</p> <p>1024 x 768 1280 x 768 1440 x 900 1600 x 900</p> <p>Smaller resolutions will not work well. Higher resolutions can be used without issues. Users can adjust the resolution or increase/decrease the web browser page magnification.</p>

\*These Workstation Requirements apply for both client-hosted and GMS hosted solutions.

## WORKSTATION SOFTWARE REQUIREMENTS\*

Specification	Recommended	Comments																								
Workstation Type	Windows 10 Windows 11	Windows 10 and 11 preferred.																								
Web Browser	Microsoft Edge Google Chrome Apple Safari Firefox	All Portals and Workflows work with Edge, Chrome, Firefox, Safari and other browsers. The core Contract Advantage application runs under Edge, Chrome, Safari and Firefox.																								
Office Software	Office 365/Microsoft 365 Pro/ProPlus or Office 2019 Pro Recommended	<div>The Pro versions provide support for more possible file types that the user may need to access.</div> <table><tr><th>Microsoft Office Versions</th><th>Release Date</th><th>End of Mainstream Support</th><th>End of Extended Support</th></tr><tr><td>2010 SP2</td><td>Jul 2013</td><td>Oct 2015</td><td>Oct 2020</td></tr><tr><td>2013 SP1</td><td>Feb 2014</td><td>Apr 2018</td><td>Apr 2023</td></tr><tr><td>2016</td><td>Sep 2015</td><td>Oct 2020</td><td>Oct 2025</td></tr><tr><td>2019</td><td>Sep 2018</td><td>Oct 2023</td><td>Oct 2025</td></tr><tr><td>O365</td><td></td><td>Open...</td><td>Open...</td></tr></table>	Microsoft Office Versions	Release Date	End of Mainstream Support	End of Extended Support	2010 SP2	Jul 2013	Oct 2015	Oct 2020	2013 SP1	Feb 2014	Apr 2018	Apr 2023	2016	Sep 2015	Oct 2020	Oct 2025	2019	Sep 2018	Oct 2023	Oct 2025	O365		Open...	Open...
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Document Editing	Edraw Word Viewer Component  IE Tab	<div>Edraw Word Viewer Component must be installed in the web browser to act as the container for Word Documents.</div> <div>IE Tab must be installed to provide support for editing Microsoft Word documents within the Web browser (for Edge and Chrome only).</div>																								
PDF Support	Adobe Acrobat Pro DC 2020	<div>There are two types of uses for PDF documents: creation and viewing. The Adobe Acrobat PRO versions provide the most flexibility for creating PDF documents outside of Contract Advantage.</div> <div><div><div>Creating PDF's:</div><div>Adobe Acrobat Pro DC Adobe Creative Cloud Office 2016 (basic) Office 365/Microsoft 365 Adobe Acrobat Pro XI</div></div><div><div>Viewing PDF's:</div><div>Adobe Acrobat Reader XI Windows (basic) Web Browsers - Edge, Chrome</div></div></div> <div>The minimum requirement is Adobe Acrobat Reader to be able to display PDF documents. Other PDF Reader and Pro products will work for local viewing.</div> <table><tr><th>Acrobat Pro Versions</th><th>Release Date</th><th>End of Mainstream Support</th></tr><tr><td>X</td><td>Nov 2010</td><td>Nov 2015</td></tr><tr><td>XI</td><td>Oct 2012</td><td>Oct 2017</td></tr><tr><td>DC 2015</td><td>Apr 2015</td><td>Apr 2020</td></tr><tr><td>2017</td><td>Jun 2017</td><td>Jun 2022</td></tr><tr><td>2020</td><td>Jun 2020</td><td>Jun 2025</td></tr><tr><td>DC 2021</td><td></td><td>Continuous Update</td></tr></table>	Acrobat Pro Versions	Release Date	End of Mainstream Support	X	Nov 2010	Nov 2015	XI	Oct 2012	Oct 2017	DC 2015	Apr 2015	Apr 2020	2017	Jun 2017	Jun 2022	2020	Jun 2020	Jun 2025	DC 2021		Continuous Update			
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### Notes

Great Minds Software reserves the right to change system specifications from time to time without prior notification.

These specifications and comments are based on the available information and observation of performance in test and client sites.

Your specific environment may affect the performance of the software and the database.

GMS recommends regular, daily backups of **CONTRACT ADVANTAGE** components, including the database, documents, application and support files.