



# TeamMate+

TeamMate+ Audit, TeamMate+ Controls, and TeamMate+ Public Sector

## IT Overview

version: December 2020

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## About TeamMate+

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**NOTE:** Content in this document applies to TeamMate+ Audit, TeamMate+ Controls, and TeamMate+ Public Sector. Requirements and installation are the same for all three products. All references to these products will be referred to as TeamMate+ unless otherwise specified individually.

**IMPORTANT:** As of May 2020 with the adoption of a more frequent product release schedule resulting in infrequent document changes, this document notes all updates at the end of this document under the [Document Updates](#) section.

Combined with other Wolters Kluwer products, data can be shared or independent depending on the technical layout. TeamMate+ is built with the following technologies:

- ASP.NET MVC 5.2.6
- .NET Framework 4.7.2 (installed via the EXE) (.NET Framework 4.8 is also supported)
- .NET Core 2.0
- .NET Core 3.1.3
- 64-bit only
- jQuery / jQuery UI
- CKEditor: HTML editor
- EVO PDF: HTML to PDF convertor
- OpenXML: Excel Export
- SQL Server
- SQLCipher (SQLite): Offline

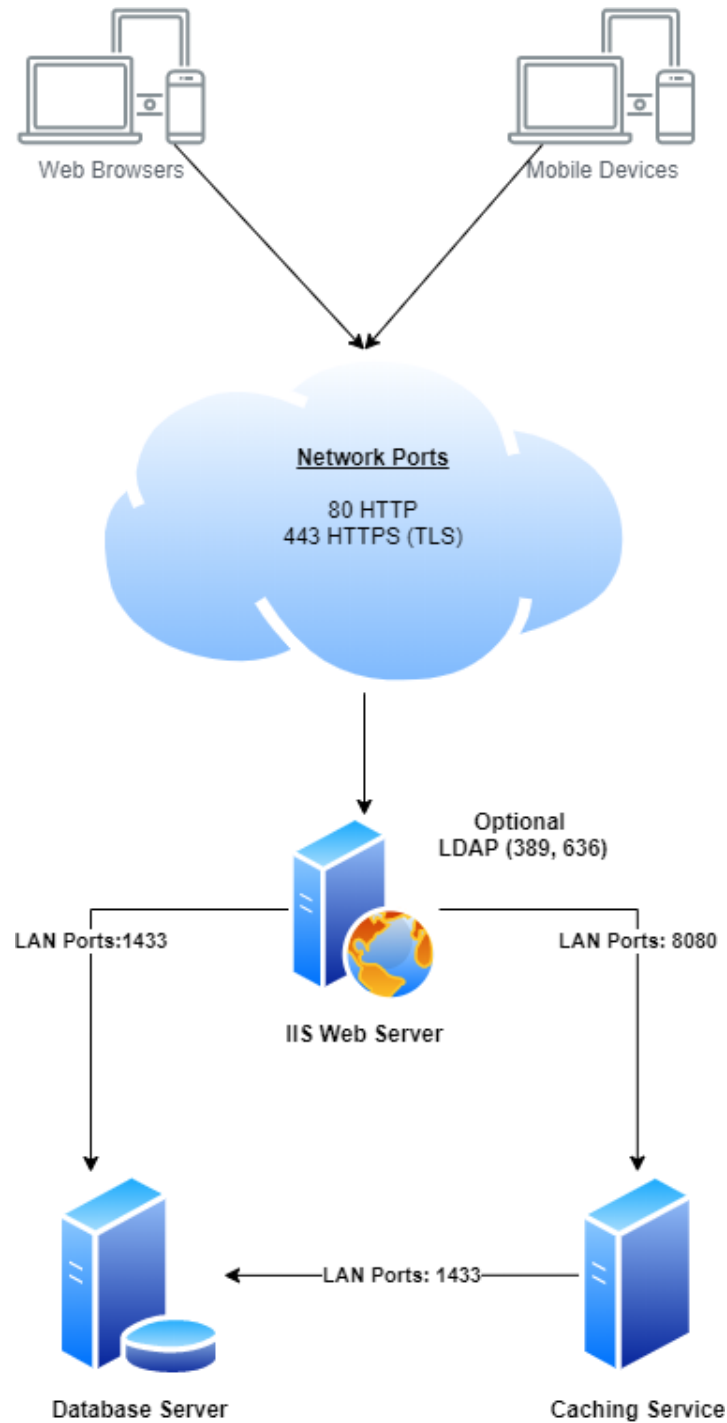
## Web Application Security

Wolters Kluwer follows a secure development life-cycle (SDL) modeled after Microsoft's recommended SDL. This includes security as part of the development process from training the entire staff on security, to considering security during design and architecture, all the way through release and also includes a response process. During the implementation phase, we perform both static code analysis (SAST) using the Checkmarx tool and dynamic scanning (DAST) using Burp and OWASP Zap. During the verification phase, we have a third party review our security process in hosting (see SOC audit) and perform dynamic scanning using IBM App Scan. These tools focus on confirming the use of best practices such as the OWASP Top 10 and other industry recognized security practices.

Wolters Kluwer has a strong global security focus: in addition to implementing strong IT security standards company-wide, Wolters Kluwer requires security training for all employees on security issues and concerns. The Tax and Accounting division within Wolters Kluwer has a team dedicated to security and architecture, and focuses on improving our security footprint in all products by coordinating security champions among products and providing annual classroom based security training.

## TeamMate+ Architecture

The TeamMate+ product is a web-based product that can be accessed from anywhere depending on the network for which the web server resides.



*Example: TeamMate+ Architecture*

# System Requirements

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## Desktop Requirements

The only thing required to run TeamMate+ on the desktop is a web browser; however, MS Office and Adobe Acrobat is required for Advanced Integration with workpapers (MS Word, MS Excel, and Adobe PDF), providing additional functionality. This Advanced Integration Installer requires only .NET Framework 4.5 on end-user machines (compared to 4.7.2 for TeamMate+) and Visual C++ Redistributable for VS 2017. Both are included and will be automatically installed with the integration installer.

## Operating System Support

Microsoft Windows (32 and 64-bit environments):

- Windows Server 2019
- Windows Server 2016
- Windows Server 2012 R2
- Windows Server 2012
- Windows Server 2008 R2 SP1
- Windows 10
- Windows 8.1 Update 1

**NOTE:** Windows RT is not supported.

## Web Browsers

The following web browsers are supported, with caveats that follow:

- Internet Explorer 11 and Edge
- Chrome on Windows
- Microsoft Edge Chromium
- iPad (Safari - iOS9 and later)

### Web Browser support Caveats:

- Compatibility mode for Internet Explorer 11 is NOT supported.
- WCAG supports only Internet Explorer and Chrome.
- Response Tracking does NOT support Internet Explorer 11.

## MS Office and Adobe Acrobat

MS Office and Adobe Acrobat is required for workpapers (MS Word, MS Excel, and Adobe PDF) and when working with WebDAV save and/or TeamMate+'s Advanced Integration. The following versions are supported:

- Microsoft Office 365 Pro Plus (32 and 64-bit)

**NOTE:** MS Office 365 offers both online and offline versions. Online is a subscription service that provides no integration opportunities for TeamMate yet. Offline, which is referred to as Office 365 Professional Plus or Office 365 Click to Run, is the desktop version of MS Office and will work with TeamMate AM, TeamMate+, and TeamMate Analytics (TMA).

- Microsoft Office 2019 (32 and 64-bit)
- Microsoft Office 2016 (32 and 64-bit)
- Microsoft Office 2013 and 2013 SP1 (32 and 64-bit)
- Adobe Acrobat Reader DC and 2017
- Adobe Acrobat Pro DC and 2017

## Internet Access

Internet access is required to view the TeamMate+ Online Help. The help is web-based and accessible from within the application by clicking the Help icon. If Internet access is not available, you can obtain the TeamMate+ Help files for local access from TeamMate Connect:

<https://www.teammateconnect.com>. Instructions for redirecting the Help button to point to an alternate location are in the Help under, "Redirect Help."

## Database Server Requirements

### Hardware Requirements

The database server specifications will vary based on the needs and number of concurrent users in the organization. Example database server specifications for three different types of organizations are provided below.

Component	Small Team	Mid-sized Team	Large Team
Estimated Concurrent Users	1-10	11-100	100+
Processor	x64 Xeon Processor: 2.0 GHz or higher (4 cores)	x64 Xeon Processor: 2.0 GHz or higher (8 cores)	x64 Xeon Processor: 2.0 GHz or higher (8 cores)
Memory	8 GB or greater	16 GB or greater	32 GB or greater
Hard Drive	150 GB or greater	300 GB or greater	500 GB or greater
Dedicated	Non-dedicated Server	Non-dedicated Server	Dedicated Server

### Software Requirements

Database Servers:

All Microsoft SQL Server versions are supported with Integration Services and include support for all Service Packs.

- Microsoft SQL Server 2019
- Microsoft SQL Server 2017

- Microsoft SQL Server 2016
- Microsoft SQL Server 2014
- Microsoft SQL Server 2012

### Further Environmental Requirements

- Collation must match the default MS SQL Server collation of `SQL_Latin1_General_CP1_CI_AS` for both the database and server instance. This is to prevent unexpected data sort operations/database engine errors when there are mismatches in collation between the database and the tempdb.
- Database compatibility mode must be set to the level of the server with a minimum of SQL 2012.
- For the database server operating system, 64-bit is preferred, but 32-bit is supported. For larger implementations, a 32-bit operating system may hit system memory limitations and cause issues with the TeamMate+ software.
- TeamMate+ supports Always On starting with SQL Server 2016. This method can be used with synchronous, asynchronous, and Failover Clustering.
- A virtualized database server may differ in performance from a comparable physical implementation, and the implications of these differences should be considered.
- Transparent Data Encryption can be used if additional security is needed; however, Microsoft estimates a performance hit when in use.

[See "What additional encryption options should be considered?" on page 14 for more information.](#)

## Web Server Requirements

### Hardware Requirements

Component	Small Team	Mid-sized Team	Large Team
Estimated Concurrent Users	1-10	11-100	100+
Processor	x64 Xeon v3 or Higher Processor: 2.0 GHz or higher (4 cores)	x64 Xeon v3 or Higher Processor: 2.4 GHz or higher (8 cores)	x64 Xeon v3 or Higher Processor: 3.0 GHz or higher (16 cores)
Memory	8 GB or greater	16 GB or greater	32 GB or greater
Hard Drive	10 GB or greater	20 GB or greater	40 GB or greater
Dedicated	Non-dedicated Server	Dedicated Servers	Dedicated Server (Multiple load balanced servers depending on usage)

**NOTE:** TeamInsights reporting does not require additional hardware requirements.

## Software Requirements

Supported web server versions:

Microsoft Internet Information Server (IIS) 8, 8.5, 10

Running on:

- Windows Server 2019
- Windows Server 2016
- Windows Server 2012 and 2012 R2

## Third Party Software Requirements

- .NET Framework 4.7.2 (installed via the EXE) (.NET Framework 4.8 is also supported)
- Running on Windows Server 2016, the Microsoft Visual C++ 2010 Service Pack 1 Redistributable Package MFC Security Update needs to be installed to support Offline package creation on the server.

## Caching Service Requirements

The caching service is an in-memory process that speeds up the processing power for the TeamMate+ application. The caching service specifications will vary based on many different needs. The number of concurrent users, the amount and type of data, etc. Example caching service specifications for three different types of organizations are provided below. For smaller to medium organizations, the caching service can be shared with the TeamMate+ Web Server. For larger organizations, it would be ideal to separate the caching service out to a separate box, but it's not required.

## Hardware Requirements

Component	Small Team	Mid-sized Team	Large Team
Estimated Concurrent Users	1-10	11-100	Over 100
Number of Audits Per Year	120	1200	1200+
Number of items per Audit*	5000	5000	5000
Processor	x64 Xeon v3 or Higher Processor: 2.0 GHz or higher (4 cores)	x64 Xeon v3 or Higher Processor: 2.4 GHz or higher (4 cores)	x64 Xeon v3 or Higher Processor: 3.0 GHz or higher (8 cores)
Memory	8 GB or greater	16 GB or greater	32 GB or greater
Hard Drive	10 GB or greater	20 GB or greater	20 GB or greater



Component	Small Team	Mid-sized Team	Large Team
<b>Dedicated</b>	Non-dedicated Server (Installed on Web Server)	Non-dedicated Server (Installed on Web Server)	Dedicated Servers (recommended)

\* This includes all items that would be found in an audit (project). Items would include Objectives, Risks, Controls, Procedures, Issues, Recommendations, Work Papers, Notes, etc.

## Software Requirements

Running on:

- Windows Server 2019
- Windows Server 2016
- Windows Server 2012 and 2012 R2

## Third Party Software Requirements

.NET Framework 4.7.2 (installed via the EXE) (.NET Framework 4.8 is also supported)

## TeamMate+ Installation Considerations

TeamMate+ web applications can be installed on the same machine for small deployments.

In all cases, Wolters Kluwer recommends using a separate database server. For larger sized teams, Wolters Kluwer recommends separate machines for web, caching server, and database. The table below offers a guide by team size.

Deployment	CPU Core Count	RAM	HD
<b>Small Team 1-10 (Consolidated Single Web Server)</b>			
Shared TeamMate+ Web/ Caching Server Machine	8	32	100
DB Machine	4	8	150
<b>Medium Sized Team 10-100 (Consolidated TeamMate+ Web, Cache and Database Machine)</b>			
Shared TeamMate+ Web and Caching Server	8	32	40
DB Machine	8	16	300
<b>Large Sized Team 100+ (Separate TeamMate+ Web, Cache and Database Machines)</b>			
TeamMate+ Web Machine	16	32+	40
Caching Server	8	32+	20
DB Machine	8	32	500

## Third Party Software Components

This table lists the third party software components licensed for distribution and are installed with the TeamMate suite. It should be noted that often these vendors will use software components licensed from other companies.

Software Component	Company Information	License	Version	Description
.NET	Microsoft	Microsoft EULA	4.7.2	.NET Framework 4.7.2 (installed via the EXE) (.NET Framework 4.8 is also supported)
.NET Core	Microsoft	Microsoft EULA	2.0	.NET Core Framework 2.0
.NET Core	Microsoft	Microsoft EULA	3.1.3	.NET Core Framework 3.1.3
CKEditor	CKSource	Commercial License	4.7	An HTML text editor for web content creation
CKEditor	CKSource	Commercial License	5.0	An HTML text editor for web content creation
dReveal	InfoArch	Commercial License	4.0.12	Reporting Solution
DropzoneJS	Matias Meno	MIT	5.1.1	Provides drag and drop file uploads with image previews
EVO HTML to PDF Converter	EVO PDF Software	Commercial License	7.4	Translates HTML pages to PDF format
HangFire	Sergey Odinokov	LGPL v3	1.6.12	Scheduling Services
HTML Agility Pack	Microsoft	Microsoft Public License	1.4.9.5	Library for working with HTML documents
HTMLtoOpenXML	Microsoft	Microsoft Public License	1.6.0.0	Converter for HTML to OpenXML
Info.Lundin.Math	Patrik Lundin	Microsoft Public License	1.1.6751.9707	Math calculation library

Software Component	Company Information	License	Version	Description
jQuery	JS Foundation	Apache License 2.0	3.1.1 / 1.12.3 used only on login page for obsolete browser detection	JavaScript document library for DOM Manipulation and traversal
LinqKit	Joseph Albahari	Public Domain/Permissive	1.0.0.0	Extensions for Linq to SQL and Entity Framework
Newtonsoft.Json	Newtonsoft	MIT	12.0.3	Serialization library to support JSON
OpenXML	Microsoft	Microsoft Public License	2.5.5631.0	Excel Export
Polly	The Polly Project	BSD 3-clause "New" or "Revised"	5.0.6.0	Fault Tolerance - Cache Service
SignalR	Microsoft	Apache 2.0 License	2.2.31215.272	Real-Time Communication for web
SQLCIPHER	Zetetic	Commercial License	3.20.1	Offline Data Storage
TopShelf	TopShelf	Apache License 2.0	4.0.1.23	Service Hosting Framework

## Frequently Asked Questions (FAQ)

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The following are the most commonly asked questions from IT organizations. Any question not answered below can be addressed by contacting [TeamMate Support](#).

### Architecture

Ref #	Question	Answer
1.1	Is TeamMate+ a document management system for Office documents or a database application system?	TeamMate+ is designed to take advantage of both a relational database and tight integration with Office documents. It is unique in the marketplace in its ability to have this hybrid approach. File document references are stored in the database.
1.2	What portion of the product suite is client vs. web-based?	The TeamMate+ application is web-based. There is a client component (Advanced Integration) that is installed on the client machine to allow enhanced functionality between Microsoft Office documents and TeamMate+.
1.3	What network protocols are required?	TCP/IP is needed for MS SQL Server. The web applications use HTTP or HTTPS (TLS/SSL).
1.4	Is the system a J2EE or .NET architecture and what are the projected future plans?	All web applications require .NET Framework 4.7.2 (installed via the EXE) (.NET Framework 4.8 is also supported). There are no plans to provide a J2EE version.
1.5	Are there any ActiveX controls or COM components utilized?	There are no desktop ActiveX controls (or installation) required to use any of the web applications.
1.6	For COM components on the web server, what general operations do they perform?	The web software does not include or install COM components.
1.7	Are there any third party tools or components included?	All run-time distribution rights are provided by TeamMate+. <a href="#">See "Third Party Software Components" on page 10 for more information.</a>
1.8	Are 64-bit versions of software supported?	Yes, the 64-bit versions of Windows desktop and server operating systems are supported and highly recommended.
1.9	Is there any type of automated email functionality?	Yes, there is an automated email notification system, which allows for system generated emails to be sent out based on user preferences. This process utilizes a Notification Service which runs at predefined intervals to deliver notifications and emails.
1.10	Is IPv6 supported?	Yes, IPv4 and IPv6 are supported.

## Databases and Storage

Ref #	Question	Answer
2.1	What database platforms are supported?	TeamMate+ works with MS SQL Server. <a href="#">See "Database Server Requirements" on page 6 for more information.</a>
2.2	How are connections made to the database?	All the applications connect to the centralized database using TeamMate+ "connection" files (.tmc). These XML-based files contain all the required database location and connection information. The authentication information is encrypted. A utility is provided to create these connection files.
2.3	How many user accounts need to be created for MS SQL Server?	If using integrated authentication (Windows), a domain user account the services and applications were running would also need access. If using standard authentication (SQL Authentication), a single database user account is created on the database server. This user/password combination is encrypted and saved in the TMC file, which is stored on the TeamMate+ web server. A second SQL account should be created with elevated (dbo) permissions just for database creation and conversion operations only. This account should not be used by the application or the services.
2.4	Is Windows Authentication supported to connect to SQL Server?	Yes. SQL Server can be configured for either Integrated Windows Authentication or mixed mode.
2.5	Where are documents or workpapers stored?	Workpaper documents are stored within the MS SQL database as a blob (binary large object).
2.6	How are databases created?	Database administrators create the shell database and then use the tool, <code>TeamMateNG.TMDBAdmin</code> to initialize the database.
2.7	Can we have the TeamMate+ OLTP data schema?	Licensed users can request the database schema by sending an email to <a href="mailto:TeamMateSupport@WoltersKluwer.com">TeamMateSupport@WoltersKluwer.com</a> .
2.8	Can database clusters be used?	<a href="#">See "Database Server Requirements" on page 6 for more information.</a>
2.9	Are Clustered Availability Groups such as SQL AlwaysOn Supported?	Yes, AlwaysOn is available starting with SQL 2016.

## Multi-user Accessibility

Ref #	Question	Answer
3.1	How does the system ensure there are not simultaneous edits to the same information?	Transactions are used to ensure that groups of changes go into the database at the same time.
3.2	How many simultaneous users can the system support?	The limit when using TeamMate+ is largely based on the size of the hardware. <a href="#">See "Database Server Requirements" on page 6 for more information.</a>

## Encryption and Security

Ref #	Question	Answer
4.1	What is the purpose of the security mechanisms for TeamMate+?	TeamMate+ security prevents users from bypassing the system and editing procedures, issues, work papers, and other audit information after they have been signed off via credential restrictions to the web site.
4.2	What type of encryption is used for workpaper files?	AES-256 (Advanced Encryption Standard) is used to encrypt work papers stored in the SQL database.
4.3	How are passwords protected within TeamMate+?	<p>TeamMate+ utilizes the PBKDF2 cryptographic hash function with a large work factor to create a salted hashed value that is then stored in the database. When a user enters their password into the application, the password is run through the same algorithm and compared to the value in the database. If the values match, the user is granted access. The function being used meets the OWASP password storage recommendations.</p> <p><a href="https://www.owasp.org/index.php/Password_Storage_Cheat_Sheet">https://www.owasp.org/index.php/Password_Storage_Cheat_Sheet</a></p> <p>If there are concerns, then Wolters Kluwer recommends using the Windows Authentication model, in which user passwords are not stored in the database.</p> <p>SHA-256 cryptographic hash functions are used for passwords of the compressed file types associated with TeamMate+.</p> <p>Database passwords are encrypted using AES encryption stored in the XML connection files.</p>
4.4	Are the TeamMate+ databases encrypted?	When using MS SQL Server for the application, the databases are deliberately not encrypted in order to allow organizations to integrate with their own systems or import/export data as needed.
4.5	What additional encryption options should be considered?	TeamMate+ supports the use of TDE or Transparent Data Encryption in SQL Server. This does come with roughly an 8-10% cost in application performance.

Ref #	Question	Answer
4.6	How can we ensure our data is securely transmitted across a WAN for the web applications?	There are several ways data can be secured while in transit, either between servers or from a web server to the client browser. An option for database traffic between the web server and SQL server is to establish a trusted connection. For the web server, Wolters Kluwer recommends TLS be used for all web traffic to be encrypted.
4.7	How are database connections including database password encrypted?	The method to connect to the central application database is via a TeamMate+ "connection" file. The database username and password are encrypted using AES 256-bit (Advanced Encryption System) and saved in an XML-based connection file. Typically, these are created by the DBA using the TeamMate+ Tools.
4.8	What network or service accounts are needed?	Wolters Kluwer recommends configuring IIS to use the corresponding Application Pool identity for the user account to run the application. TeamMate+ Services such as Notification Services should use the Network Service account and not a Local Service Account.
4.9	Are there any U.S. export restrictions due to the encryption techniques?	The encryption techniques used within the database and work papers have cleared export regulations required by the U.S. Department of Commerce in accordance with Export Control Classification Number (ECCN) '5D002' and mass market TSU. The Commodity Classification Automated Tracking System (CCATS) number for TeamMate+ is G065170. In accordance with these regulations, this software (with a valid TeamMate+ license agreement) can be exported to countries outside of the United States with the following exceptions: Iran, Cuba, Syria, Sudan and North Korea.
4.10	Is TeamMate+ FIPS compliant?	TeamMate+'s encryption has been tested and works properly with the windows settings for FIPS cryptography 140-2, in the standard configuration for the US Government Configuration Baseline (USGCB).  The drive behind the United States Government Configuration Baseline (USGCB) is to develop security configuration baselines for products derived from Information Technology that are deployed to the various federal agencies. This baseline arrived from the Federal Desktop Core Configuration (FDCC) mandate. This process of developing, vetting, and providing baseline configurations settings was first described in a March 2007 memorandum from OMB to the various Federal agencies and department leaders, as well as a corresponding memorandum from OMB to the various Federal agencies and department Chief Information Officers (CIO).  TeamMate+ also runs under a FIPS approved IIS configuration.
4.11	What precautions are taken to detect security vulnerabilities?	TeamMate+ uses a combination of best-of-breed automated testing as well as manual tools to identify security vulnerabilities. TeamMate+ also performs penetration testing and includes security awareness into the standard development process.
4.12	Where are the keys stored?	The encryption keys are not stored anywhere; they are dynamically generated based on the client data.

Ref #	Question	Answer
4.13	Are the keys the same for each installation (i.e. will the keys in our test environment be the same as the keys in the production environment)?	The keys are not the same per installation as they are dynamically generated from the client's data.
4.14	Can [the client] change the keys?	The keys cannot be changed as it would necessitate re-encrypting all existing encrypted data.
4.15	What additional security best practices does TeamMate+ adhere to?	<ul style="list-style-type: none"> <li>• TeamMate+ implements a secure development lifecycle based on the Microsoft Secure SDLC.</li> <li>• Static code analysis for security concerns using HP Fortify.</li> <li>• Focus on OWASP top 10 and CWE Top 25.</li> <li>• Security response and mitigation process with a dedicated team to investigating and responding to security concerns.</li> </ul>
4.16	Is SSL/TLS/HTTPS supported?	Yes, in fact Wolters Kluwer recommends TLS. TLS 1.2 is supported by TeamMate+. This must be configured by whomever is managing the web server, as TeamMate+ does not configure this by default. In order to enable TLS 1.2 properly, please follow Microsoft's recommended approach for the specific environment (Operating System, Web Browser, Microsoft Office).
4.17	What security documentation is provided for TeamMate+?	A "Software Security Package" is updated for each release and can be provided upon request. This package includes our formal policies covering the requirements for the secure development, testing, deployment and monitoring of software product applications developed for Wolters Kluwer. In addition, it includes the reports that resulted from analyses and scans performed against our software. Additional testing and review beyond this package can be provided as part of a services engagement.
4.18	How does TeamMate+ secure Personally Identifiable Information (PII)?	Consistent with the GDPR requirements, our development team will continue to monitor the development cycle and ensure that, where relevant, privacy by design elements are incorporated. The TeamMate+ Software by its nature, does not "process" subject data; but to the extent we can build in relevant functionality consistent with privacy by design, we will do so.



## Compression

Ref #	Question	Answer
5.1	Are the databases or contents of databases compressed?	The databases are not compressed; however, the TeamMate+ work papers are compressed. This also optimizes the speed that it takes for the work papers as they travel from the database server to the application where they are then uncompressed.

## Backup and Disaster Recovery

Ref #	Question	Answer
6.1	Is there an automatic backup mechanism?	It is the responsibility of the customer to institute backup and maintenance procedures on the SQL database used by TeamMate+.
6.2	Is there a disaster recovery option?	For the central database, the organization's DBA should address database issues based on internal policies and procedures.

## Networking

Ref #	Question	Answer
7.1	What network protocols are supported?	All of the products are written using standard MS Windows libraries to take advantage of any network protocol supported by Windows.
7.2	What ports are used by the system?	<p>The following TCP Ports are used by default:</p> <ul style="list-style-type: none"><li>• <b>LDAP Synchronization</b> (optional): 636 for SSL and 389 for non-SSL.</li><li>• <b>SQL</b>: 1433 and 1434.</li><li>• <b>TeamMate+</b>: 80, 443, and 8080.</li></ul> <p><b>NOTE:</b> All default ports can be changed, if needed.</p>

Ref #	Question	Answer
7.3	Do TeamMate+ Server components work in a virtual machine environment?	<p>TeamMate+ has been tested using VMware Virtual Appliances (machines). No additional issues that would be directly related to a virtualized environment should occur as long as the virtual machine meets System Requirements.</p> <p><a href="#">See "Web Server Requirements" on page 7 for more information.</a></p> <p>If using a virtual environment, it is assumed that TeamMate+ will be running in a virtual machine that resides on a Host machine of VMware or Microsoft recommended requirements. This includes requirements stating what hardware level is necessary to support our recommendations on the VM multiplied by the number of virtual machines running on the VM Host.</p> <p>Additionally, if TeamMate+ will be in production in a virtual machine, it needs to be in a standard IT production environment, e.g., continued uptime, failover support, backups, etc.</p> <div> <p><b>NOTE:</b> If using a virtualized environment, it is expected that the virtual environment meets all of the resource requirements of a physical server. It is also expected that the virtualization software's requirements work with all software required for the TeamMate+ application.</p> </div>
7.4	Are wireless connections supported?	Yes, wireless connections are supported.
7.5	Does TeamMate+ Support a Web Farm or Load Balanced Environment?	Yes, WebFarm configurations are supported. The default configuration supports fail-over. Additional manual configuration is required to support other algorithms such as round-robin, sticky session, etc.

## Authentication and Passwords

Ref #	Question	Answer
8.1	What authentication models are used?	TeamMate+ supports Forms Authentication, Windows Authentication, and Federated Authentication.
8.2	What are the password restrictions or guidelines?	If Windows Authentication is not used, Forms authentication password requirements and complexity are configurable in the application. This can support minimum characters, forced punctuation, capitals, numeric, forced resets, and disallowing old passwords.
8.3	How are passwords encrypted within TeamMate+?	<a href="#">See "Encryption and Security" on page 14 for more information.</a>

Ref #	Question	Answer
8.4	Is single sign-on (SSO) available?	Yes, using Windows Authentication acts as an SSO. Federated Security (SAML2) is available for the supported identity providers: ADFS, Azure AD, Okta, and PingOne.
8.5	What happens if a user forgets their password?	If Windows Authentication is used, there is no need for password resets. If Basic Authentication is used, a "Forgot My Password" reset function is available in the application.
8.6	How does TeamMate+ integrate with Active Directory?	TeamMate+ has the ability to synchronize login information with LDAP via the TeamMate+ Worker service.

## MS Office and Adobe Acrobat Integration

Ref #	Question	Answer
9.1	What versions of MS Office and Adobe Acrobat are supported?	<p>TeamMate+ has integration with 32 and 64-bit versions of MS Office 2013 and 2016. Primarily, Word, Excel, and Adobe Acrobat (PDF file format) are supported. Other Office documents such as Visio, PowerPoint, Outlook, and Access databases can be added as attachments.</p> <p><a href="#">See "MS Office and Adobe Acrobat" on page 5 for more information.</a></p>
9.2	How is MS Office Integration accomplished?	<p>An Advanced Document Integration Add-In using custom WebDAV protocol is provided as part of the installation. This allows TeamMate+ applications to communicate with Microsoft Word, Excel, Adobe Acrobat, and Adobe Reader. This allows full document integration to edit and save changes, as well as hyperlinking between documents. Basic editing (no hyperlinking) functionality is provided for PowerPoint and Visio.</p> <p>See "Appendix D: Installing the TeamMate+ Advanced Integration Add-In" in the <i>Installation and Technical Configuration Guide</i> for Add-In installation instructions.</p> <div style="border: 1px solid black; border-radius: 10px; padding: 10px; margin-top: 10px;"> <p><b>NOTE:</b> Alternatively, end users can download and install the Office Integration Installer Add-In on their own from the same screen in TeamMate+ without the need for Admin rights to the machine; however, <i>it does not include Adobe PDF integration</i>. See "Support Page" in the Online Help for more information.</p> </div>
9.3	Do we have full MS Office functionality when accessed from TeamMate+?	The full power of Word and Excel are available when launched from TeamMate+.

Ref #	Question	Answer
9.4	Will I have the ability to utilize macros with Office Integration?	To use Office Integration, Word and Excel trust center settings must be set to allow Macros with Digital Signatures to be run.

## Installation

Ref #	Question	Answer
10.1	What technology is used for the product installation?	The installation of TeamMate+ is based on Windows Installer 3.0 technology with MSI and MSP files provided to the customer. The MSI's can be provided in EXE format.
10.2	How long does it take to install?	The TeamMate+ server applications require installations on both the web and database tiers. IT Professionals can normally install the web components and set up the database within a day.
10.3	What do the TeamMate+ installations include?	<p>The MSI installation files include all internally developed and licensed components needed to run the application as well as user Help system. All EXE installation files bundle the MSI file and will install it along with any bundle prerequisites.</p> <ul style="list-style-type: none"> <li>TeamMate+ Application: <ul style="list-style-type: none"> <li>.NET Framework 4.7.2</li> <li>.NET Core 3.1.3</li> </ul> </li> </ul>
10.4	Can the web applications be installed on a Domain Controller?	No, the TeamMate+ Server software was developed and tested to be used with Microsoft Internet Information Server (IIS). Microsoft does NOT recommend installing IIS on a domain controller. For more information, go to: <a href="https://technet.microsoft.com/en-us/library/jj635855.aspx#Install">technet.microsoft.com/en-us/library/jj635855.aspx#Install</a>
10.5	Are there logs created that can be used for troubleshooting?	Yes, there are a variety of logging options in TeamMate+, including file-based, database, and event-log based options.
10.6	Can TeamMate+ be hosted using cloud technologies like Azure or Amazon Web Services (AWS)?	The TeamMate+ product can be hosted in most environments as long as the environment meets the minimum requirements outlined in this document. This is only supported in Infrastructure as a Service (IaaS) platforms. Platform as a Service (PaaS) is not currently supported. If considering hosting TeamMate+ in the Cloud, you should consider TeamMate TeamCloud.
10.7	What is required for installing the new TeamInsights reporting engine?	Nothing. TeamInsights is built into the TeamMate+ application, so there is nothing additional to install or configure for TeamInsights.

## Product Upgrades

Ref #	Question	Answer
11.1	How often are product updates available?	Generally, a major suite release is made every four months. Minor updates and hot-fixes are also created to address specific issues. Wolters Kluwer reserves the right to vary this without notice.
11.2	How is database conversion handled?	Conversion of the TeamMate+ database may be required if using a previous version or a shared instance with TeamMate AM.

## Languages

Ref #	Question	Answer
12.1	What languages are available for the TeamMate+ application?	Languages for the TeamMate+ Application include: Arabic, Chinese (Simplified), English (US), French (FR), German, Indonesian (Bahasa), Italian, Japanese, Portuguese (BR), Russian, Spanish (ES), Thai, and Vietnamese.  <b>NOTE:</b> The supported languages for the <i>documentation</i> are different than what is supported in the application. To access translations of TeamMate+ documentation, go to the "Languages" page in the TeamMate+ Help.

## Offline

Ref #	Question	Answer
13.1	How is the offline data secured?	Data is stored inside an encrypted SQLite database on the file system. The database is secured using the SQLCipher encryption library from Zetetic.  Data is always encrypted at rest. The data is protected by a password that the user enters when the offline package is created. The user is then required to enter this password each time the database is accessed via the Offline Application.
13.2	How can I access my offline data if I lost my password?	The data CAN NOT be accessed without the password. This cannot be overridden.
13.3	What encryption algorithm is used to secure the database?	The default algorithm is a 256-bit AES in CBC mode.
13.4	Can I access the data in the SQLite database using third party tools?	No. The data is not accessible using third party tools.

## Exchange API

Ref #	Question	Answer
14.1	Does TeamMate+ support API?	Yes, TeamMate+ supports Application Programming Interface (API). The API allows for the exchange of data between TeamMate+ and other external systems for Issues, Recommendations, and Workpapers.
14.2	How does API handle security?	The TeamMate+ API uses API Keys (security tokens) for each user and application that the TeamMate+ API communicates with. The responsibility for security of API Keys lies with the TeamMate+ Administrator. If the API key is compromised, unlimited read and modification of audit data could occur. Maintaining security requires that these secret API keys not be made available outside of the process calling the API (for example, by JavaScript or HTML).
14.3	What API format is supported?	TeamMate+ API supports the Representational State Transfer (REST) data format. SOAP is not supported.
14.4	Can an auditor and/or TeamMate+ Champion program the API?	No, working with the TeamMate+ API requires a developer familiar with a LOB (line-of-business) application (For example, Salesforce or Microsoft Dynamics CRM) to write program code that can call the TeamMate+ API. The developer uses a third party developed connector and uses it to integrate with a LOB and makes calls to TeamMate+ to request data.

## Reporting OData API

Ref #	Question	Answer
15.1	Does TeamMate+ support Reporting Data?	Yes, TeamMate+ supports Reporting data via OData protocol. The Reporting OData API, allows users to quickly create reports on Assessments, Projects, Audit Plans and more using Power BI or Excel (Tableau currently does not fully support OData V4.0).
15.2	How does Reporting OData API handle security?	Only users belonging to the Administrator role in TeamMate+ can create reports using the Reporting OData API. When connecting to the API using Power BI or Excel, the user must enter these credentials in order to be able to fetch data from TeamMate+.
15.3	What API format is supported?	TeamMate+ Reporting OData API supports both JSON and XML data formats.
15.4	Can users access Reporting OData directly to create reports?	Although users can retrieve data when directly accessing the Reporting OData API, it is meant to be used with an already established reporting tool like Power BI or Excel. These applications have many functionalities built in for creating many types of reports.

Ref #	Question	Answer
15.5	Is Taxonomy observed in the Reporting OData API?	TeamMate+ Reporting OData API provides a reference documentation so users can understand and match the different Entity properties with their Taxonomy equivalent.

## Workpapers Downloader

Ref #	Question	Answer
16.1	Does TeamMate+ support Downloading Workpapers?	Yes, but we are extending it for massive Workpapers download for users who typically would not have access to TeamMate+.
16.2	How does Workpapers Downloader handle security?	Users with Assessment Owner and Project Owner role in TeamMate+ can download Workpapers. Additionally, TeamMate+ credentials are required when the users start the process from the desktop application once they provided the target folder for downloading.
16.3	What formats are supported?	All Workpapers downloaded are kept in the original format users uploaded the documents to TeamMate+, no changes or encryption is applied during download.
16.4	Can external users download Assessment/Project workpapers?	No, they are not allowed even to access the system, they must ask the Owners to download Workpapers from TeamMate+.

## Document Updates

This table lists content changes made to this document by release:

Date	Release	Change
December 2020	December 2020	<p>Dropped support for:</p> <ul style="list-style-type: none"> <li>• IBM Cognos Analytics</li> </ul> <p>Document updates:</p> <ul style="list-style-type: none"> <li>• dReveal updated to 4.0.12 <a href="#">See Page 10 for more information.</a></li> </ul>
September 2020	Sept 2020	<p>Added support for:</p> <ul style="list-style-type: none"> <li>• Microsoft Office 2010</li> <li>• Microsoft Office 365 Pro Plus (32 and 64-bit)</li> <li>• Microsoft SQL Server 2019</li> <li>• Microsoft Edge Chromium</li> <li>• .NET Core 3.1.3</li> <li>• CKEditor 5.0</li> <li>• Newtonsoft.Json 1.2.0.3</li> </ul> <p>Dropped support for:</p> <ul style="list-style-type: none"> <li>• Microsoft SQL Server 2008 (all versions)</li> <li>• IBM Cognos Analytics (new installs)</li> <li>• Smart Card (without Federated Authentication) and Trusted Header Authentication</li> </ul> <div style="border: 1px solid black; border-radius: 10px; padding: 5px; margin: 10px 0;"> <p><b>NOTE:</b> Smart Cards still can be configured through the client's Federated Authentication environment.</p> </div> <p>Document updates:</p> <ul style="list-style-type: none"> <li>• Updated the TeamMate Architecture to exclude IBM Cognos. <a href="#">See Page 4 for more information.</a></li> </ul>
July 2020	July 2020	No technical or document changes were made.
May 2020	May 2020	The answer for the 8.4 FAQ - single sign-on (SSO) was updated in this document.



Date	Release	Change
March 2020	TeamMate+ 3.4	<p>Added support for:</p> <ul style="list-style-type: none"> <li>.NET Framework 4.7.2</li> </ul> <p>Dropped support for:</p> <ul style="list-style-type: none"> <li>Windows 7 SP1</li> <li>TeamMate AM running alongside TeamMate+ Controls</li> </ul>
October 2019	TeamMate+ 3.3	<p>Added support for:</p> <ul style="list-style-type: none"> <li>.NET Framework 4.8 is supported (but not required)</li> <li>Windows Server 2019</li> </ul>
June 2019	TeamMate+ 3.2	<p>Added support for:</p> <ul style="list-style-type: none"> <li>Microsoft Office 2019 (32 and 64-bit) for TeamMate+ Office Integration</li> <li>IBM Cognos Analytics 11.0.13.3</li> <li>Additional Language support: Indonesian (Bahasa)</li> </ul> <p>Dropped support for:</p> <ul style="list-style-type: none"> <li>IBM Cognos Analytics 11.0.9</li> </ul>
January 2019	TeamMate+ 3.1	<p>Added support for:</p> <ul style="list-style-type: none"> <li>Safari iOS9 or later</li> </ul> <p>Dropped support for:</p> <ul style="list-style-type: none"> <li>Windows Server 2008 R2 SP1</li> <li>Windows Server 2008 SP1, SP2, and SP3</li> <li>Adobe Acrobat Reader XI</li> <li>Adobe Acrobat Pro XI</li> </ul>

Date	Release	Change
October 2018	TeamMate+ 3.0	<p>Added support for:</p> <ul style="list-style-type: none"> <li>• .NET Framework 4.7.1 (.NET Framework 4.7.2 is supported)</li> <li>• IBM Cognos Analytics 11.0.9</li> <li>• .NET Core 2.0</li> <li>• SQLCipher 3.4.2</li> <li>• SQLite 3.20.1</li> <li>• Windows 8.1 Update 1 (retroactive)</li> <li>• Microsoft SQL Server 2014 SP3</li> </ul> <p>Dropped support for:</p> <ul style="list-style-type: none"> <li>• .NET Core 1.1</li> <li>• .NET Framework 4.7.0</li> <li>• IBM Cognos Analytics 11.0.7</li> <li>• New installations of TM+ Controls alongside TeamMate AM (<i>only supported with existing clients upgrading to a new version</i>).</li> </ul>
March 2018	TeamMate+ 2.2	<p>Added support for:</p> <ul style="list-style-type: none"> <li>• SQL Server 2017</li> <li>• .NET Framework 4.7 (installed via the EXE) (4.7.1 is supported)</li> <li>• .NET Core 1.1</li> <li>• SQLite 3.15.2</li> <li>• IBM Cognos Analytics 11.0.7</li> <li>• SQL Server 2012 64-bit Native Client Driver</li> </ul> <p>Dropped support for:</p> <ul style="list-style-type: none"> <li>• IBM Cognos Business Intelligence (BI) 10.2.2</li> <li>• Cognos Web Server: Windows Server 2008 SP1, SP2, and SP3, .NET Framework 4.6.x</li> <li>• SQL Server 2008 64-bit Native Client Driver</li> </ul>

Date	Release	Change
October 2017	TeamMate+ 2.1 Update 2	<p>Added support for:</p> <ul style="list-style-type: none"> <li>• .NET Framework 4.7 compatibility</li> <li>• Adobe Acrobat Reader DC and 2017</li> <li>• Adobe Acrobat Pro DC and 2017</li> <li>• Additional Languages for the TeamMate+ Application: Arabic, Italian, Portuguese (BR), Russian, and Thai.</li> </ul> <p>Dropped use of:</p> <ul style="list-style-type: none"> <li>• IBM AppScan</li> </ul>

## TeamMate Support

If you are experiencing any technical difficulties, contact TeamMate Support via email at [teammatesupport@wolterskluwer.com](mailto:teammatesupport@wolterskluwer.com) or by using the appropriate contact information below.

Region	Support Numbers	Hours
Americas	+1(800) 449-8112	Monday - Friday 8:30 AM - 7:00 PM (ET)
UK, Europe & Africa	+44 20 3197 6555	Monday - Friday 8:30 AM - 5:30 PM (GMT)
Middle East	+971 45546636	Sunday - Thursday 9:00 AM - 5:00 PM (UAE)
Asia Pacific	+60 3 2024 8785 (English) +60 3 2024 8622 (English) +86 1085 6378 90 (Mandarin)	Monday - Friday 7:00 AM - 6:00 PM (SGT)

**NOTE:** If the information in the table above is different than the website below, the information on the website is the most up-to-date.

To create a web ticket and more go to: <https://www.teammateconnect.com>

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