

REST Professional - System Requirements

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The following are minimum and recommended system requirements for REST Professional. Whilst the program will operate on the minimums listed, we strongly suggest you meet or exceed the **recommended** requirements to ensure performance of your system is suitable for your agency operations. Please note that any environment or operating system not specifically mentioned here should be considered not supported.

The requirements for memory and processors are indicative only and more RAM or disk space may be required when running Rockend products in conjunction with other software. Please consult a qualified network technician to ensure that your network is adequately sized and tuned for the number of users and applications used by your agency.

Server Requirements

A server is not required if using REST Professional software as a standalone (that is, where the software is used on one machine only and installed on the local hard drive). Please consult the workstation requirements for standalone recommendations.

REST Professional allows multiple users to run the software concurrently on different computers all accessing the same database. The data may be located on either a peer server, or a dedicated server.

In peer server environments the faster the peer server the better the performance for connected network users.

- For sites with five or more concurrent operators a dedicated server is recommended dependant on expected loads.
- For sites with twenty or more concurrent operators a single terminal server is recommended, additionally we recommend that this terminal server is also used as the REST Database Server.

	Minimum	Recommended
Processor	Intel Core i3 2.1GHz	Intel Core i5 2.6GHz
RAM	4Gb	8Gb
Hard Disk	100Gb free and I/O latency < 20ms	200Gb free and I/O latency < 10ms Solid State hard disks (redundant array)
Network	1000mb TCP/IP networking	1000mb TCP/IP networking

Server Operating System

Recommended and supported	<p>Windows Server 2008</p> <p>Windows Server 2008 R2</p> <p>Windows Server 2012</p> <p>Windows Server 2012 R2</p> <p>Windows Server 2016</p> <p>Windows 7 Professional, Enterprise, Ultimate (x86/x64)</p> <p>Windows 8 Standard, Pro, Enterprise (x86/x64)</p> <p>Windows 8.1</p> <p>Windows 10 requires .NET Framework v4.0</p> <p>requires Internet Explorer 9</p> <p>Additionally we recommend completing the <i>Checklist to Optimise and Protect your installation of REST Professional</i></p>
Not supported	Any operating systems not mentioned above are not supported.
Display	1280 x 960
Regional Settings	<p>Time/Date must be current</p> <p>System locale set to English (Australia)</p> <p>Short Date format set to dd/MM/yy or dd/MM/yyyy</p> <p>Operating system must be in English</p>

Terminal Server Requirements

	Minimum	Recommended
Processor	Xeon processor(s) Maximum 4 users per Core	Xeon processor(s) maximum 2 users per Core
RAM	Base of 4GB plus 512MB per user	Base of 8GB plus 1 GB per user
Hard Disk	100Gb free and I/O latency < 20ms	200Gb + free and I/O latency < 10ms Solid State hard disk
Network	1000mb TCP/IP networking	1000mb TCP/IP networking

Terminal Server Operating System

Recommended and Supported	<p>Windows Server 2008</p> <p>Windows Server 2008 R2</p> <p>Windows Server 2012</p> <p>Windows Server 2012 R2</p> <p>Windows Server 2016</p> <p>All Terminal Services and latest Service Pack</p> <p>requires .NET Framework v4.0</p> <p>requires Internet Explorer 9</p> <p>Additionally we recommend completing the <i>Checklist to Optimise and Protect your installation of REST Professional</i></p>
Not supported	Any operating systems not mentioned above are not supported.

Display	1280 x 960
Regional Settings	Time/Date must be current System locale set to English (Australia) Short Date format set to dd/MM/yy or dd/MM/yyyy Operating system must be in English

It is recommended that if you are using a terminal server in your environment, that you put the REST data on that Terminal Server. The processing speeds will be faster as you are taking the network out of the equation

Workstation Requirements

	Minimum	Recommended
Processor	Intel Core i3 2.1GHz	Intel Core i5 2.6GHz
RAM	2Gb	8Gb+
Hard Disk	100Gb free and I/O latency < 20ms	200Gb + free and I/O latency < 10ms Solid State hard disk
Network	1000mb TCP/IP networking	1000mb TCP/IP networking

Workstation Operating System

Recommended and supported	Windows 7 Professional, Enterprise, Ultimate (x86/x64) Windows 8 Standard, Pro, Enterprise (x86/x64) Windows 8.1 Windows 10 requires .NET Framework v4.0 requires Internet Explorer 9 Additionally we recommend completing the <i>Checklist to Optimise and Protect your installation of REST Professional</i>
Not supported	Any operating systems not mentioned above are not supported.
Display	1280 x 960
Regional Settings	Time/Date must be current System locale set to English (Australia) Short Date format set to dd/MM/yy or dd/MM/yyyy Operating system must be in English

Internet Endpoint Requirements

TLD (Top Level Domain)	TCP/IP Outbound Ports
rockendcommunicator.com.au	80/443
windows.net	80/443
cloudapp.net	80/443

amazonaws.com	25/587/2587
Exavault.com	21/22
cloudapp.net	80/443
inspectionmanager.com.au	8090 / 8091 / 80 / 443
rockend.com.au	80/443
messageport.com.au	80/443
reiformslive.com.au	80/443
realworks.com.au	80/443
realbenchmark.com.au	80/443

Microsoft Office

To utilise Microsoft Office integration functionality with REST Professional software, one of the following versions of Microsoft Office is required (32 bit installs only):

Minimum	Full installation of Microsoft Office 2007 – Service Pack 3 minimum 32 bit
Recommended	Full installation of Microsoft Office 2016 32 bit

- Microsoft office needs to be activated on all workstations and servers running REST Professional
- Additional note for Office 365, this product has various options for installation. REST Professional requires the full installation of Office 365 (which will include the required Office Automation components).

Checklist to Optimise and Protect your installation of REST Professional

The following recommendations are not specifically required to run REST Professional but will help facilitate an optimal environment and reduce potential for problems at runtime.

These recommendations are targeted for all workstations and servers running REST Professional. Please consult your network technician before proceeding with any changes.

- Ensure a **full backup of the REST Database folder is completed daily** and saved off site, this should be additional to daily backups completed by the user.
- Run a process trace at runtime on each workstation and server to **ensure that no 3rd party programs are affecting the REST Database**, it is important to ensure that virus scanner exclusions are taking effect. Further information can be found on our Customer Lounge: <http://kb.rockend.com/help/article/link/rest-professional-network-troubleshooting-guide>
- Exclude the REST Database Share from **Windows Indexing (Windows Search Service)**, the Windows Indexing processes can cause sharing violations at runtime.
- **Ensure Windows Sync Centre** (Windows Offline Folders) is disabled. Being enabled by default it will reduce performance and may direct REST to an offline version of a data file. We recommend reconfiguring the REST Database Share to ensure that No files or programs from the shared folder are available offline. (Share Properties > Advanced Sharing > Caching > No files or programs from the shared folder are available offline).
- **User Account Control (UAC)** may need to be disabled temporarily for troubleshooting or during the installation of REST Professional, UAC can cause intermittent errors at runtime.
- Exclude RESTpro.exe in the **Data Execution Prevention (DEP)** List, DEP can cause intermittent errors at runtime.
- Check the **computers network card and configuration**
 - If QOS is not specifically configured across the environment we recommend it is disabled. If QOS is specifically configured then consider optimising the environment for REST Professional.
 - Ensure the link speed is at least 1000Mbit and all computers are connected to the one single switch.
 - Ensure the computer is only connected to one physical, cabled network.
 - Check the type of network card installed on the computer, confirm the latest drivers are installed.
 - Under connection properties, disable all power management options to remove control from other programs.
 - If running DHCP review how often new TCP/IP addresses are allocated.
- Review all **screen saver and power saving plans**
 - Optimise for High Performance.
 - Disable items such as hibernation, powering off HDD and Network cards etc.
- Confirm the **computer clocks are synchronised** to the same time source and within a few seconds of each other.
- Confirm the computer has all of the **current Microsoft Updates installed**

- **Turn off Disk Compression** to optimise disk I/O performance
- **Disable Outlook Security Warnings**, this feature can cause intermittent automation errors at runtime (In Outlook this is located under: File > Options > Trust Centre > Trust Centre Settings > Programmatic Access > Never warn me about suspicious activity)
- Ensure the **user's TEMP folder is regularly cleared** (IE: c:\users\LoggedOnUser\AppData\Local\Temp). Windows will query this location and excessive files or folders can cause delays running REST, particularly running reports. We recommend **scheduling a regular disk cleanout** using Windows Task Scheduler and Disk Clean up
- If running on a terminal server environment check each users registry for invalid redirected printer objects, these are located under: HKEY_CURRENT_USER\Software\Microsoft\Windows NT\CurrentVersion\Devices.
Refer to Microsoft KB: <http://support.microsoft.com/kb/2620656> for further information
- Ensure the REST Database is deployed outside protected Windows folders (Example: c:\program files and c:\windows etc), Protected folders are handled differently by the operating system and can cause errors or data corruption at runtime (an example includes the Windows Virtual Store feature - <https://support.microsoft.com/en-us/kb/927387>)
- Ensure outbound internet traffic from REST Professional is not being filtered or blocked, if required please contact Rockend Support to discuss the endpoints required to run REST Professional.

Further Recommendations

- Install enough processing power, RAM and hard disk space in your server to cater for all applications and services that are being run. These requirements may vary depending on the number of users on the system, applications running and level of usage. Consult your network technician for more details.
- Ensure Hard Drive I/O latency is acceptable throughout the day, especially on the REST Database Server where other applications are running (Such as Microsoft Exchange Server). Collect and review Windows Perfmon counters "Avg. Disk sec/Read" and "Avg. Disk sec/Write", results above 20ms will generally cause unacceptable performance
- Optimise your virus scanner (Excluding REST application and Data files)
- Ensure that you have offline backup capability that is used on a regular basis – daily at minimum.
- Rockend follows Microsoft's product lifecycles. If Microsoft has discontinued support, so have Rockend. Refer to <http://www.microsoft.com/windows/lifecycle.asp> for Microsoft's Windows Desktop Product Lifecycle Guidelines.

Backup Requirements

We require a backup to be completed in REST Professional at least once a day, or before running a critical process. Refer to the relevant Rockend Training modules.

Additionally we recommend a full server backup is completed daily and after business hours.
The backup must include the entire REST Professional Database.
We recommend backups are stored off site but easily available if required during support.

Disaster recovery exercises should be completed on a regular basis to ensure the integrity of the data is being maintained.

Printers

REST Professional operates with most standard printers that are supported by your operating system.
Redirected printers in Terminal Server environments can add complexity at runtime.

Network Connectivity

- Ensure you have a stable LAN with adequate latency and bandwidth.
- For local area networks, we recommend investing in Gigabit switches.
- Cabling will impact significantly on the reliability and speed of your software. Ensure that the cable specification (UTP Cat 5, UTP Cat5e, and UTP Cat6) is the appropriate type for the networking hardware installed.
- We recommend that only necessary protocols are loaded on both the server and workstation.
- Database and printer connection paths (UNCs) should not contain full stops.

Networks Not Supported

Wireless Networks

Using REST professional on a wireless network, will severely impact the speed of which REST can process data to and from the data source. Wireless networks that are prone to drop outs will be problematic for the REST Professional database.

Wide Area Network (WAN)

Using REST Professional on a WAN, will severely impact the speed of which REST can process data to and from the data source.

IPsec (Internet Protocol Security)

Severely impacts the data transfer for REST Professional

Proxy Servers and Corporate Firewalls

For connections through Proxy Servers or Corporate Firewalls, network configuration details will be made available for customers to assist them with configuring any unique networks.

Memory Considerations

The amount of Random Access Memory (RAM) in your workstations also has a major impact on the speed of your software. The more RAM in your workstations, the better your software will perform - and the more productive you will be.

How much memory you need to run effectively on a workstation depends on many factors which includes:

- The operating system being utilised
- Software applications you are using concurrently, e.g. Microsoft Outlook, Word and Excel, Rockend software and any other software. The more applications you are using, the more memory you will need.
- The amount of REST Professional data and the size and complexity of files in MS Word or Excel, etc.

Virus Scanning

It is extremely important that your agency is protected from virus infection. However, it is also important that virus scanners do not impact the performance of your network and software.

To know if your virus scanner is causing performance problems in your Rockend software, as a test, temporarily disable virus scanning on all workstation and the server, including any memory resident scanning. If performance increases once scanning is disabled, consult qualified network technician about optimising virus scanning so that performance is not impacted.

IMPORTANT: Please consult with a qualified network technician to discuss optimising virus scanning for performance as well as risk mitigation planning before proceeding with any changes. Many antivirus products will only require the exclusion of REST Professional (RESTPro.exe).

Common settings in virus scanners that impact performance:

- We suggest the following examples for virus scanner exclusions on all workstations and servers running REST Professional:
 - Exclude REST Professional (Example: c:\REST\RESTPro.exe)
 - If required exclude the REST Program folder and REST Database share (Example: c:\REST* and \\server\RestShare*)
- If a virus scanner is installed on both your server and workstation, and both are set to scan incoming and out-going files, you may be scanning each file twice.
- If the option is available in your virus scanning software, disable heuristic scanning.
- Windows Defender is generally installed and enabled by default, this can be running alongside your existing virus scanner and will directly impact performance of your computer at runtime. If Windows Defender is required please review the relevant virus scanner exclusions for REST Professional

In all cases, consult your network technician to determine the best virus scanning solution for your practice that does not impact software.

For any further queries, please visit the Customer Knowledgebase or contact Rockend Support.

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