

# managedIP HOSTED

## Call Recording Specifications

TDS Call Recording monitors data packets over your data network to record telephone calls. This is achieved by enabling port mirroring on the data switch. Port mirroring is supported by most data switches and, when enabled, sends a copy of every packet destined for one port to another port. The managed switch must support many-to-one port mirroring, both receiving and transmitting mirroring, and IP connectivity to the destination port.

### DEPLOYMENT: SINGLE- AND MULTI-SITE

Call Recording is installed on a Windows Server and the data switch is configured to send the server a copy of every VoIP packet going to and from the IP/PBX. For multi-sites, the Windows Servers are distributed across multiple offices and remote sites via the managedIP Hosted network for multi-site recording, live monitoring, and real time IP phone status. Scalability is achieved by adding Windows Servers.

	MINIMUM SYSTEM REQUIREMENTS		
Simultaneous Users	1-50	51-100	101-300
Processors	Workstation class or better, two total cores minimum	Workstation class or better, four total cores minimum	Server class processor(s), eight total cores minimum
RAM	4GB RAM (minimum)	4GB RAM (minimum)	8GB RAM (minimum)
Storage	7200 RPM disk (minimum)	10,000 RPM disk (minimum)	15,000 RPM (minimum)
NIC Cards	2-100/1000 MB NICs (One is required for a dedicated connection to the data switch, the other for client/internet connection.)		
Operating System	Windows Server 2012 R2, Windows Server 2016, Windows Server 2016, Windows 2008 x86, Windows 2008 x64, and Windows 2008 x64 R2, Windows 10		
Storage	It is recommended that call recordings are kept on a separate partition to the operating system files. The storage required will be based on the following: <ul style="list-style-type: none"><li>• 97.5KB per minute of recording; 170 hours per GB</li><li>• 20 GB of additional space is required for application binaries and log files.</li><li>• Storage requirements triple when using screen recording.</li></ul> Best practice guidelines for partition split and redundancy: <ul style="list-style-type: none"><li>• RAID 1: OS/Applications</li><li>• RAID 1: Database</li><li>• RAID 1: Logs and Backups</li><li>• RAID 5: Call Audio</li></ul>		



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### VIRTUAL MACHINES

The current releases of VMware® and Hyper-V applications are supported, however VMotion is not. Virtual machines must be configured to meet defined server specifications.

### QUALITY MANAGEMENT CLIENT

The Quality Management Client can be run using any Microsoft Silverlight-compatible browser running on a supported operating system. The Silverlight plug-in must be installed to run the Quality Management Client.

OPERATING SYSTEM	INTERNET EXPLORER			
	IE 11*	IE 10*	Chrome	Firefox
Windows 10 Professional	•		•	•
Windows 8.1 Professional	•		•	•
Windows 8 Professional		•	•	•
Windows Server 2016	•		•	•
Windows Server 2012 R2	•		•	•
Windows Server 2012		•	•	•
Windows 7 Professional SP1	•	•	•	•
Windows 7 Professional			•	•
Windows Server 2008 R2 SP1	•	•	•	•
Windows Server 2008 SP2			•	•

\*TDS Call Recording is only available with managedIP Hosted service deployed with a TDS provided router and switch. VMWare Enterprise Edition supported. Virtual Machines must be configured to above specifications.

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### Database support

From QMS2016 SQL Server 2005, 2008, 2012 and 2014 are supported by QMS. SQL Express2014 will be installed as default, if SQL Standard or Enterprise are to be used they will need to be provided and fully licensed by the customer. SQL Server Express can access only a single CPU and 1 GB of RAM with a maximum database size of 10GB.

### Database Limitations

The QMS stores metadata associated with a recording and a link to the recording location. As a guide the QMS database will use 1200 bytes (including index space) for each recording, e.g. approx 114 MB of database space would be consumed for each 100,000 call recordings. This number could however, be substantially different if the system is extended with additional information through the flags with external systems, such as CRM or contact center integration.

### AntiVirus Support

Any antivirus package can be used with QMS, however, when installed It is recommended that QMS folders are excluded from any virus scans. (The location of these folders is configurable.)

### Bandwidth Requirements

During playback, the bandwidth consumed is typically 2 KB/sec for audio, and 12-22 KB/sec for a combined audio and video stream. The bandwidth requirements on the network when capturing a recording will be dependent on the codec utilized. Typically the requirements are:

- G.711: 11KB/sec
- G.729: 4KB/sec
- RTAudio 8-16KBS

When recording utilizes port mirroring methods, packets are transferred over dedicated connections and will have no network bandwidth impact. The level of traffic presented to the QMS interface should not exceed 40,000 packets/second.

### Computer Recording

You may configure each workstation running the computer recording client to restrict recording and transfer bandwidth by the following criteria:

- Limit bandwidth used for upload to 32, 64, 128, or 256 Kbps
- Cease recording when available drive space below a set percentage

