Best Practices Guide

On-Premise Deployment

Ver 4.0 (30 JANUARY 2022)

TERAMIND

Primary Server Requirements

Deployments for under 1,000 concurrent users can be hosted on one all-inclusive server, in most cases. CPU and system memory should be provisioned based on the expected number of concurrent monitored sessions, according to the following table:

Concurrent Users	Server Requirements	CPU/RAM Requirements
Up to 100	1 Teramind Master Server (VM)	• CPU: 4 cores • RAM: 8 GB
Up to 500	1 Teramind Master Server (VM)	• CPU: 8 cores • RAM: 16 GB
Up to 1, 000	1 Teramind Master Server (VM)	• CPU: 16 cores • RAM: 24 GB
Larger deployments: *1,000 or more concurrent users*	1 Teramind Master Server (VM)	• CPU: 16 cores • RAM: 32 GB
	1 Teramind App Server (VM) per 1,000 concurrent users	• CPU: 16 cores • RAM: 24 GB
	1 Teramind BI Server (VM)	• CPU: 16 cores • RAM: 32 GB

OCR Server Requirements

You need to set up at least one OCR Database Node and one Mining Node for the OCR features to work.

No of Users	Server Requirements	CPU/RAM Requirements
Less than 200 users	1 OCR Database Node	• CPU: 4 cores • RAM: 8 GB • Disk: 100 GB
	1 OCR Mining Node	• CPU: 16 cores • RAM: 16 GB • Disk: 24 GB
Larger deployments of 200 or more users	1 OCR Database Node	• CPU: 4 cores • RAM: 8 GB • Disk: 100 GB
	1 OCR Mining Node per 200 users	• CPU: 16 cores • RAM: 16 GB • Disk: 24 GB

You will need to adjust the disk size as you add or remove video recordings over time. See the Storage Requirements section below for more information.

Storage Requirements

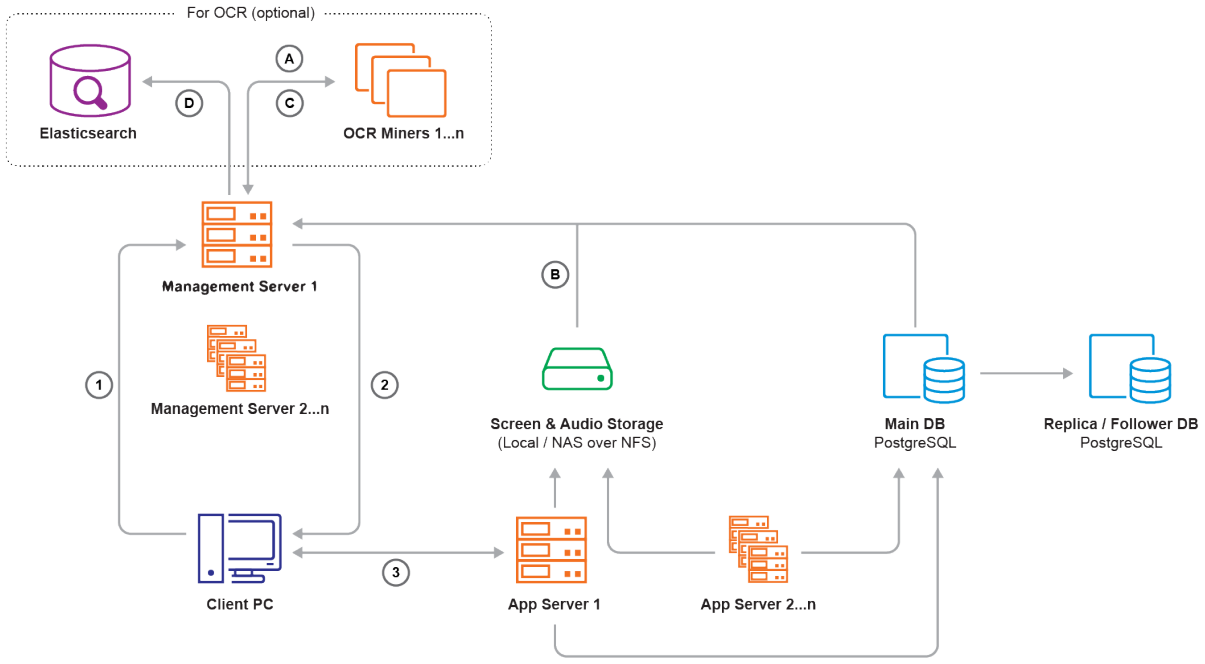
Primary Storage	The Teramind virtual appliance comes with a primary volume of 100 GB. This volume contains the Teramind server application and database. The size of this volume can be increased at a later point in time. **Teramind requires the primary volume to be on SSD or equivalently fast storage for deployments above 500 users.** **BI Classifications needs about 5GB of disk space plus additional disk space equivalent to about 20% of your current DB size. So for example, if you have a database of 100GB the BI deployment will need 20GB+5GB = 25GB space. Check out this KB article to learn how to update your BI classifications.**
Storage for Screen Recordings	The simplest way to add storage is from your hypervisor, by simply adding a second volume. Teramind will automatically detect, format, and mount the volume once you add it to the virtual appliance. If you use Hyper-V, this volume should be a VHDX format (not VHD). You can also use a NAS or any filesystem over NFS. You can contact us for configuration detail. **A NAS over NFS is mandatory if you have a multi-server deployment (a deployment that has more than one Teramind App Server).** For help with setting up a NAS check out this article on our Knowledge Base. The size of this second volume can be estimated based on the number of sessions that will be recorded. With the default settings, for sessions with one screen doing normal work activity, you can expect approximately 1 GB per 160 hours. You can adjust retention policies and recording preferences in monitoring settings at any time. This storage is low-access and can be on magnetic / non-SSD media.

Agent Requirements

Supported Platforms	• Microsoft Windows 8 and up (32 & 64-bit) • Microsoft Windows Server 2012 and up • macOS 12 (Monterey), macOS 11 (Big Sur), macOS 10.15 (Catalina) and macOS 10.14 (Mojave) * ** At the moment, Teramind on Mac has limited functionalities. check out what features are currently supported here.*
Sessions	• Stand-alone workstation / server • Terminal server (RDS) * • Application / Session server • Citrix • VMware Horizon ** Ideally, terminal servers should have a maximum of about 30 users or less depending on the number of screens and monitoring settings. Otherwise you may have performance impact.*
Load	Approximately 30 MB - 50 MB memory and 1-3% CPU utilization, depending on user activity
Visibility	Hidden or revealed desktop agents available
Deployment	• Silent MSI • Deployment via Group Policy or SCCM • Dashboard-based silent remote installer
Bandwidth	Approximately 10 kbps upstream depending on user activity level & number of screens
Offline Storage	Teramind features offline recording on the Silent/Hidden Agent (Windows). This means that in case of network downtime, the agent will save all data locally, and continue to enforce policy. Once connection is re-established, the agent will upload the data to the server at a throttled pace. The offline storage buffer is configurable in monitoring settings and takes approximately 1GB per 160 hours of work time.

Detailed agent specifications can be found on our Knowledge Base here.

Architecture



Legends:

1. Teramind Agent asks Management Server for an Application Server IP and port
2. Management Server responds
3. Teramind Agent connects to the assigned Application Server

A. OCR Miner talks to the Management Server and asks for a record to process
B. Management Server fetches a screen file from the Screen & Audio Storage and sends it to the OCR Miner Node
C. Once OCR is done, the OCR Miner sends results as text to the Management Server
D. Management Server writes the OCR result text to Elasticsearch

The **Management Server** serves the admin dashboard, load balances agents, and provides data to the OCR Miner Nodes. Teramind Agent connects to an **Application Server** via an always-on, TLS-encrypted connection, using our own protocol based on Google Protocol Buffers. **OCR Miners** are stateless and work with spot instances.

Contact us at support@teramind.co.