Safend Data Protection Suite

Hardware & System Requirements

System Requirements

Hardware & Software Minimum Requirements:

	Safend Data Protection Agent Requirements	Safend Management Console	Safend Management Server	Safend Data Access Utility
Operating System	❖ Windows 7 pro / Enterprise / Ultimate 32-bit/64-bit SP1 ❖ Windows 8 Pro / Enterprise 32-bit/64-bit ❖ Windows 8.1 Pro / Enterprise 32-bit/64-bit ❖ Windows 10 Pro / Enterprise 32-bit/64-bit ❖ Windows 10 Anniversary Pro / Enterprise 32-bit/64-bit	❖ Windows 7 pro / Enterprise / Ultimate 32-bit/64-bit SP1 ❖ Windows 8 / Pro/ Enterprise 32-bit/64-bit ❖ Windows 8.1 / Pro/ Enterprise 32-bit/64-bit ❖ Windows 2008 SP1 Server ❖ Windows 2008 R2 Server \SP1 ❖ Windows 2012 Server ❖ Windows 2012 R2 Server ❖ Windows 2016 Server ❖ Windows 10 Pro / Enterprise 32-bit/64-bit ❖ Windows 10 Anniversary Pro / Enterprise 32-bit/64-bit	❖ Windows 2008 SP1 Server ❖ Windows 2008 R2 Server SP1 ❖ Windows 2012 Server ❖ Windows 2012 R2 Server ❖ Windows 2016 Server	❖ Windows 7 home / Enterprise / Ultimate 32-bit/64-bit SP0\SP1 ❖ Windows 8 / Pro/ Enterprise 32-bit/64-bit ❖ Windows 8.1 / Pro/ Enterprise 32-bit/64-bit ❖ Windows 10 / Pro/ Enterprise 32-bit/64-bit
Hardware	For Windows: ❖ Pentium 4 1.7 GHz or equivalent ❖ 512 MB RAM ❖ 200 MB HDD space	❖ Pentium 4 1.7 GHz or equivalent ❖ 1 GB RAM ❖ 200 MB HDD space	❖ Please refer to the Safend Data Protection **HW requirements** document.	❖ Pentium 4 1.7 GHz or equivalent ❖ 512 MB RAM ❖ 50 MB HDD space

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	Safend Data Protection Agent Requirements	Safend Management Console	Safend Management Server	Safend Data Access Utility
Software	For Windows ❖ Microsoft .NET Framework 4.6.1	❖ Microsoft .NET Framework 4.6.1 (the server and all consoles must be installed with the same .Net version and SP) ❖ ASP .NET 4.6.1 module	❖ Microsoft .NET Framework 4.6.1 ❖ Microsoft IIS 7 ❖ BITS (Background Intelligent Transfer Service)	
External Database			❖ MS SQL 2005 ❖ MS SQL 2008 ❖ MS SQL 2008 R2 ❖ MS SQL 2012 ❖ MS SQL 2012 SP2 ❖ MS SQL 2014 ❖ MS SQL 2016	
Directory Service			❖ Windows Active Directory 2008\2012	

Hardware and Sizing Overview

The purpose of this document is to provide an overview of the Safend 3.4 Hardware requirements and recommendations, and the process that led to these results.
The results of the HW requirements are based on internal Safend testing. The test phase consisted of over 50 different test cases that were divided into several categories:

- **Performance tuning** – IIS tuning, DB tuning and DB locking schemes.
- **Reliability and Availability** – IIS configuration for stability and long stress runs.
- **Benchmark** – Capacity testing for matching HW configurations with different user scenarios (number of end points, Domain size, etc.).
- **Scaling** – we conducted tests for hardware scaling purposes to be able to recommend HW for different customers.
- **GUI** – GUI behavior under server stress. Make sure that the GUI is responsive under extreme conditions.

The results below are intended for customers with up to 100,000 endpoints.
Customers deploying over 100,000 agents should contact Safend support to get recommended configurations that fits their needs.
Below are the results and the server configurations that were used in the Safend lab.

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Safend Server – Endpoints Recommendations

Description	Recommended Endpoints
Internal Database	Up to 1,000
External Database	1,000 – 100,000

Notes:
Internal – Application server and Database server on the same machine using internal embedded MySQL DB.
External - Application Server on one machine and MSSQL Database Server on another (Corporate SQL Server).

Safend Management Server - Recommended Configuration

Endpoints	Machine	CPU	Memory	Disks
Up to 1,000	Safend DLP Suite Management Server	1-2 standard Xeon Processors or equivalent	4GB RAM	100Gb SATA or SAS– System + Logs
	External MSSQL DB (optional)	1-2 standard Xeon Processors or equivalent	4GB RAM	150-200GB SATA or SAS
	File Shadowing Repository (optional)*	1-2 standard Xeon Processors or equivalent	2GB RAM	2*100GB SATA or SAS (RAID 1)
1,000 to 10,000	Safend DLP Suite Management Server	2 standard Xeon Processors Dual Core or equivalent	4GB RAM	150GB SATA or SAS– (System)
	External MSSQL DB (recommended)	2 standard Xeon Processors Dual Core or equivalent	4GB RAM	2*150-200GB SATA or SAS (RAID 1) – System + Logs 3*200-300GB SAS (RAID 5) – Data files
	File Shadowing Repository (optional)*	2 standard Xeon Processors Dual Core or equivalent	2GB RAM	2*150GB SATA or SAS (RAID 1)
10,000 to 50,000	Safend DLP Suite Management Server	2-4 standard Xeon Processors Quad\Dual Core or equivalent	8-16 GB RAM	2*150GB SAS (RAID 1) – System + Logs
	External MSSQL DB (recommended)	2-4 standard Xeon Processors Quad\Dual Core or equivalent	4-8GB RAM	2*200-300GB SAS (RAID 1) – System + Logs 5*200-300GB SAS (RAID 5) – Data files
	File Shadowing Repository (optional)*	2 standard Xeon Processors Dual Core or equivalent	2GB RAM	5*200GB SAS (RAID 5)
50,000 to 100,000	Safend DLP Suite Management Server	4-8 standard Xeon Processors Quad\Dual Core or equivalent	16GB RAM	3*150-200GB SAS (RAID 5) – System + Logs
	External MSSQL DB (mandatory)	4-8 standard Xeon Processors Quad\Dual Core or equivalent	8-16GB RAM	External SAN Storage is recommended. Spread Database files on maximum physical disks. Transaction logs can be placed on mirrored disks.

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Endpoints	Machine	CPU	Memory	Disks
	File Shadowing Repository (optional)*	2-4 standard Xeon Processors Quad\Dual Core or equivalent	2GB RAM	5*300GB SAS (RAID 5)
100,000 to 150,000	Safend DLP Suite Management Server	8 standard Xeon Processors Quad\Dual Core or equivalent	32GB RAM	3*250GB SAS (RAID 5) – System + Logs
	External MSSQL DB (mandatory)	4-8 standard Xeon Processors Quad\Dual Core or equivalent	16GB RAM	External SAN Storage is recommended. Spread Database files on maximum physical disks. Transaction logs can be placed on mirrored disks. It is recommended to work with a cluster of MSSQL 2008R2 on 2008R2 server
	File Shadowing Repository (optional)*	2-4 standard Xeon Processors Quad\Dual Core or equivalent	4GB RAM	5*500GB SAS (RAID 5)

*File shadowing repository is needed only when this feature is used in a policy.
*Xeon Processor – At least 2.0GHZ or equivalent

Recommendations for File Shadowing Configurations

Endpoints	Max recommended % of seats to shadow*		Recommended repository location	Max recommended shadow size with compression		Max recommended shadow size without compression	
	100MB NIC	1GB NIC		100MB NIC	1GB NIC	100MB NIC	1GB NIC
up to 1,000	30%	50%	Local	50MB	50MB	40MB	40MB
1000 to 10,000	30%	50%	Remote	50MB	50MB	40MB	40MB
10,000 to 50,000	20%	30%	Local/Remote**	40MB	50MB	30MB	40MB
50,000 to 75,000	15%	20%	Local/Remote**	20MB	40MB	10MB	25MB
75,000 to 150,000	7%	15%	Local/Remote**	10MB	20MB	5MB	10MB

* Maximum percentage of endpoints to apply shadowing.
** Both local and remote repository on the Safend Management Server can be used. If the HW configuration supports Network teaming as recommended, a remote repository can be used, however if using a local repository, the network utilization will decrease by up to 30%.

Notes:

- The tests that we conducted assumed that shadowing is enabled for all file types and each suspicious user will trigger an average of 80 shadowed files per day. By limiting the types of files to shadow in the security policy, the total seats to shadow can be increased.
- It is not recommended to enable file shadowing for all endpoints and configuring shadow files larger than 15MB due to the network overhead, instead we recommend enabling the shadowing feature only on suspicious groups and on files smaller than 15MB.

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Recommendations IIS Configuration

Based on the size and configuration of the environment in which the Safend solution is to be deployed, IIS tuning should be conducted to improve Safend Data Protection Suite performance.

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Below are the recommendations for the IIS settings according to organization size:

Safend Server – IIS Configurations Recommendations

	HTTP Keep alive	Connection time out (seconds)	Connection queue Length (Application Pool)	Limit number of connections (WS Site)	Cluster Nodes
up to 1,000	True	120	1,000	100	N/A
1000 to 10,000	True	240	2,500	250	1-2
10,000 to 50,000	True	360	5,000	500	4 for External DB
50,000 to 100,000	True	360	6,000	600	4 for External DB
100,000 to 150,000	True	360	7,500	750	4 for External DB

Recommendations for Database Size

Database size differs from one corporate to another depending on the corporate security policy concept, policy settings (log settings, alert settings and other global policy settings), end-users usage and etc. therefore, it is a bit hard to predict database sizing for any organization size.

Below are basic details that can assist when planning the Database size:

Database element	Size*
single client event log entry (or row)	1.08 KB
single file event log (or row)	0.98 KB
Storage per client per day**	30.4 KB
Storage per client per year (300 working days)	9.12 MB

* When using MSSQL database.
** Based on a 10 client events and 20 file events per day.

Notes:

- The actual size of the Database will be slightly larger due to the existence of additional tables which store information that does not originate from the clients (such as the "machines in the domain" table and server configuration table). The additional tables can be roughly measured by sizing the Database right after the installation and policy design (before any client activity took place).
- Safend can be configured to keep the Database size and depth by defining the database depth under tools→administration→maintenance→**configure database depth and size**.

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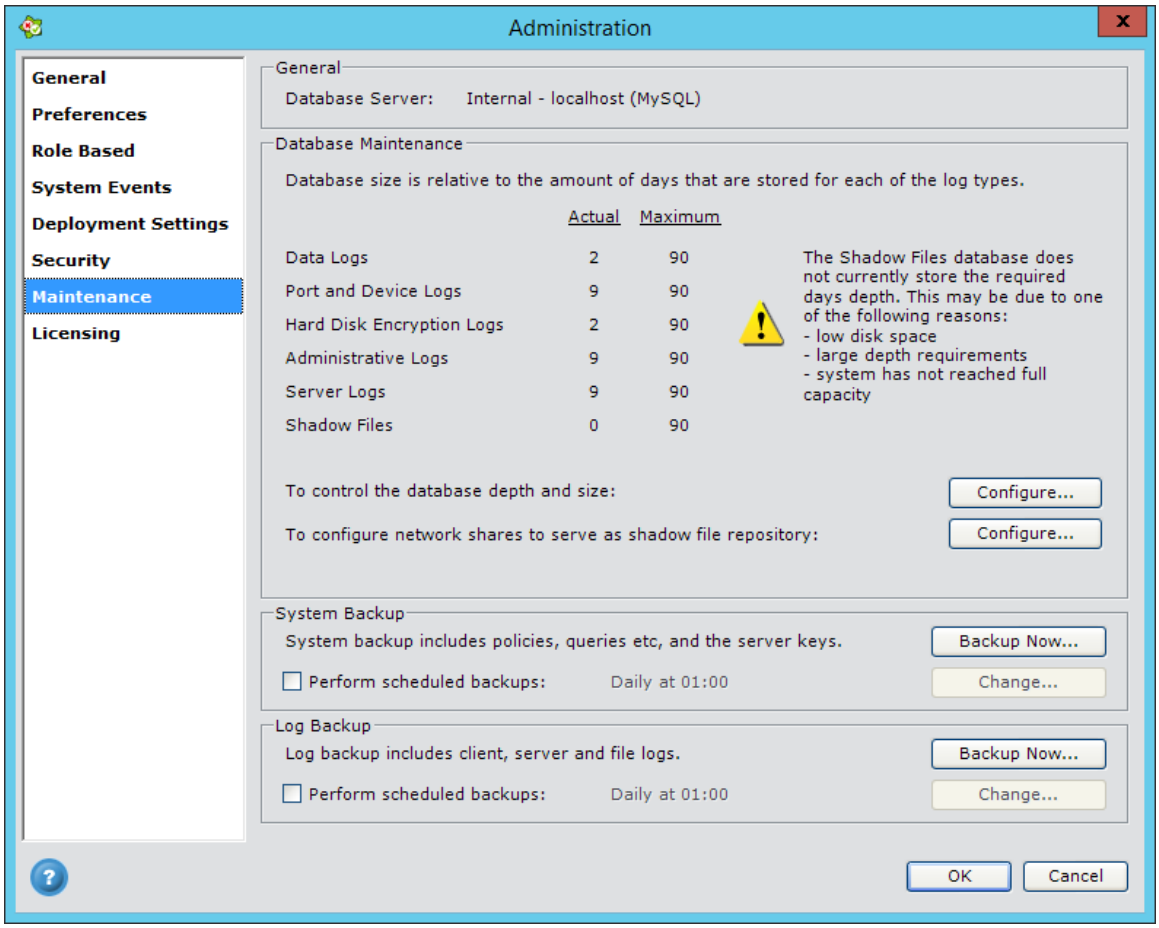


Figure 1 – Administration>Maintenance window

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