EKRAN®

Ekran System v.6.12

System Requirements and Performance Numbers

Table of Contents

System Requirements

Ekran System claims different system requirements for each of its components. Make sure your hardware and software meet the following system requirements to avoid possible component malfunctions.

Server requirements:

- 2-core 2 GHz or higher CPU
- 4 GB or more RAM
- Enterprise-level Ethernet card
- Minimum 1 Gbit/s network adapter
- Windows Server 2016, Windows Server 2012, and Windows Server 2008 R2 (x64 platform)
- Universal C Runtime and Visual C++ Runtime (starting with Ekran System 5.5). Both can be installed via the Microsoft Visual C++ 2015 Redistributable: https://www.microsoft.com/en-gb/download/details.aspx?id=48145

NOTE: The Universal C Runtime needs to be initially installed via update KB2999226: https://support.microsoft.com/en-us/help/2999226/update-for-universal-c-runtime-in-windows

- .Net Framework 4.5.2 or higher

NOTE: If the Server and the Management Tool are to be installed on the same computer, make sure you turn on the Internet Information Service before the installation of .Net Framework 4.5.2.

- [When using MS SQL Database]: Full edition of MS SQL Server 2008R2 SP1 or higher. Standard license or higher is required.
- [When using PostgreSQL Database]: PostgreSQL 10 or higher.

NOTE: If you want to deploy the Ekran System in the High Availability mode, enabled Message Queueing and configured NLB cluster are required. Please refer to the High Availability Deployment Guide for more information.

Management Tool requirements:

- 2-core 2 GHz or higher CPU
- 4 GB or more RAM
- 100 Mbit/s network link
- Windows 10, Windows 8.1, Windows 8, Windows 7 (any edition except Home); **[recommended]** Windows Server 2016, Windows Server 2012, and Windows Server 2008 R2 (starting from SP1 version). Both x86 and x64 platforms are supported.
- .Net Framework 4.5.2 or higher
- IIS 7.5 or higher with enabled ASP.NET 3.5 and 4.5 support (4.6 for Windows Server 2016)
- [For accessing the Management Tool locally or remotely] One of the following browsers:
  - Google Chrome 37 or higher

- Mozilla Firefox 32 or higher
- Internet Explorer 10 or higher
- Safari S6
- Opera 15 or higher

NOTE: The Management Tool might be opened in other browsers, but its compatibility with other browsers is not guaranteed.

Windows Client requirements:

- 1 GHz or higher CPU
- 512 MB or more RAM
- 100 Mbit/s network link
- Windows 10, Windows 8.1, Windows 8, Windows 7, Windows Vista, Windows XP SP3; Windows Server 2016, Windows Server 2012, Windows Server 2008, and Windows Server 2003 SP1. Both x86 and x64 platforms are supported.

NOTE: Due to the new SHA-256 code signing, on Windows 7 SP1 and Windows Server 2008 R2 SP1, the Microsoft Security Advisory update 3033929 needs to be installed:

https://docs.microsoft.com/en-us/security-updates/SecurityAdvisories/2015/3033929

- Citrix XenDesktop; Citrix XenApp; Citrix XenDesktop/XenApp with Citrix Provisioning Services (PVS).
- It is recommended to have not less than 500MB of free space on the disk where the Client is installed to save data during the offline session.

macOS Client requirements:

- 2.26GHz Intel Core 2 Duo or higher CPU
- 2GB RAM
- 100 Mbit/s network link
- macOS 10.9 and later
- It is recommended to have not less than 500MB of free space on the disk where the Client is installed to save data during the offline session.

Linux Client requirements:

- 1 GHz or higher CPU
- 512 MB or more RAM
- 100 Mbit/s network link
- It is recommended to have not less than 500MB of free space on the disk where the Client is installed to save data during the offline session.
- Linux Kernel 2.6.32 and higher

Distributor Base	OS	Versions Supported
Debian	Debian Ubuntu	9.0, 8.0, 7.0 18.04, 16.04, 14.04
openSUSE	Suse Linux Enterprise Server	12(SP1, SP2, SP3), 11(SP2, SP3, SP4)
RedHat	RedHat CentOS Oracle Linux	7.0, 6.0 7.x , 6.x 7.x - 5.6
Sun Microsystems	Solaris	11.0, 10.0 (Global and Whole root zones only)
IBM	AIX	7.2, 7.1

The monitoring of graphical interface for X Window System is supported on the following operating systems:

OS	Versions Supported
Ubuntu	Ubuntu 18.04.1 LTS, Ubuntu 16.04.5 LTS, Ubuntu 16.04.2, Ubuntu 14.04.5 LTS, Ubuntu 14.04.2, Ubuntu 12.04.1, Ubuntu 14.04 LTS
Red Hat	Red Hat 7.0 – 7.6, Red Hat 6.0 – 6.10
CentOS	CentOS 7.1 – 7.5, CentOS 6.1 – 6.9
Suse Linux Enterprise Server	12(SP1, SP2, SP3)

NOTE: When the Client is installed to the terminal server, hardware requirements depend on the number of active user sessions and may increase drastically. For example, hardware requirements for the Client deployed on the terminal server hosting 10 active user sessions will be as follows:

- **Intel Core i3 or similar AMD CPU**
- **2048 MB RAM**

Performance Numbers

Agent side

Parameter	Value
Average CPU load for 1 working hour	0.5% per session
Peak CPU load	Up to 5% in one session
Bandwidth requirements	128 Kbit/s
Average Data Volume	1 average workstation agent generates 200-300 MB per 8h working day
Peak Data Volume	1 workstation agent can generate up to 30 – 50 MB per intensive working hour

NOTE: Performance numbers have been measured for one session with Full HD display resolution and default screen-capture and color settings.

Server side

Option A – full day activity, 24/7

Option B – 40-hour working week, 24 working days per month

Extra Small Deployments (Up to 30 simultaneous sessions)

- Server with 2 Core CPU 2.4 GHZ or higher
- 4 GB of RAM
- MS SQL or PostgreSQL 9.5 or higher is recommended
- Application Server, Web Console, and Database Server can be installed on one server (physical server or virtual machine)

Capacity per month (TB)

Color	Option A	Option B
Default settings	0,4	0.11

Small Deployments (Up to 200 simultaneous sessions)

- Server with 4 Core CPU 2.4 GHZ or higher

- 16 GB of RAM
- MS SQL or PostgreSQL 9.5 or higher is recommended
- Application Server, Web Console, and Database Server can be installed on one server (physical server or virtual machine)

Capacity per month (TB)

Color	Option A	Option B
Default settings	2.6	0.8

Medium Deployments (Up to 1000 simultaneous sessions)

- Server with 8 Core CPU 2.4 GHZ or higher
- 32 GB of RAM
- MS SQL or PostgreSQL 9.5 or higher is recommended
- Application Server, Web Console, and Database Server can be installed on one server (physical server or virtual machine)

Capacity per month (TB)

Color	Option A	Option B
Default settings	13	4

Large Deployments (Up to 10 000 simultaneous sessions)

- Physical Server with 8 Core CPU 2.4 GHZ or higher, 32 GB of RAM
- SQL database is preferred to be installed on a separate server. Recommended requirements for the SQL Server:
  - Physical Servers with 12 Core CPU 2.4 GHZ
  - 32 GB of RAM
- Cluster-based implementation of Microsoft SQL Server (Failover Cluster).
- NAS storage is preferred for binary data
- Storage capacity per month depends on screenshots color depth:

Capacity per month (TB)

Color	Option A	Option B
Default settings	130	40

- In case if NAS is used, required SQL storage capacity is 10 GB per month.

Database Statistics

Parameter	Value
Data Volume (for Windows Clients)	
1 session per 1 day (average)	300 MB
1 session per 1 day (maximum)	5136 MB (at the best screenshot quality)
100 sessions per 1 day (average)	30 GB
Data Volume (for Linux Clients)	
1 session per 15 minutes (average)	8 MB
1 session per 1 day (average)	100 MB
Number of DB Records (Windows Client)	
1 session per 1 hour (average)	360
1 session per 1 hour (maximum)	3600
Number of DB Records (Linux Client)	
1 session per 15 minutes (average)	Terminal Functions ~4500 records Terminal Output ~3500 records
Data Sending Frequency (from one Windows Client)	
Average	1 record (0,3- 3 MB) per 10 sec
Maximum	1 record (0,3- 3 MB) per 1 sec (if Client network allows)
Peak (in case if there was no connection between Clients and Server)	Data sending is limited only by the Client-Server channel capacity

NOTE: For Linux Clients, Ekran System allows reducing the amount of information received from the Clients by defining separate commands which output will be skipped during the monitoring.