



GINIS 2023

Compatibility list - Technology

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1. Initial information

GINIS is a modular information system that is capable of working in various environments.

GINIS runs in both thick client and web client architecture and supports 3 database systems. Several office system types, electronic documents storages and mailing systems are also supported.

GINIS is ready for on-premise or cloud deployment.

2. Supported database systems

The GINIS information system supports these database systems:

- Oracle Database
- IBM Informix Dynamic Server
- Microsoft SQL Server

To achieve reliable system operation, the database server needs to have sufficient resources (processor performance, physical RAM).

Estimation of minimal RAM for database server: 8 GB + (100 MB * users number)

2.1. Oracle Database

Applicable editions and versions

- Oracle 12.2 SE2, EE, applicable versions 12.2.0.1 and higher
- Oracle 19 SE2, EE, applicable versions 19.4.0.0 and higher

Other information

- Multitenant/Container DB is not supported - database GINIS can work only as common non CDB
- See <http://support.oracle.com>
- Data is stored in collation ANSI CP1250

2.2. IBM Informix Dynamic Server

Applicable editions

- Workgroup Edition
- Advanced Workgroup Edition
- Enterprise Edition
- Advanced Enterprise Edition

Applicable versions

- 11.70 xC5 and higher
- 12.10 xC12 and higher
- 14.10 xC7 and higher

Other information

- Data is stored in encoding ANSI CP1250
- see <https://www.ibm.com/support/pages/node/320749>

2.3. Microsoft SQL Server

Applicable editions

- Enterprise Edition
- Standard Edition
- Developer Edition
- Express Edition

SQL Server applicable versions

- SQL Server 2014 + SP3, build 12.0.6024.0
- SQL Server 2016 + SP3, build 13.0.6300.2
- SQL Server 2017 + CU19, build 14.0.3281.6
- SQL Server 2019 + CU15, build 15.0.4198.2
- SQL Server 2022 + RTM, build 16.0.1000.6
- SQL Server on Linux 2017, 2019, 2022 - specific issues related to implementation on Linux OS will not be addressed.

Depending on the specific version of the GINIS database, you may be forced to upgrade SQL Server. It is not possible to specify the minimum necessary build of SQL Server. We recommend that you regularly install the latest available update, optimally following the instructions on the site:

<https://sqlserverupdates.com/>

<https://learn.microsoft.com/en-us/troubleshoot/sql/releases/download-and-install-latest-updates>

Other information

- **HW a SW requirements for SQL Server:** <https://learn.microsoft.com/en-us/sql/sql-server/install/hardware-and-software-requirements-for-installing-sql-server-2022>
- **Required settings for GINIS:**
 - Authentication method: SQL Server a Windows (Mixed mode)
 - Communication protocol: TCP/IP
- **Recommended settings for GINIS:**
 - SQL Server collation: Czech_CI_AS
 - Format the disk for data and transaction log with NTFS Allocation Unit Size = 64 KB
- **Azure SQL Database:**
 - Managed Instance
 - Elastic Pool
 - Single Database

Data storage

- New implementations (from year 2019) - **Unicode**
- Older implementations - **ANSI CP1250**
- Azure SQL Database - **Unicode**
- Migration of older databases to Unicode is possible (as a service).

3. Client environment

3.1. Thick client

Minimal requirements

- RAM min. 4 GB
- Hard disk space min. 10 GB
- for some modules with heavy loads (for example GSAPOD01) is necessary efficient HW (CPU RAM 8 GB, SSD)
- Display screen resolution min. 1024×768 with 100% magnification color depth 32 bits

Operating system

- Microsoft Windows 11
- Microsoft Windows 10 Anniversary Update and higher
- Microsoft Windows 8.1
- Microsoft Windows Server 2022
- Microsoft Windows Server 2019
- Microsoft Windows Server 2016
- Microsoft Windows Server 2012 R2
- Microsoft Windows Server 2012

Oper. system must support application language settings.

In case of incompatible changes caused by a Windows Update, GINIS will be fixed within 30 days after the update release.

Database system client

- **Oracle Database:**
 - Oracle Client version 11.2.0.2, 12.2.0.1, 19.1.0.0, 19.3.0.0
 - Oracle OLE DB provider version 11.2.0.2, 12.2.0.1 (installation as a part of the GINIS client recommended)
- **Microsoft SQL Server:**
 - Microsoft ODBC Driver 17 for SQL Server (x86 + x64)
 - Microsoft OLE DB Driver 18 for SQL Server (x86 + x64)
 - Microsoft SQL Server 2012 Native Client (x86 + x64)
- **IBM Informix DS:**
 - IBM Informix Client version 3.70 TC8, 4.10 TC15

Another system software

- Microsoft.NET Framework v. 4.8 (in some cases Microsoft.NET Framework ver. 3.5 is needed)
- Microsoft Edge in compatible mode IE11, eventual Mozilla FireFox
- Microsoft Windows Installer 3.1 and higher
- Microsoft Visual C++ 2010 Redistributable (x86 + x64)
- Microsoft Visual C++ 2013 Redistributable (x86 + x64)
- Microsoft Visual C++ 2015-2019 Redistributable (x86 + x64)

Automatic updates of the GINIS clients

For the successful work of automatic updates of the GINIS client, it is necessary:

- enabling system service GSSINS01.EXE
- the right to write to the installation directory GINIS
- the right to write to the register Computer_LOCAL_MACHINE
- the right to write to the register Computer_CURRENT_USER
- the right to register system objects (ActiveX, COM,OLE), instalation of fonts and MSI third parties

3.2. Web client

Minimal requirements

- RAM min. 4 GB
- Hard disk space min. 4 GB
- Display color depth 32 bits

Operating system

- Microsoft Windows 11
- Microsoft Windows 10
- Microsoft Windows 8.1
- Microsoft Windows Server 2022
- Microsoft Windows Server 2019
- Microsoft Windows Server 2016
- Microsoft Windows Server 2012 R2
- Microsoft Windows Server 2012

In case of incompatible changes caused by a Windows Update, GINIS will be fixed within 30 days after the update release.

Another system software

- **Web client 05** (a new technology GWAxxx05)
 - Microsoft Edge (updated)
 - Google Chrome (updated)
 - Mozilla FireFox (updated)
 - Safari (updated)
- **Thin client 01** - (obsoleted technology GWAxxx01)
 - Microsoft Edge in compatible mode IE11
 - Mozilla FireFox 45 eventually lower (modal dialogs supported, electronic signature not supported)
 - Google Chrome 36 eventually lower (modal dialogs supported, electronic signature not supported)
 - Microsoft Windows Installer 3.1 or higher

Obsoleted technology will be supported only to version GINIS 2023

Web browser settings for appropriate webserver

- Active scripting - enabled (javascript)
- Cookies - enabled (for authorization only)
- Access data sources across domains (for verification in the state registry only)
- HTTPS protocol is required for using web client

Additional requirements for client certificate signing

- **Microsoft Edge in compatible mode IE11:**
 - using GORDIC AX2 and GORDIC AXSecurity components
 - Initialization and scripting ActiveX - enabled
- **For every web browser except Safari:**
 - Gordic.Browser.Extensions (shortly GBE)
- **Safari:**
 - GBE is not supported
 - see more Certificate signing

4. Web application server

System GINIS Web client must be run on a web application server.

Minimal requirements

- RAM min. 8 GB
- Hard disk space min. 8 GB
- for some modules with heavy load consuming applications need high performance HW (CPU with high core frequency, RAM 16 GB, SSD)
- Display screen resolution min. 1024×768 with 100% magnification color depth 32 bits

Operating system

- Microsoft Windows Server 2022
- Microsoft Windows Server 2019
- Microsoft Windows Server 2016
- Microsoft Windows Server 2012 R2
- Microsoft Windows Server 2012

Oper. system must support application language settings.

In case of incompatible changes caused by a Windows Update, GINIS will be fixed within 30 days after the update release.

Operation on Windows Server Core is not supported.

The edition of the operating system must be chosen according to the hardware and according to the Microsoft licensing rules, see: <https://www.microsoft.com/en/windows-server/pricing>

Database system client

- **Oracle Database:**
 - Oracle Client version 11.2.0.2, 12.2.0.1, 19.1.0.0, 19.3.0.0
 - Oracle OLE DB provider version 11.2.0.2, 12.2.0.1 (installation as a part of the GINIS client recommended)
- **Microsoft SQL Server:**
 - Microsoft OLE DB Driver 18 for SQL Server
- **IBM Informix DS:**
 - 32 bit: Informix OLE DB provider version 3.70 TC8, 4.10 TC15
 - 64 bit: Informix OLE DB provider version 4.10 FC15, 4.50 FC8

Another system software

- Microsoft IIS 7 or higher with ASP.NET support installed
- Microsoft.NET Framework ver. 4.8 (in some cases Microsoft.NET Framework ver. 3.5 is needed)
- Microsoft Windows Installer 3.1 or higher
- WebSocket protocol support (recommended for thin client)
- HTTPS protocol is required for web client

5. Office software support

Using the 32-bit MS Office edition is necessary for full integration with GINIS more on [http://technet.microsoft.com/en-us/library/ee681792\(v=office.15\).aspx](http://technet.microsoft.com/en-us/library/ee681792(v=office.15).aspx)

Office software support in GINIS subsystems:

GINIS-SSL

- MS Office 2010 CZ, 2013 CZ, 2016 CZ, 2019 CZ, 2021 CZ
- MS Office 365 CZ - Windows applications
- OpenOffice Writer 3.0 and higher - basic support for generating data into form templates

Creating documents

el. documents created with GINIS-REG or GINIS-FIK

- MS Office 2010 CZ, 2013 CZ, 2016 CZ, 2019 CZ, 2021 CZ
- MS Office 365 CZ - Windows applications

Reports created by GORDIC Report generator

- MS Office 2010 CZ, 2013 CZ, 2016 CZ, 2019 CZ, 2021 CZ
- MS Office 365 CZ - Windows applications

RTF templates and grafical report export

- OpenOffice Writer 3.0 and higher

Grafical report export to PDF format

- Acrobat Reader ver. 9.0 and higher (format PDF ver. 1.4 and higher)

Recommended PDF viewers for PDF file preview

- Foxit Reader ver. 7 and higher

6. Electronic document storage

Scope of electronic document storage support:

Supported storage types

- GORDIC WS DMS
- ftp, sftp server
- Azure Blob Storage

Electronic document storage with full-text

Windows Search:

- can run in Windows Server 2012 a Windows 8 or higher
- can run only with WS DMS

7. Interface for mailing systems

Scope of email systems support in GINIS modules:

E-registry

- **e-mail reception** - with POP3, POP3S, Microsoft - GraphAPI

Redistribution node - Mail - inbox

- **E-mail download - thick client**
 - Extended MAPI (for 32-bit Microsoft Outlook 2010, 2013)
 - MAPI (for 32-bit clients that support E-MAPI)
 - POP3, POP3S, Microsoft - GraphAPI
- **E-mail download - thin client**
 - POP3, POP3S, Microsoft - GraphAPI
- **E-mail sending - thick client**
 - Extended MAPI (for 32-bit Microsoft Outlook 2010, 2013)
 - SMTP, SMTPS, SMTP (XOAUTH2)
- **E-mail sending - thin client**
 - SMTP, SMTPS, SMTP (XOAUTH2)

General usage

- **E-mail message format**
 - MIME
 - UUEncode (with SMTP protocol only)

8. Bar code support

Bar code using:

Bar code supported type

- Code 39

TrueType fonts delivered with GINIS system

- CK GINIS (for minimal 30 dot points)
- CK GINIS small (for minimal 15 dot points)

9. Digital signature and electronic sealing support

Digital signature and electronic sealing support:

Digital signature view in Acrobat Reader

- Acrobat Reader ver. 9.2 and higher

Rules for digital signature validation

On computer where validating process answers, it is necessary to install:

- certificates of CA that have issued the certificate used for creating the validated digital signature
- certificates of CA that have issued the certificate used for creating CRLs or OCSP answers

On-premise Qualified electronic seal support

- ProID card
- SafeNET HSM module

Remote sealing

- I.CA RemoteSeal
- 602 SecuSign

Cloud electronic signature

- 602 SecuSign

Qualified verification

- 602 SecuSign
- I.CA QVerify

10. Automatic scanner support

Scanner with automatic feeder support:

Document scanning

- **Resolution**
 - 300 DPI recommended
 - 600 DPI maximal
- **Type of file**
 - multipage TIFF recommended

Scanning software

- **GINIS GSL** - recommended 3rd party solution
 - Tesseract OCR
 - ABBYY FineReader Engine 11, 12
- **GINIS MAS** - recommended 3rd party solution
 - ABBYY Recognition server
 - Konica Minolta
 - Sirius

11. File conversion to PDF and PDF/A format

File conversion to PDF and PDF/A format:

Only one MS Office version can be installed on a conversion computer (MS Office version combination is not allowed). (the combination of MS Office versions is not possible)

Conversion to PDF/A format

- **Server solutions**

- GORDIC DKS - Document conversion server
- Adobe Experience Manager Forms 6.4
- Adobe LiveCycle Enterprise Suite ver. 2, 3
- Adobe LiveCycle Enterprise Suite ver. 4 (recommended according to PDF/A standard)
- S602 Long-Term Docs

- **Conversion on client's PC (for thick client GINIS only)**

- Microsoft Office 2013, 2016, 2019, 2021, 365 (recommended for best results according to PDF/A standard)
- PDF Creator version 1.7.3

Conversion to PDF format

- **Server solutions**

- GORDIC DKS - Document conversion server
- Adobe Experience Manager Forms 6.4
- Adobe LiveCycle Enterprise Suite ver. 2, 3, 4
- S602 Server Enterprise Edition (Print2PDF 8, 9, X)
- S602 Long-Term Docs

- **Conversion on client's PC (for thick client GINIS only)**

- PDF Creator od version 1.7.3
- Microsoft Office 2013, 2016, 2019, 2021, 365
- LibreOffice 32bit version 6.1, 6.2, 6.3, 6.4, 7.0, 7.1, 7.2, 7.3, 7.4
- Software602 Print2PDF 8, 9, X

12. GORDIC DKS - Document conversion server

Minimal requirements

- RAM min. 6 GB
- CPU (in the case of using multiple functions, it is necessary to make a sum)
 - for verify el. signature min. 8 core
 - for sealing min. 4 core
 - for conversion to PDF min. 4 core
 - for validation PDF/A min. 2 core
 - for file format validation min 2 core

Operating system

- Microsoft Windows 8.1 and higher
- Microsoft Windows Server 2012 and higher

Another system software

- **Required:**
 - LibreOffice 32 bit version 7.0, 7.1, 7.2, 7.3, 7.4 (the combination of LibreOffice and OpenOffice is not possible)
 - Ghostscript 32bit, 9.10 and higher
 - PDF24 10.0 and higher
 - WKHTMLTOPDF (for conversion EML and HTML to PDF)
 - Adobe Reader DC
- **Optional:**
 - PDFCreator version 1.7.3
 - Microsoft Office Word 2013, 2016, 2019, 2021, 365
 - Microsoft Office Excel 2013, 2016, 2019, 2021, 365
 - Microsoft Office PowerPoint 2013, 2016, 2019, 2021, 365
 - S602 FormFiller 4.52.29.13.0726 and higher (conversion ZFO to PDF)

13. Microsoft Azure support

GINIS runs in hosting centers (clouds) as IaaS (as an application installed on virtual machines).

In addition, in Microsoft Azure environment is possible:

- to use Azure SQL Database
- to use Azure Blob Storage
- to run GINIS thin client as Azure WebApp

14. Communication with the ISZR interface

Use the TLS 1.2 protocol for communication with the interface of ISZR basic registers

15. Multi-factor authentication

Supported multi-factor authentication types:

Type authentication

- TOTP

Supported mobile applications

- Google Authenticator
- TOTP Authenticator (fy. Binaryboot)