

GILBOA Requirements for Travel Management System

1. Travel System Architecture Overview

The 'GILBOA' system is a comprehensive travel management system for a tourism/travel business. The 'GILBOA' operates in Windows environment, and can be used in the local network, in branches, and over the Internet.

This document details the hardware and software requirements needed by the 'GILBOA' system.

Prior to making an order for hardware, we strongly urge you to send your written offers, including all the specifications, to our office for approval.

2. Travel System Architecture: Requirements for 'GILBOA' For Windows (G4W)

2.1 LAN

- 1Gb Fast Ethernet switch (or faster).
- 1Gb NICs (Network Interface Cards), from a leading manufacturer (HP, Intel, Cisco.)
- At least 1Gb cabling and networking hardware.
- In busy network (above 50 users) or when 'GILBOA' For Internet is used, the LAN should be segmented using several switches (the 'GILBOA' database server should be connected to all segments using several NICs).
- Network software: Windows Server 2008 R2 Service Pack 1.
- Network protocol: TCP/IP (other protocols such as IPX or NETBEUI should be avoided and removed).
- Preliminary requirement for using 'GILBOA', is running the netcheck.exe utility (provided by 'GILBOA') from all workstations, and achieving the following performance:
- Not more than 5 seconds for writing, and 0.5 second for reading.

2.2 Main Database Server ('GILBOA' database)

- Dedicated SQL server for the 'GILBOA' database only. This server should not be used as a workstation, and will not run any other application or service (file, mail, print, ...).
- Microsoft SQL Server 2014 64-bit edition should be purchased (with the required quantity of licenses), and installed on the database server.
- The server should be manufactured by a leading provider (e.g. IBM, Dell, HP, etc..).
- Operating system: Windows Server 2008 R2 Service Pack 1 (and up) – English version (for code base clients this is the file server)
- If running Microsoft Windows Cluster Service, or according to quantity of licenses – a Windows Server 2008 R2 Service Pack 1 (and up) Enterprise version should be used.
- 1Gb (at least) NIC (network Interface Card) and Switch. In a busy network (above 50 users) the database server should be connected to the LAN switches using several NICs (one NIC per switch). In case the 'GILBOA' For Internet is used, the database server should be connected to the Internet servers using a fast mechanism (faster switch, e.g. 1Gb Ethernet).
- Disk characteristics: at least 100 GB disk space, solid-state drive is highly recommended.
- RAM: Minimum 4GB (8GB recommended), the amount of the available RAM should be larger than the size of the DB.
- Processor: AMD64/x86-64 cpu.
- Recommended CPU: 4-8 core cpu, the sql server will use available cores according to the sql server licensing.
- Number of cores dedicated to the SQL server: 2 cores, for over 100 clerks: 4 cores, if heavier loads are used add dedicated cores as needed.
- G4W systems with more than 50 users requires SQL Server.
- When using Microsoft Windows 2008 Cluster Service, a shared external SCSI disk array should be used.

- It is possible to implement a hot backup failover cluster (Microsoft Windows 2008 Cluster Service). In this case, there should be 2 identical database servers, using a shared external disk array, and a dedicated 'heart bit' NIC on each of them.
- Network protocol: TCP/IP (only).
- File system: NTFS.
- Do not use disk compression on folders that contain GILBOA executables or data.
- In a busy network (above 50 users) the database server should not be used as DC (domain controller) or DNS.
- The database server should be connected to a UPS (with automatic shutdown capability).

2.2.1 Minimal permissions required:

- For day to day operation and normal use:
- db_datareader, db_datawriter are required, if 'Ticket Stock Report' is used then db_ddladmin is also required.
- Gilboa Stored Procedure (g_ErrorLog, g_StartNexBrCounter, g_StartNexCounter, g_UpdateINI) require 'Execute' permissions.
- For version upgrade and support events: db_owner or sysadmin or higher.

2.2.2 Q&A Regarding hardening the SQL Server

- Q: Set the 'CLR Enabled' Server Configuration Option to 0 ?
A: No, The gilboa uses the common language runtime (CLR).
- Q: Set the 'CLR Assembly Permission Set' to SAFE_ACCESS for All CLR Assemblies ?
A: Yes, the gilboa create and use CLR only with PERMISSION_SET = SAFE
- Q: Set the 'CHECK_POLICY' Option to ON for All SQL Authenticated Logins ?
A: Login properties are the responsibility of the customer.
- Q: Set the 'CHECK_EXPIRATION' Option to ON for All SQL Authenticated Logins Within the Sysadmin Role?
A: Login properties are the responsibility of the customer.
- Q: Disable SQL Server Browser Service
A: Yes, the Gilboa does not require the Browser Service.

2.3 Travel System Architecture for Branches

- Remote users will use GILBOA that runs on Windows Server 2008 R2 Service Pack 1 (and up) Remote Desktop Services/terminal server (assuming 'GILBOA' use only)

- The Terminal server cannot be the 'GILBOA' database server.
- Minimum 500 MB per user + 1GB for operating system (assuming only the Gilboa is running!).
- 1 DualCore/QuadCore CPU per each 10/20 sessions.
- Maximum of 25 concurrent sessions on each terminal server.
- All 'GILBOA' registry definitions are in "Current User" level, therefore a separate and dedicated login should be configured for each session.
- Communication line: 20Kbps per user.
- Microsoft Internet Explorer 6 (or newer) installed.
- The Gilboa executable files folder (g4wexe) locations is on the the terminal server
- For Windows termianl server 2008 R2 and up there may be a need to set compatability mode 'Windows xp sp3' for the Gilboa executables.
- The configuration folder can be shared by all users via a shared foldr (not on the sql server!)

2.4 Workstations

- Manufactured by A leading provider, for example: IBM, Dell, HP.
- CPU: AMD or Intel cpu
- Windows 7/8/10.
- 100Mb NIC (or faster).
- The communication speed between this computer and the database server must be at least 100Mbs.
- At least 1000MB RAM free (assuming only the Gilboa is running!).
- SVGA screen, supporting at least 256 colors in Windows.
- Screen resolution: minimum 1024x768
- At least 2GB available hard disk.
- The msado15.dll in each computer must be in version 2.8 or higher.
- Microsoft Internet Explorer 7 (or newer) installed.

2.5 Operating System client side settings (for workstations and terminal users)

- Set 'Language for non-Unicode programs' to Hebrew (Israel)
- If 'Data Execution Prevention (DEP)' is on for all programs, then add gilboa apps to the exception list (at least gilboamn.exe)
- On large Gilboa systems Reports/Accounting/Supplier modules may require more than 1 GB RAM

2.6 Printer

- Laser printer suitable for Windows 2000 and above.
- At least 8 pages per minute.
- At least 4MB RAM.
- Capable of printing both English and local language (if not English) from Windows.
- On site maintenance service.
- Printer driver capable of printing "true type as graphics".

2.7 Backup

- Recommended: for internal use:
- 4 mm DAT (4GB-8GB or 12GB-24GB) or other reliable external solution.
- There should be automatic daily backup program for the disks containing the 'GILBOA' database and configuration files.
- Tape from a leading provider (e.g. HP).
- There should be verification that the backup successfully restored.
- Mandatory: for Galor's support:
- Good quality CD writer (at least x4 speed).
- It is recommended to use SCSI controller for the CD writer.
- It is recommended to use CDs of good quality (e.g. Kodak).

2.8 Support Connection

- In order to enable Galor's support, one of the workstations should have direct IP connection.
- The connection should be over TCP/IP.

- This workstation must also be installed with PcAnywhere communications or remote desktop software and avail 24H 7 days a week.

2.9 Fax (optional)

- For sending faxes directly from 'GILBOA', there should be a fax server (which is not the same server as the 'GILBOA' database server).
- 'GILBOA' interface to the following fax packages:
 - ZetaFax (require ZetaFax API license as well).
 - FacSys (require FacSys API license as well).
 - Easy Link (email to fax).
- The fax package should be installed in the fax server as well as the fax client (not required for Easy Link).
- When working with ZetaFax and Windows Terminal, the ZetaFax version should be 6.01H or newer.

2.10 Email (optional)

- For the capability of sending Emails directly from 'GILBOA':
 - Connection to an ISP (email account + login account).
 - Modem or permanent connection to the ISP.
 - TCP/IP protocol (and dialup definitions in case there is a modem).
 - GILBOA For Windows supports the following Email environments:
 - MAPI:
 - Option 1: Outlook express email client is operating on the GILBOA's workstation (and defined as "default mail application").
 - Option 2: Microsoft Office Outlook email client (32 bit only!) is operating (with "G4W" profile, and defined as "default mail application") on the GILBOA's workstation, and there is an Exchange server (and up).
 - SMTP: Any SMTP server can be used (need to support MIME and attachments).

2.11 Network and Hardware support

- It is recommended to buy all equipment from the same Supplier, in order to receive comprehensive Hardware support.

- When finalizing support terms with your Supplier, ensure that your contract includes the following:
- Response Time in case of Server failure – 4 hours.
- Response Time in case of Network failure – 4 hours.
- Response Time in case Workstation failure – 24 hours.
- Response Time in case of a Printer failure – 24 hours.
- Response Time in case of Network adjustments – 48 hours.

2.12 Logo

Two options in order to be able to print the company's Graphic Logo (and not just textual logo in common font) on documents produced by 'GILBOA':

- Prepare a TRUE TYPE FONT containing the Graphic Logo. (This font should be ready to be used in "one line" – i.e. the font letters will not span on more than one single line).
- Another option is to use a bitmap file (.BMP file) for your logo. Its height should be up to 86 pixels, and its width up to 598 pixels. The logo file path should be in the g4wdata folder

3. Travel System Architecture Requirements for 'GILBOA' For Internet (G4I)

3.1 General

The 'GILBOA' For Internet system enables working on 'GILBOA' over the Internet. After installing the Internet server and 'GILBOA' For Internet software, it is possible to work through Internet Explorer on the 'GILBOA' database.

The 'GILBOA' For Internet also contains an Internet XML server, thus allowing remote systems (B2B) working directly on 'GILBOA' (quiet query for products, make reservations, etc.).

The network protocol is TCP/IP.

The 'GILBOA' For Internet and 'GILBOA' For Windows share the 'GILBOA' database. When working in the Internet environment, a proper security arrangements should be made, to secure the organization computers and property from intruders or hackers. The owner of the Internet site is responsible for setting up and maintaining the security hardware, software and policies.

The organization can have a general Internet site (with general information, etc.). In this case, this site can link into the 'GILBOA' For Internet, or it can be configured as 2 separate sites.

Following are basic steps in setting an Internet site:

- Install TCP/IP protocol in the network.

- Permanent connection (PTP) with ISP in a suitable speed.
- Router between the Firewall/Internal network and the ISP.
- Register a domain (and IP address).
- Optional: implementing and maintaining a general Internet site which links to the 'GILBOA'.

3.2 Main database server ('GILBOA' database)

This is 'GILBOA's' main database (mentioned in 2.2 above).

3.3 Session Database Server

In a medium size Internet site (or larger) there should be an additional database server: the Session database. This is a database server installed with SQL Server 2005/2008 R2.

The session database is mandatory also for site that uses the 'GILBOA' XML interface (e.g. from remote systems).

The requirements from the session database, are similar to the requirements of the 'GILBOA' main database server (section 2.2 above).

In a large site it is recommended to install 2 servers for the session database (in a failover cluster), similar to the main database server cluster.

3.4 Internet Connection

The Internet server should be connected to the ISP with at least 2Mbps

The bandwidth usage should be monitored and increased if needed.

Note:

- ADSL is not a suitable communication for an Internet server.
- ATM and T1 connections are recommended.

3.5 Internet Server

- Windows Server 2003 R2 64 bit edition, Standard/Enterprise – English version.
- Microsoft IIS 6 (Exist only in Windows Server 2003).
- NET framework 2.0 or above installed on the IIS Server.
- Minimum 4GB RAM (8MB recommended).
- Minimum 1MB cache memory (2MB recommended).
- Support of 4 CPUs.
- Minimum 2 Intel/AMD CPU/Cores or higher.
- SCSI disk.
- Minimum 20GB free space on IIS Server disk (%SystemDrive%).

- 1Gb Ethernet NIC.
- The communication speed between this computer and the database server must be at least 1Gb.
- It is recommended to install several NICs, in order to enable connecting to several switches (e.g. switch connected to the external router, switch for the internal network and database server, etc.).
- In a medium size site (or bigger) it is recommended to connect the Internet server/s and the database server/s with 1Gb Ethernet.
- Network protocol: TCP/IP (only).
- Install MS Internet Explorer (browser) version 7 (or newer).
- Do not install AntiVirus software on IIS servers. Even in periodical AntiVirus scanning, it is mandatory to configure the AntiVirus software – not to scan/touch 'global.asa' files (it restarts the IIS).
- For support from Galor: installation of "PC Anywhere" (with modem or "over IP" in case there is a "real" IP address).
- For scalability: more (up to 24 or 32) identical IIS servers can be added, using the Windows NLB service (load balancing). This requires Windows Server Advanced operating system.