

System Galaxy

System Specifications



SG 11.1.0.2

APR 2019

System Galaxy Quick Guide

SG 11 Specifications

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System Galaxy System Requirements

This document provides minimum requirements for installing and operating System Galaxy (SG) Client Software, Database, and GCS Services.

WHAT'S NEW IN SG 11:

1. **idProducer On-Premises Badging Solution** (Basic and Advance Badging – on-Premises SG 11.1.0.2)
2. **Veridt FICAM Reader module and HARS CPU board** (hardware addition)
3. **Separate S28 Flash versions for 635 CPU and 600 CPU to support FICAM**
4. **Invixium Biometric Integration** / Invixium Readers are supported.
5. **Video-Plugins now supported.**
 - **Lensec PVMS**
 - **Video insight 7 (VI7)**
 - **Digital Watchdog DW Spectrum**
 - **Discover / OWS**
 - **WiseNet Wave**
6. **Supports transferring biometric data to the newer MorphoManager database from the SysGal Database.** The data transfer must be done after you upgrade SG and after you install the MorphoManager Client and Database BUT before you do any enrolling in the new system. See the [Morpho Biometric Conversion Utility.pdf](#).

See the *Galaxy Installation DVD1* for the Release Notes for more details.

WHAT'S NEW IN SG 10:

1. **New Features include, but not limited to ...**
 - a. **MorphoManager/BioBridge 9.4.5 Biometric Interface:** Enrollment/synchronization for SIGMA MA5G Reader. (see the SG MorphoManager 9.4.5 Interface Guide for capabilities, requirements and instructions).
 - b. **Galaxy Mobile Apps First Generation.**
 - **DoorPoint** and **PersonPoint** are available for Apple and Android phones.
 - Server-side installation and configuration is required.
 - See later section in this guide, as well as the Galaxy Mobile Apps Guides.
 - c. **Updated Avigilon SDK** to Version 5.6.2.14

GENERAL NOTICES & WARNINGS:

NOTICE: These requirements are subject to change without notice. Consult your Galaxy Dealer / Galaxy Technical Support before making time-sensitive and cost-sensitive decisions.

IMPORTANT: Specifications, requirements and compatibilities may vary depending on your individual system or application needs. This document *may or may not supersede the specifications & requirements of 3rd Party technologies. This manual should be viewed in tandem with, or addition to, information from 3rd party sources.*

NOTICE: System Galaxy software is supported on the Server OS for diagnostic purposes. Galaxy does not support using a Server OS for a *standalone system*, or for a *workstation* (i.e. monitoring, badging, biometric enrollment, etc).

IMPORTANT: please carefully read all associated materials to confirm your specific requirements. Contact Galaxy Control Systems with any questions you cannot resolve or in the following situations:

- You are planning a large-scale system install or upgrade
- You are migrating to a different operating system
- You are upgrading or expanding a system using 3rd Party applications
- You are upgrading from a version that is more than 2 or 3 versions behind
- You are installing an integrated 3rd Party application

WARNING: Remember to properly plan all upgrades and properly back up the database, archive database, and all system assets (reports, photos, badge templates, signature files, icons, etc.)

OPERATING SYSTEM REQUIREMENTS:

Windows OS compatibility for System Galaxy software & GCS Services

- Windows® 10 Pro (64-bit) *with latest service pack*
- Windows® 8.1 Pro (32/64-bit) *with latest service pack*
- Windows® 7 Pro (32/64-bit) *with latest service pack (does not support*
- No longer supported: Windows Vista | Windows XP

Server OS compatibility for SG Database Server & Communication Server (GCS Services)

- Windows Server® 2016 *with latest service pack*
- Windows Server® / 2012 R2 *with latest service pack*
- Windows Server® 2008 R2 (32bit / 64bit) *with latest service pack*
- No longer supported: Server 2003 or older.

IMPORTANT: Some 3rd party applications/technologies may not be supported on a Server OS (e.g. biometric enrollment, credential enrollment devices).

IMPORTANT: System Galaxy client software is supported on Server OS *for diagnostic purposes only*. SG Operator may need user privileges to the license files or other files in the System Galaxy directory.

System Galaxy Database Requirements:

- ▶ **System Galaxy is designed to use SQL Native Client (ODBC driver) for database connections.**

Microsoft® Native Client components are included in the GalSuite Install Step 2. The SQL Client components must be installed on every computer running System Galaxy Software or Services.

- ▶ **SG 10.5.6 is packaged with MS SQL Server® 2014 Express (64b) SP2** as the default database, (which is installed during Step 2).
 - » If you need *MS SQL Server Express 2014 **32-bit version***, please contact Galaxy Control Systems for a 32-bit installation disk.

- ▶ **System Galaxy database size:** is the inherent size of the database engine you choose (imposed by Microsoft).
 - » Microsoft SQL Express 2014 R2 has a 10GB max. limit.
 - » Microsoft SQL Server® Enterprise has an unlimited size.

- ▶ **Upgrading SG and SG Databases:** may be required or recommended depending on which SG Version is your starting version.
 - » **Upgrading from SG 10.4.8 or older?** running SQL Server 2005 Express or 2008 Express, You must upgrade your Database to SQL Server 2014 Express during Step-2 (or upgrade to a compatible Enterprise version if not choosing SQL Express).

NOTE: SQL Server 2008 R2 is not supported on Windows Server **2008 SP2 Server Core** or Windows Server **2008 R2 Server Core** installations.

NOTE: System Galaxy is compatible with Microsoft SQL Server® 2008-R2/2012/2016 Enterprise (using the latest or appropriate service packs).

System Galaxy Installation & Registration Requirements:

GalSuite installation DVD: System Galaxy installs from a DVD (DVD Drive required)

Step-1) Prerequisite Components (Microsoft .NET Framework (**Required***))

Step-2) Database, DBMS, and Client Components (MS SQL Express 2014 default)

Step-3) System Galaxy Application (SG software, GCS Services)

IMPORTANT: System Galaxy requires administrative rights on the computer to properly install the system.

- Step-1 Installation/Framework:** System Galaxy Client software & services, SG Web Module are **Microsoft .NET Framework-based**. The appropriate .NET versions are installed by Step-1 Prerequisites. **This must be installed on every Galaxy computer.**

Notes ...

- ▶ Per Microsoft, the v3.5 .Net Framework requires a public internet connection to install.
 - ▶ **IMPORTANT! The v3.5 .Net Framework must be installed before SQL Engine is installed.**
 - a) **For Windows-7 Users:** Step-1 will attempt to install .NET v3.5 (internet connection required). The Install Program will prompt user to manually install v3.5 if necessary.
 - b) **For Windows 8.1 & 10 Users:** user must manually install v3.5 .NET Framework (internet connection required - see **Step-1 Prereqs Readme** on the Galaxy DVD-1 Installer splash screen for steps (found in the Installers folder)
 - ▶ **For Microsoft Server OS, the user must add a 'Server Role' and manually install the .NET Framework v3.5 if prompted to do so by the SG Install Program.** See the *Server Role Setup Guide* in the *Installers* folder on the *Install Disk-1*; or in the *Manuals* Folder on *Install Disk-2*; or listed on the [Galaxy Online Documentation](#) page.
- Step-2 Installation - Database & ODBC Client Components:**
 - ▶ For the computer hosting the Galaxy database, the Database install includes the SQL Client Components.
 - ▶ For all other computers, you must choose to install the Client ODBC Components.
 - Step-3 Installation and System/Workstation Registration:**
 - ▶ Steps 1 & 2 must already be completed on your computer. The Database must running and online.
 - ▶ There is a **14-day grace period** for completing the System and Workstation registrations. This allows ample time to get the hardware installed, configured and programmed into the software, and get an initial personnel batch imported for a cardholder population.
 - ▶ The product-level and features selected must match the purchase order. *Registration must be completed by the certified Galaxy Dealer (done in tandem with Galaxy Customer Service or the Dealer Online Registration Website).* Core function/features are available on every product-level. Advanced features and certain 3rd Party integrations are based on product-levels and purchased options.
 - System Galaxy operators need power-user rights** to operate the system.
 - SG uses Product Levels in System Registration.** Customer product level is labeled on the Software Install CD and available through Galaxy Customer Service department.

NOTE: Customers upgrading from SG v6 may need to consider hardware upgrades. 500 non-i-series controllers must be replaced with newer compatible Hardware – consult technical support.

General PC Hardware Requirements:

These are the minimum requirements for a typical standalone system and a workstation PC.

See other sections for Operating System and Service Pack Requirements.

- ▶ **Microsoft® Windows Compatible PC with Intel Pentium Dual Core 3.2 GHz or better**
 - » 2 GB of RAM
 - » 40GB of free Hard Drive space for SG
 - » Standard graphics card capable of 24-bit color (min. recommended 1280 x 1024 wide-resolution*)
 - » 1 NIC card
- ▶ **Wide-screen Monitor:** *size of monitor should support recommended resolution
- ▶ **Standard DVD Drive** (required for installing system)
- ▶ **Serial Communication Ports**
 - » 1 USB (dedicated if camera is used for photo capture)
 - » 1 USB (dedicated if local badge printer is used for enrolling)
 - » 1 USB (dedicated if local line printer is used for printing system reports)
 - » 1 USB (or COM) (dedicated if an enrollment reader used for access card enrollment)
 - » 1 USB (or COM) (available if configuring panels via HyperTerminal / SG 600 Config. Tool)
 - » 1 on-board COM (dedicated; 1 per each 500i primary panel, if using direct-connect method of communication; IMPORTANT: primary controllers do not support USB Serial converters)
NOTE: the 508i optionally supports TCP/IP where COM ports are not available.
- ▶ **Uninterruptable Power Supply - UPS** (recommended)
- ▶ **Windows® compatible printer**
- ▶ **Microsoft® Internet Explorer® v8** or later

System Galaxy Hardware S28 Flash and Boards

A new install should verify the flash version on the boards matches the software version.

An upgrade or repair situation requires the boards to be flashed to the correct version of flash.

- ▶ **IF you are running SG 10/11 you should have the correct/matching flash:**

635-series Controller	508i-series Controller
S28 Flash file v 11.1.0.2 (SG 11.0.3)	S28 Flash file v8.20c
S28 Flash file v 10.5.6 (SG 10.5.6)	
S28 Flash file v 10.5.6 (SG 10.5.6)	
S28 Flash file v 10.5.3 (SG 10.5.1)	
S28 Flash file v 10.4.15 (SG 10.4.9)	
S28 Flash file v 10.4.8 (SG 10.4.8)	<i>Subordinate boards and peripheral modules do not contain flash code.</i>
S28 Flash file v 10.4.1 (SG 10.4.1)	
S28 Flash file v 10.4 (SG 10.4)	
S28 Flash file v 5.04 (SG 10.3.1)	
S28 Flash file v 5.0 (SG 10.2)	
S28 Flash file v 4.77 (SG 10.1)	
All controller CPUs have an embedded web page for troubleshooting; Port 80 must be open.	



See the **635-series Hardware Installation Manual**, **508i-series Installation Addendum**, and **500-series Hardware Manual** for specifications on installing and operating System Galaxy hardware. ([Galaxy Online Documents](#))

System Galaxy Network Requirements

This section covers the IT and Security information concerning System Galaxy.

System Galaxy Security Notes

♦ **The following ports/applications must be unblocked for System Galaxy:**

- » 5010, 3001, 4000, 4001, 4002, 4003, 4004, 4005 and sqlservr.exe, sqlbrowser.exe for a networked system. See the full chart in next section.
- » The GalSuite Install program may automatically “open” Windows® Firewall Exceptions, depending on which installation choices are selected. **IF you are doing a standalone install and no other clients will connect remotely to the SG Database/Comm. Server,** then you should manually edit the firewall to use only those exceptions you truly need.

REMEMBER: you must manually open the required ports for any 3rd party firewall applications or port blocking applications.

REMEMBER: port 3001 is used for communication to Galaxy hardware controllers.

- ♦ **Also, note that any network switches or routers must also meet port requirements.**
- ♦ **If using idProducer Badging Solution,** you need to make sure both SpecsID Server service and Connection service can automatically start/run on PC reboot. They will not start if machine is slow to start the GCS Services. You may need to configure a Delayed Start for idProducer services.
- ♦ **If using *Time and Attendance* with “linked” database servers,** TCP Ports 135 and 6000 to 6050 are designated for DTC service on both the SG database server and the Time & Attendance database server. Note that the DTC authentication settings must match on both servers. If you are running Windows® 2000, then both servers will have to use “NONE” as the authentication setting.

TIP: A “.reg” file is included on the GalSuite CD that opens the T&A ports on both database servers if a linked server is used. Be aware that the “.reg” file will configure the DTC security settings, so you may want the IT personnel to approve running this or allow them to manually incorporate the needed DTC configuration. The “.reg” file can be viewed in notepad.

PC Firewall Exceptions Table

The table below lists default ports and program exceptions that System Galaxy requires to support operation. If these ports are not available on your customer's network, then you will need to work with their IT Professional to configure the ports.

Open/Allow * † ‡	Who uses it	Where to open it ...
sqlservr.exe	2014 SQL Express Server	On the computer running SQL Server only if clients need to make ODBC connections
sqlbrowser.exe	2014 SQL Server Browser	On the computer running SQL Server only if clients need to make ODBC connections
3001	GCS Event Service	On any computer running the GCS Event Service; SG panel connections required.
3001	GCS Comm Service	On any computer running GCS Comm Service; SG panel connections required.
4000	GCS Comm Service	On any computer running GCS Comm Service; GCS service connection required.
4001	GCS DBWriter Service	On the computer running the GCS DBWriter Service; GCS service connection required.
4002	GCS Gateway Service	On the computer running the GCS Gateway Service; GCS service connection required.
4003	GCS Event Service	On any computer running the GCS Event Service; GCS service connection required.
4004	GCS Alarm Panel Service	On the computer running the GCS Alarm Panel Service; GCS connection required.
4005 (only used for comm betwn redundant event svrs)	GCS Event Service	On the computer running the GCS Event Service. Listening port for <i>Event Service-to-Event Service communications</i> ; only used in case of running redundant event servers.
5010	GCS Gateway Service	On the computer running the GCS Gateway Service; GCS service connection required.
8000/8443 HTTP / HTTPS (Default)	GCS Web API Service	On any computer running the GCS API Service; GCS connection required to support API-based applications (e.g. idProducer, Mobile Apps, Video API plugins, etc.). If you are not running any API-based apps, then this service can be disabled and closed.
81 (default)	idProducer SpecsID	On the computer running the idProducer SpecsID services;

* **Managing Ports & Services:** During *GalSuite Installer Step-3/Part-3*, the installer automatically opens default ports and configures essential services to start "automatic". You may need to verify these ports are successfully opened and that the services are running. You may also need to close certain ports that you will not be using or have reassigned to a different port number. You will need to open the ports on switches/routers as appropriate.

† You should close any ports that are unnecessarily exposed and stop any duplicate services. Only one copy of DBWriter, Client Gateway, Web API can be running system wide. Typically, only one copy of the GCS Comm Service and GCS Event Service is deployed on the main communication/event server. The only exception is if you are installing multiple GCS Event or Comm Services to support globally distributed panels on an Auxiliary Comm Server, Aux. Event Server, or Redundant Event Servers.

‡ The idProducer and GCS Web API Services can be configured to use different port number than the default(s). If you change the IP Port Numbers you must also update the appSettings file to match and restart all the services to pick up the changes.

The following exceptions are used for Genesis Time & Attendance on Linked SQL Servers

TCP 135	MSDTC Service	On both the Genesis and Galaxy Database Servers
6000 thru 6050	MSDTC Service	On both the Genesis and Galaxy Database Servers

TIP: A ".reg" file is included on the GalSuite CD that opens the Time & Attendance ports if linked servers are used. It must be run on both servers.

BE AWARE: that the .reg file will configure the DTC security settings, so you may want the IT personnel to approve running this or allow them to manually incorporate the DTC configuration.

NOTE: that the DTC authentication setting must match on both servers. IF running on Windows 2000, the authentication setting must be set to NONE.

DVR/NVR Known Firewall Exceptions Table

The table below provides the port numbers known to be default ports for the listed products at time of initial integration development.

PORT	Service/Device	PORT	
***	DVR listening port	- need to open the specified port(s) required by DVR/NVR/VMS Manufacturer	
6808	Discovery	81	ONSSI / OCULARIS (default)
9871	Discovery 2	80	Salient
2000	Discovery 3	80	Milestone
2000	OpenEye	18772	Integral
2000	Toshiba Surveillix	1024	Kalatel
4000	Honeywell Fusion (4000 may be reserved for SG)	9002	Pelco / Endrua

Integrated Applications & 3rd Party Technologies

This section covers the high-level requirements for integrated applications and interfacing technologies.

CAUTION: you must compare the Galaxy recommendations with the requirements published by the manufacturers of the 3rd party applications / technologies. Additionally, you must reference the integration requirements printed in the appropriate System Galaxy Guide.

NOTICE: The recommendations in this manual may not supersede requirements or limitations imposed by the maker of 3rd party applications, hardware or technologies not manufactured by Galaxy Control Systems. Contact authorized Technical Support concerning any conflicts.

NOTICE: Technical support may be based on meeting these recommendations.

Galaxy MOBILE APPS for Smartphones (First Generation)

Galaxy DOORPOINT and PERSONPOINT mobile apps were introduced in SG 10.4.9

- ♦ The Mobile apps are available for Android or Apple.
- ♦ Server-side GCS Web API Service is automatically installed and configured to start automatically.
- ♦ The API service will use the default port 8443 unless you configure it to use a different port. This must be manually changed in the appSettings.
- ♦ **A Network Certificate must be obtained with privacy key.** You may not self-certify.
- ♦ The apps work via a private wireless connection or a public internet service provider.
- ♦ The ports are configurable and must be open on the appropriate server and router/switches(s)



See *Galaxy DoorPoint Guide*, *Galaxy PersonPoint Guide*, and *Galaxy Web API for Mobile Apps Guide* for full requirements.

idProducer Badging Solution

Galaxy 11.1.0.2 offers 2 on-premises license schemes. Requirements vary based on which License is installed.

1. **BASIC LICENSE:** License is for a single badging station.
 - Supports 1 Root Subscription for all badge templates.
 - Supports 1 Badge Printer for all badges.
 - Customers are not supported at all. You must use Advance License if you need customers or are upgrading and already have customers configured.
 - Galaxy generates the idProducer license key when System Galaxy is registered.
2. **ADVANCE LICENSE:** License for multiple badging stations. Contact Galaxy for obtaining a license.
 - License must be obtained before Registering System Galaxy.
 - License can be installed before or after registering SG.
 - Supports customers with multiple Customer-Subscriptions
 - Supports multiple badging stations/printers.

General Requirements:

1. **SG 11.1.0.2 minimum is required for Basic License.**
2. **idProducer build/version 1.6.6943.1226**
3. IIS must be installed to support idProducer Web Client Badge Designer
4. IIS Site must be created for idProducer and the IIS_IUSR permissions must have “full control”.
5. System Galaxy (all 3 parts) must be installed before idProducer is installed. You must create your Web API Credentials and configure the HTTP/HTTPS port number during part-3.
6. idProducer database must be published on the GCSSQLEXPRESS instance of SQL Server.
7. GCS Web API Service and both idProducer SpecsID services (server and connections services) must be running.
8. idProducer uses port 81 as the default. IF you change any port numbers from the default, you must update the appSettings file to match. Restart all services.
9. If you change any API reserved login credentials after the installation and registration are finished, you must update the appSettings file to match. Restart all services.
10. You cannot setup the idProducer Print Dispatcher(s) until idProducer is licensed.
11. You must manually add your badge printer to the idProducer Print Dispatcher(s).
12. You cannot live-print badges until the idProducer Print Dispatcher(s) is running. Offline print requests are saved in the Print Request table and will print as soon as the Print Dispatcher is online again.
13. You cannot delete a badge from SG if there is a pending print request. Launch the Print Dispatcher and Close or Print any Queued print requests. Print off any pending print requests.
14. You cannot create badge templates until the SG Cardholder fields have been pushed to idProducer. This happens when SG is registered for the Root subscription, and when the SG Customer-subscription is created and Synchronized for Customer-Subscriptions.
15. You cannot assign badges to cardholders until the badges are imported. Any changes after the fact must be Synchronized in Badge Designs screen (or the Customer screen if you are making customer badges).



See ***SG idProducer Badging for Basic/Standalone License*** for full requirements.

Genesis Time & Attendance

Genesis SQL (GENSQL) is compatible with *MS SQL Server 2000, but not MSDE*.

- ♦ If using a “shared server” connection, System Galaxy 8.1 (or later) is compatible with SQL Server 2000. However, you must manually copy and attach the databases and manually create the database logins.
- ♦ If using a “linked server” connection, System Galaxy can run on SQL Server® 2005 Express. No claims are made/implicit that Genesis is or is not compatible with SQL Server® 2005 Express.



See *Galaxy Interface Guide for Genesis Time & Attendance* for full requirements.

Important PassagePoint™

PassagePoint Global v10 is compatible with System Galaxy 10.

- ♦ There are no special registration requirements in System Galaxy. The integration is done through linked SQL Server connections and stored procedures. SG 10 includes the StopWare stored procedure for the SysGal database.
- ♦ At least one access profile must be created in System Galaxy to be used for visitor access privileges. *The access profile name must be added to PassagePoint and is case sensitive.*
- ♦ PassagePoint must be registered for Directory Linking if host names are imported from SysGal. Importing of names is administrative only. There is no linking of access rules through the host name.
- ♦ PassagePoint requires set up of the SysGal database connection, Access Profile name, and sign-in/sign-out scripts.



See *Galaxy Quick Guide for PassagePoint v10* for full requirements and configuration / use.

MorphoAccess SIGMA Readers & MorphoManager/BioBridge

System Galaxy v10.4.1 supports SIGMA Prox and SIGMA Bio Readers using the MA5G operation mode in tandem with MorphoManager 9.4.5 software in 'Integrated' mode.

NOTICE: as of SG 10.5.6, Galaxy supports migrating *Legacy Biometric Data* to **MorphoManager v10 Database** **BEFORE you begin enrolling with the new system.** See [MorphoManager Bio Data Migration Utility Guide](#) (not supported in MorphoManager 9.4.5)

NOTICE: Other SIGMA Models are supported in 'Biometric' Multifactor Mode.

NOTICE: All SIGMA Readers must be assigned a valid Multifactor Mode that works with the intended credentials.

NOTICE: Also, each credential must be enrolled with the Authentication Type that matches the Multifactor Mode at the SIGMA Reader.

SYSTEM GALAXY SUPPORTS INTEGRATION WITH SIGMA MA5G AS FOLLOWS:

- 1) System Galaxy database must be installed before you install MorphoManager Server/Database and Client.
- 2) Requires **System Galaxy v10.4.9** min. vers (Register for Biometric Support; configure for MorphoManager/BioBridge).
- 3) Requires **SIGMA Reader v1.4.1*** min. vers. (configured for MA5G (factory default)).
- 4) Requires **MSO Enrollment Station v10.00.g*** minimum.
- 5) Requires **635 Panels v10.4.15** flash
- 6) Requires **MorphoManager v9.4.5** client-server software;
 - a) Must provide the System Galaxy database Server_name\Instance and the valid SA login during the MorphoManager Server installation in order to install the MorphoManager Database.
 - b) MorphoManager Client must be installed at every Galaxy workstation that will perform enrollment.
 - c) Must start the MorphoManager server service after reboots.
 - d) Recommend creating an automatic client login that allows the BioBridge Enrollment Module to automatically launch from System Galaxy.
 - e) MorphoManager Client must be configured with specific settings to integrate with System Galaxy.



MorphoTrak firmware upgrade utilities are included on Disk-2 of the Galaxy Install Suite.

SYSTEM GALAXY SUPPORTS ENROLLMENT AS FOLLOWS:

- 1) Supports enrolling credentials from within System Galaxy Cardholder screen.
- 2) Supports enrolling biometric credentials on existing card that has been given an active access privilege.
- 3) Supports all/any combination of Access Groups, Access Profiles, and Personal Doors are supported – access is decisioned/determined by the panel (not by the reader).
- 4) Supports two unique fingers per credentials
- 5) Supports two Authentication Types (Prox + Biometric and Biometric only); Credentials must be enrolled with the Authent. Type that matches the reader's assigned Multifactor Mode.

Enroll Authentication Type		SIGMA Multifactor Mode	SIGMA Reader Model
<i>Assigned in the User Group & chosen at time of enrollment</i>		<i>Configured in Device Profile, which is assigned to Reader</i>	<i>Running in MA5G Operating Mode</i>
Proximity + Biometric	=>	Proximity Card	SIGMA-Prox
Biometric Only	=>	Biometric	SIGMA-Bio; SIGMA-Prox; <i>or other model set to Biometric mode</i>



See **SG Guide for SIGMA & MorphoManager v9X** for full requirements, configuration, and use.

Legacy (Traditional) Sagem Interface Notes

System Galaxy 10 continues to support fingerprint capture, pin, biopin and smart card encoding from within the cardholder screen. **HID iClass 16x16 and MIFARE 4k cards are supported.**



System Galaxy supports **MA SIGMA Readers** in 'Legacy' operating mode (i.e. not MA5G) using the Traditional "Sagem" System Setting. *To integrate with MA SIGMA Readers in MA5G mode, you must use MorphoManager Integrated mode.*

SYSTEM GALAXY SUPPORTS INTEGRATION AS FOLLOWS:

- ♦ MA500-series, MA100-series, J-series, SIGMA-Legacy are supported
- ♦ SG registration and setup is required.
- ♦ **The MSO 100 driver must be uninstalled before installing an MSO 300 driver whenever a system is upgrading to SG 10.** This requirement pertains to all version of SG since v8.2.4
- ♦ **You must install the MSO300 driver while the MSO300 IS NOT connected to the PC.** using the setup.exe on the System Galaxy installation DVD – browse the disk to this path 'Installers\Drivers\Sagem\Sagem_MorphoSmart_USB_Driver\Version 3.56.01**\setup.exe (** select either the 64 bit or 62 bit driver according to whether you are installing on a 64bit or 32bit machine).
- ♦ **Contact Sagem for information about operating system compatibility where MSO fingerprint scanners and capture devices/drivers are concerned.**
- ♦ **You must install the SCM SDI011 smart card driver and contactless driver** using the setup.exe on the System Galaxy installation DVD – browse the disk to this path 'Installers\Drivers\SCM_SDI011\setup.exe (the same setup.exe installs them both). You may need to reboot your PC to allow the drivers to take effect.

SYSTEM GALAXY SUPPORTS ENROLLMENT AS FOLLOWS:

- ♦ SG 10 supports two unique fingers per credential.
- ♦ SG 10 supports enrolling fingers directly from a reader – *this may or may not be a recommended solution for enrollment workstations that perform a high volume of credentialing or for large-scale systems that manage a large quantity of templates.*
- ♦ **Identification mode and Authentication modes including multifactor are supported, as well as other modes using bypass, card id only, external reader, etc.** *Multi-technology cards are also supported.*
- ♦ **SMART CARD ENROLLMENT ENABLED:** In the System Galaxy System Settings screen, on the General tab, you must enable/check the [Smart Card Support Enabled] option under the Sagem Morpho setting in order to enroll smart cards in the Sagem Enrollment window of the Cardholder enrollment screen. This feature is OFF/unchecked by default when you initially install the System Galaxy Client software. When this feature is OFF, you will only see the Finger Capture fields.
- ♦ **RESOLVING KEY FILE ERRORS WHEN ENROLLING SMART CARDS ON WINDOWS-7 OS:** You may need to ENABLE the RUN AS ADMINISTRATOR option in the Compatibility Properties of the System Galaxy desktop shortcut in order to enroll smart cards. On the client desktop, right click on the System Galaxy shortcut. Choose Properties from the menu and select the Compatibility tab. At the bottom of the tab, you must CHECK/enable the 'Run As Administrator' option. Then click the [Change for all users] button and CHECK/enable the 'Run As Administrator' option at the bottom of the window. Click APPLY and OK, then APPLY and OK again to save all your changes. When you start SG the Windows-7 UAC dialog will open and require you to confirm [YES] to run the software as administrator.



See the **Galaxy Guide for Sagem MA520 or Sagem MA110** for full requirements.

See the **Galaxy Guide for Finger-Only MA1xx** for full requirements.

Important Schlage Interface Notes

This section covers various Schlage models from Legacy to AD, LE, NDE series readers.

SCHLAGE WIRELESS PIM-ODT-485 (Legacy hardware)

Schlage Wireless PIM-ODT-485 is mainly a hardware interface. *Some limitations are inherent to the nature of wireless technology and need to be considered.*

- ♦ **Microsoft® Java *msjavx86.exe* must be installed** on your PC in order to operate the CDT software. *This is found on the Galaxy Install CD (Disc 2) in the Schlage folder at the root of the CD.*
- ♦ **Microsoft® IE 6.0 browser is needed** to run the CDT software (MS-IE 8 may not work).
- ♦ The Internet Explorer configuration interactive option for **Sun Java must be unchecked** and the option for Microsoft Java must be checked.
- ♦ **The CDT v1.7 (Configuration Demo Tool)** from Schlage in order to program the WAPM devices/doors. This installs on the C-drive in a typical directory path `c > Program Files > WirelessDemoTool > WyrelessDemo.html`. *This tool is found on the Galaxy Install CD (Disc 2) in the Schlage folder at the root of the CD.*



See the ***Galaxy Quick Guide for Schlage PIM-ODT-485-RS*** for requirements specific to the integration with System Galaxy. **Also see Schlage documentation for product information.**

SCHLAGE AD400 WIRELESS & AD300 HARDWIRED

- ♦ System Galaxy supports Schlage AD-400 wireless readers/PIMs as of SG 10.1
- ♦ System Galaxy supports Schlage AD-300 hardwired readers (no PIM) as of SG 10.2/Flash 5.0
- ♦ All AD-Series hardware requires installer to obtain the new ***HHD Hand Held Device*** and download the ***Schlage Utility Software*** in order to “couple” and “configure” PIM address, set RF channels, as well as address and link the wireless Readers. Schlage offers technical training and certification for field installation. Hand-held wireless range testers are available to validate your reader-to-PIM channel frequency. Using an alternating configuration pattern helps to prevent range conflicts with the floors above and below the readers being installed.

HARDWARE UPGRADES AND EXPANSIONS:

When adding AD300 hardwired readers to a DSI board that already supports wireless readers, you have two options.

- a) **Separate Networks***: you can keep the readers separate (wired/wireless) by reserving one section of the DSI board for wireless (i.e. AD400 only) and the other section of the DSI for hardwired readers (i.e. AD300 only).
- b) **Mixed Networks***: you can add AD300 hardwired readers to the same bus that supports AD400 wireless readers (or legacy ODT Wireless PIMs if you have older equipment).



NOTE: You must configure the Serial Channel programming in the SG Software for the correct Network Type (i.e. wireless-only, hardwired-only, or mixed-network) to match what you installed on the 485-network bus of the DSI board.



See the ***Galaxy Guide for Schlage AD400/AD300*** for full list requirements and instructions to integrate with System Galaxy. **Also see Schlage documentation for product information.**

SCHLAGE LE & NDE HARDWIRED

- ♦ System Galaxy supports Schlage LE & NDE wireless readers/PIMs as of SG 10.5.6
- ♦ All LE & NDE locks require using the ENGAGE Mobile App to configure the readers.



See the ***Galaxy Guide for Schlage LE/NDE Locks*** for instructions to integrate with System Galaxy. **Also see Schlage documentation for product information, which may be found on Allegion website.**

SG Server & Workstation Recommendations

System Galaxy supports a wide variety of configurations that range from small professional to corporate or enterprise. System Galaxy is also designed to meet the future needs for system expansion.

System Galaxy is designed to support a networked architecture. The 600-series and 500i-series hardware uses TCP/IP connectivity. The System Galaxy software and databases can be installed on a single computer (standalone) for very small systems, or in a ***distributed solution*** (multiple computers) using TCP/IP connectivity.

As computers and hardware have advanced in capabilities and cost-effectiveness, many sites will benefit from installing a ***distributed solution***.

System Architectures Supported by Galaxy

Both system architectures are networked solutions

- ♦ A ***standalone solution*** uses one computer and the hardware using TCP/IP connectivity
- ♦ A ***distributed solution*** uses multiple computers and hardware using TCP/IP connectivity.

Dedicated Computer: In the context of this document, the term “***dedicated computer***” means that the computer (client or server) is solely devoted to running the System Galaxy applications and services for the purposes of monitoring, controlling access, and other System Galaxy features such as card enrollment/badging.

Minimum Recommendations: In the context of this document, the term “***minimum recommendations***” means that the computer (client or server) running System Galaxy should, at a minimum, meet stated specifications. However, there may be reasons to increase certain specifications. Because systems vary, minimum recommendations may need adjusting. The specifications in this document do not cover applications/uses that are not related to Galaxy (e.g. email, editors, and other software).

Distributed Solution: In the context of this document, a “***distributed solution***” means that the System Galaxy components (*i.e. System Galaxy software, GCS Services, and SG database*) are installed on two or more computers. The hardware connects to the SG Communication/Event Server via TCP/IP LAN/WAN. A networked or distributed system is the most commonly installed solution.

Single-Server Solution: In the context of this document, a “***standalone solution***” means that the System Galaxy components (*i.e. SG software, GCS Services, & SG databases*) are installed on one computer. The hardware connects to this SG Communication/Event Server via TCP/IP LAN/WAN. This solution is not recommended for large systems or enterprise environments due to IT security policies and constraints. A stand-alone solution is not supported on a server operating system.

IMPORTANT: IF you are specifying requirements for a system that will *expand (grow)* or must *share resources with other applications* (email, web browsers, programs, etc), you must take these goals into consideration. Multi-use environments can cause resource conflicts, undesirable performance and could require you to increase your system specifications.

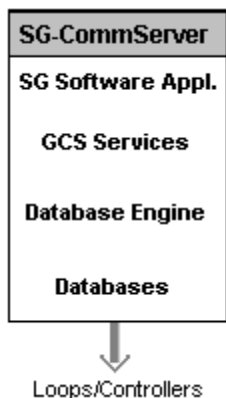
Minimum Recommendations for a Single-Server Solution

A *Standalone Solution* is described as having all the software components (databases, database engine, services, and SG software application) running on a single computer which is also responsible for connecting to the hardware loop/controllers.

IMPORTANT: The following assumptions are made for all system recommendations:

- » **Assumption:** that all connected loops will utilize TCP/IP connections to the networked Communication Server PC (or Standalone PC).
- » **Assumption:** that no other software is running on any workstation where System Galaxy is installed/operating. Be aware that any additional programs must be taken into account when configuring a multi-use computer system.

It is important to remember that these are minimum recommendations with examples given. If you are specifying requirements for a system that will need to expand (grow), you should take those goals into consideration.



<< This diagram depicts a **Single-server (or Standalone) PC**. All system components reside on the same/one computer.

*** A SERVER OPERATING SYSTEM IS NOT RECOMMENDED FOR A STANDALONE INSTALLATION**

Worksheet for a Single-Server (Standalone) System

Computer Description	OS Compatibility	Minimum Hardware Recommendations
All System Galaxy components running on the same computer with no additional SG client workstations connected.	Windows 7 Pro / 8.1 Pro / 10 Pro	3.2 GHz Pentium Dual Core 4.0 GB RAM or greater 40 GB HD or greater for SG
	<i>Server OS not recommended.</i>	
<p>IMPORTANT: Some 3rd Party applications or technologies may not be supported on Server OS. SG Operators may need privileges set to license files or other files in the System Galaxy directory.</p>		

Minimum Recommendations for Distributed Solutions

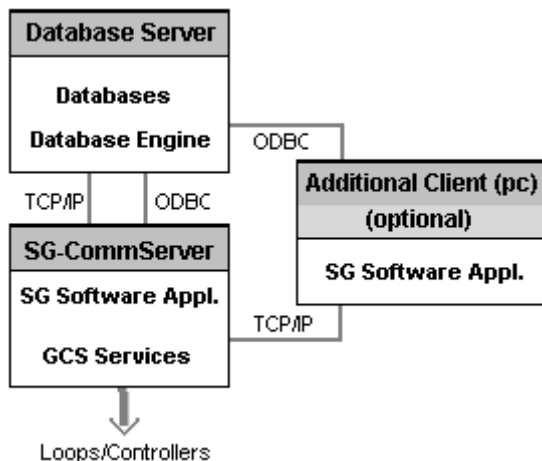
Database Server Minimum Recommendations - Distributed Solution

A *Database Server* is described as housing the main SysGal and Archive databases and hosting the Database Engine in a Networked System. In a networked system, the software components are distributed among more than one PC.

IMPORTANT: The following assumptions are made for all system recommendations:

- » **Assumption:** that all connected loops will utilize TCP/IP connections to the networked Communication Server PC (or Standalone PC).
- » **Assumption:** that no other software is running on any workstation where System Galaxy is installed/operating. Be aware that any additional programs must be taken into account when configuring a multi-use computer system.

It is important to remember that these are minimum recommendations with examples given. If you are specifying requirements for a system that will need to expand (grow), you should take those goals into consideration.



<< *This diagram depicts a Database Server connecting to a Communication Server and Client Workstation in a typical Distributed Solution.*

*** A SERVER OS IS NOT RECOMMENDED FOR A WORKSTATION ROLE (monitoring, badging, enrollment). since certain 3rd Party devices may not be compatible with a Server OS.**

Contact Galaxy Technical support for assistance for more complex scenarios.

Worksheet for a Database Server in a Distributed System

Computer Description	Database Server OS Min. Recommendations	Minimum Hardware Recommendations
Computer running DB engine, System Galaxy Client software and GCS Services (with up to 2 additional System Galaxy client workstations connected)	Windows 7 Pro / 8.1 Pro / 10 Pro	3.2 GHz Pentium Dual Core 4.0 GB RAM or greater 40 GB HD or greater for SG
Computer only running DB engine, and GCS services (not SG Client Software). (with 3 or more additional System Galaxy client workstations connected)	Windows Server 2012 R2 2008 R2 (32-bit / 64-bit)	
IMPORTANT: Some 3 rd Party applications or technologies may not be supported on Server OS. SG Operators may need privileges set to license files or other files in the System Galaxy directory.		

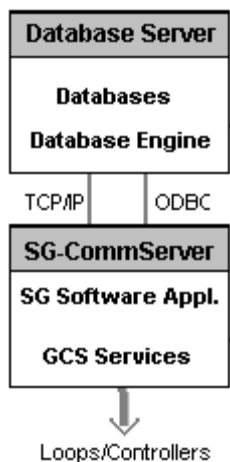
Communication Server Minimum Recommendations - Distributed Solution

A *Communication Server* (or Loop Communication Server, LCS) is the PC/Server that handles the communication to the Loops/controllers in a Networked System. In a networked system, the software components can be distributed among more than one PC. Thus, the database may or may not reside on the Communication Server.

IMPORTANT: The following assumptions are made for all system recommendations:

- » **Assumption:** that all connected loops will utilize TCP/IP connections to the networked Communication Server PC (or Standalone PC).
- » **Assumption:** that no other software is running on any workstation where System Galaxy is installed/operating. Be aware that any additional programs must be taken into account when configuring a multi-use computer system.

It is important to remember that these are minimum recommendations with examples given. If you are specifying requirements for a system that will need to expand (grow), you should take those goals into consideration.



<< This diagram depicts a Communication Server connecting to a separate Database Server in a Distributed Solution.

Contact Galaxy Technical support for assistance for more complex scenarios.

Worksheet for a Communication Server in a Distributed System

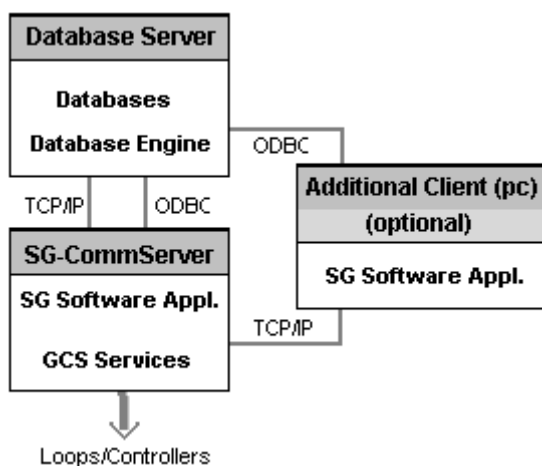
Computer Description	Communication Server OS Min. Recommendations	Minimum Hardware Recommendations
Computer running System Galaxy Client software and GCS Services (with the DB engine on separate computer and up to 3 additional SG Workstations connected)	Windows 7 Pro / 8.1 Pro / 10 Pro	3.2 GHz Pentium Dual Core 4.0 GB RAM or greater 40 GB HD or greater for SG
Computer running System Galaxy Client software and GCS Services (with the DB engine on separate computer & 4 or more additional SG Workstations connected)	Windows Server 2012 R2 2008 R2 (32-bit / 64-bit)	
IMPORTANT: Some 3 rd Party applications or technologies may not be supported on Server OS. SG Operators may need privileges set to license files or other files in the System Galaxy directory.		

Client Workstation Minimum Recommendations - Distributed Solution

A *Client Workstation* is described the additional workstation that runs the System Galaxy software for monitoring or badging purposes. This additional client will operate in a Networked environment and make TCP/IP connections to both the Database Server and the SG CommServer.

IMPORTANT: The following assumptions are made for all system recommendations:

- » **Assumption:** that no other software is running on any workstation where System Galaxy is installed and operating. Any additional programs must be considered when planning a multi-use computer system.
- » **Assumption:** these are minimum recommendations for examples given. If you are specifying requirements for a system that will need to expand (grow), you should take those goals into consideration.



<< This diagram depicts a Client Workstation connected to the Communication Server and the Database Server in a Distributed Solution.

Contact System Galaxy Technical support for assistance for more complex needs.

Worksheet for a Client Workstation in a Distributed System

Computer Description	Additional Client Workstation Minimum Recommendations	Minimum Hardware Recommendations
Workstation Running System Galaxy Client software for monitoring or badging, but not running the GCS Services.	Windows 7 Pro / 8.1 Pro / 10 Pro	3.2 GHz Pentium Dual Core 4.0 GB RAM or greater 40 GB HD or greater for SG
<p>IMPORTANT: Some 3rd Party applications or technologies may not be supported on Server OS. SG Operators may need privileges set to license files or other files in the System Galaxy directory.</p>		