

PC/Operating System Requirements:

- **System Galaxy (SG), database and services are supported on Win-7 Pro SP1+, Win 8.1 Pro, Win-10 Pro.**
- **SG database and services can run on Windows Server® 2008 R2/2012/2016 (32/64 bit).** Server 2003 & Win XP not supported – the software installer will prompt user and abort the install.
- **SG is supported on Server OS for diagnostics use**, not as a *standalone install* or *workstation* for monitoring, badging, biometric enroll, etc. because 3rd party technologies are not supported on a Server OS.
- **Minimum PC Requirements SG 10:** Pentium dual core 3.2 GHz. Pentium-4 equivalent (or higher); 2 GB RAM (Server & client); 40GB Hard Drive, 4GB Free Space dedicated to System Galaxy; Std. 24bit color graphics card.
- System Galaxy (10.0 or later) & GCS Services are compatible with VMware® vSphere or vCenter.
- System Galaxy (10.0 or later) & GCS services are compatible with Microsoft Server® 2008 R2 and Hyper-V.
- System Galaxy (10.5.1 or later) & GCS services are compatible with Microsoft Server® 2012
- System Galaxy (10.5.6 or later) & GCS services are compatible with Microsoft Server® 2012/2014/2016

Installation Requirements:

- **Installing System Galaxy software requires full administrator rights.**
- Windows-7 users: **Microsoft requires an internet connection to install Part-1 for the .NET v3.5 .**
- **Using/Operating Galaxy software requires Power User rights at the PC including the ability to read/write to the registry.** (DB Engines & Badging software also requires this level of privileges).
- **SG 10.5.1 64-bit Install comes on a single DVD (DVD+R) drive required);** and can also be ordered on a *USB drive* or a downloadable install package. Also, a 32-bit version of the install is available - contact Galaxy Customer Service.
- Documentation (PDF) is available from the ***Install DVD-1 Installation Help links***. CD-2 contains supplemental components and the documents in PDF form.

NOTE: See the **Part-1 and Part-2 Readme's** (html links on the DVD splash screen) and **Galaxy's System Specification Guide** for a full list of specifications and install requirements.

Database Management Requirements:

- **System Galaxy 10.5.1 or later installs SQL Server 2014 Express (64-bit) in Part-2 of GalSuite Install DVD.**
 1. An instance named 'GCCSSQLEXPRESS' is created during the install process.
 2. Default database logins and Native SQL ODBC Data Sources are created during the install process.
 3. Part-2 Client Components (Native SQL ODBC) must be installed on every Galaxy computer.
- The ODBC connection uses SQL Server Authentication with a strong password. Users can and should define their own database password during the installation process (Part-2).
- Two databases (SysGal & SysGalArc) attach to the SQL database engine during a normal installation process.
- **Database Backups** can be created using SQL Management Studio or with GCS Service Manager.
- **Databases cannot be re-indexed or compressed!**
- **SG is also compatible with MS SQL 2008/2012/2014/2016 Enterprise versions.**

Network Requirements:

- **All access control panels should be placed on a V-LAN (Virtual LAN).**
- An internet connection is required for installing MS .NET Framework 3.5
- 635-series controllers are 10/100 MB, Full Duplex, AUTO SENSING
- **508i/600-series controllers require 10MB/Full Duplex at the port/switch/router for TCP/IP connection.**
- **All 635/600 CPUs & all 508i 'primary' CPUs require a unique IP address & Subnet Mask.**
- **A Static IP Address is required for each 508i primary controller** (DHCP not supported in 508i)
- **A Static IP Address is recommended for 600 controllers.**

NOTE: If static IP Addresses are not available, non-routable addressing with permanent lease is recommended.
- **IMPORTANT: a static IP Address is REQUIRED for any PC running for the Event Server** (The Event Service supports communication to the 600/635 panels). **Do not use DHCP for the Event Server.**
- **Network Security Scanning Software:** System Galaxy, and/or its components, must be properly bypassed.
- **Virus Scanning Software:** System Galaxy databases should be bypassed

System Galaxy Port Requirements:

The following ports must be opened to allow System Galaxy to function on a network. Galaxy Control Systems has no control over the port numbers used by 3rd party applications when used in tandem with System Galaxy.

- Windows® users must configure the PC firewall to accept the required port numbers.
- For 3rd Party applications/devices, the user must open firewall ports manually.

IMPORTANT: Galaxy default ports must be open (not blocked) by firewalls, switches, or routers.

Port	Service/Device	Location and Details
3001	Control Panels	All 508i/600/635 panels use TCP Port 3001 (must be open on the controller side).
5010	Client Gateway Svc *	PC/Server hosting the Client Gateway Service uses this port obtain/verify registration information.
4002	Client Gateway Svc *	Installs on "Main Communication Server" PC/Server - only one instance of this service can be running. Receives events from the main Comm. Service.
4000	Communication * ** Service	Installs on "Main Communication Server" PC/Server - i.e. Comm. Server (or ancillary comm svr). Receives events from 508i loops or from the GCS Event Service for 600/635 panels.
4001	DBWriter Service *	Installs on "Main Communication Server" PC/Server - only one instance can be running. Writes events from panels, Comm. Service & Event Service to the database.
4003 4005 3001	Event Service * **	Installs on "Main Communication Server" PC/Server - i.e. Comm. Server (or ancillary event svr). Receives events from the 600/635-series hardware. Handles events between the 600/635 panels, the GCS Comm Service, as well as global events between panels on the same cluster.
8000 / 8443	Web API Service (8443/https)	Installs as "manual start" on "Main Communication Server" PC/Server (must be reset to automatic). Port# can be set during SG Install Part-3A, or defined later in XML config file as needed. Do not use port 80/443 in live production. Certificate (private key intact) required valid SSL for Mobile Apps via public WiFi. The Web API Svc also supports PC Apps – i.e. ASSA DSR, KONE, apps.
4004	Alarm Panel Service	The <i>Main Communication Server</i> . Only one instance of this service can be running. Sends events to the Comm. Service from the alarm panel.
11010	MA_Loader	Installed on the Galaxy/Sagem Enrollment PC. <i>Used with SAGEM Traditional biometric interface to communicate with IP Readers (includes MA models and SIGMA Reader in Legacy mode). MA-5G Sigma readers do not need MA_Loader when using newer MorphoManager integration.</i>
*	System Galaxy part-3 of the software install installs <i>core services</i> to start "automatic" and attempts to open the PC port.	
**	Additional instance of the service can be installed on separate ancillary server to support remote panels. On the ancillary server, you will disable the additional instances of Client Gateway & DBWriter, and close their related ports.	
sqlservr.exe		must be added at the server for clients to connect
sqlbrowser.exe		must be added at the server for clients to connect
file & printer sharing		must be added at the server for clients to connect
Card Exchange Badging Software - Firewall exceptions		
4747, 4748, 4749		required for each badging client workstation
Time & Attendance Firewall exceptions must match on both linked servers.		
Also note: MSDT Config must match on both servers with linked SQL Connections. A ".reg" file exists that sets these values (refer to the SG Time & Attendance manual for details); view in NOTEPAD; Review with IT Dept.		
135	MSDTC	TCP 135 on both Time & Attendance servers with linked SQL Connections
6000 - 6050	MSDTC	6000 thru 6050 on both Time & Attendance servers with linked SQL Connections

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	9002	Pelco / Endrua