



## GAME TO SYSTEM (G2S) VERSUS SLOT ACCOUNTING SYSTEM (SAS)

The following table shows the major EGM functionality and which protocol supports it natively. This excludes functionality provided by external, proprietary, Slot Machine Interface Boards (SMIB). Use cases are used to help explain each function in the sections below.

	Functional Description	G2S Native	SAS Native
<b>Communications</b>	Multi-Host Communications Support	Yes	Limited
	Remote Communications Configuration	Yes	No
<b>Meters &amp; Events</b>	Meter Subscriptions	Yes	No
	Persisted Audit Meters	Yes	No
	Event Subscriptions	Yes	No
	Employee Activity Tracking	Yes	No
<b>Game Play, Jackpots &amp; Bonuses</b>	Game Management	Yes	Limited
	Progressive Jackpots	Yes	Limited
	Mystery Jackpots	Yes	Limited
	Stand-Alone Progressive Jackpots	Yes	No
	Server-Based Bonusing	Yes	Limited
	Central Determination	Yes	No
<b>Players</b>	Player Activity Tracking	Yes	No
	Picture-In-Picture Messaging	Yes	No
	Tournaments	Yes	Limited
<b>Money Movements</b>	Handpays	Yes	Limited
	Ticket-In-Ticket-Out	Yes	Limited
	Wagering Account Transfers	Yes	Limited
	Smart Cards	Yes	No
	Direct Funds Transfers	Yes	No
	Forced Cash-Outs	Yes	Limited
	<b>Cabinet &amp; Peripheral Devices</b>	Overall Cabinet Management	Yes
Coin Acceptors		Yes	Limited
Hoppers		Yes	Limited
Note Acceptors		Yes	Limited
Note Dispensers		Yes	No
Card Readers		Yes	No
Printers		Yes	Limited
Jackpot Signs		Yes	No
Hardware Component Reporting		Yes	No
Data Storage Reporting		Yes	No
<b>Remote Configuration</b>	Remote Option Configuration	Yes	No
	Remote Option Configuration by Theme	Yes	No
	Software Download	Yes	No
<b>Regulatory</b>	Software Authentication	Yes	No
	Responsible Gaming Enforcement	Yes	No

## Functionality Description and Use Cases

### Communications

#### **Multi-Host Communications (G2S communications Class)**

**G2S** — Is a high-speed (100mb) networked protocol supporting secure TCP/IP communication channels between an EGM and multiple G2S hosts. Support for seven hosts connected simultaneously to an EGM is recommended using point-to-point and multicast communications. Each G2S host may direct the EGM to perform any of the functions it supports. This means that if an Operator has a Casino Management System, a Monitoring and Reporting System, and a Marketing Analytics system, each system can perform functions it supports interacting with the EGM independently of the other systems.

**SAS** — Is a low-speed (19.2kb) serial protocol, communicating through a serial port to a single host. Two serial ports may be available on some EGMs and, therefore, it is possible to have two hosts connected. However, it is highly recommended that only one SAS host (Primary) direct the EGM to perform critical functions while the other host (Secondary) have read-only access. This is to avoid conflicting instructions from the different hosts since SAS has no idea that multiple hosts exist.

#### **Remote Communications Configuration (G2S commConfig Class)**

**G2S** — Used to identify the hosts with which an EGM should communicate and to set the device access permissions for those hosts. This means that if an Operator has a Casino Management System, a Monitoring and Reporting System, and a Marketing Analytics system, each can be configured remotely to communicate with the EGM using the exact functionality needed by the application.

**SAS** — Not possible through the SAS protocol.

### Meters and Events

#### **Meter Subscriptions (G2S meters Class)**

**G2S** — Used to set meter subscriptions (end-of-day, periodic, drop, door open, snapshot, etc.). Meters are sent when the associated trigger points occur. Polling is also possible. Meters can be collected for every game in a multi-game set, allowing the Operator to determine which games are the most popular / profitable.

**SAS** — Not possible through the SAS protocol. The EGM must always be polled for meters.

### **Persisted Audit Meters (G2S auditMeters Class)**

**G2S** — Used to persist a set of end-of-day meters which can be read by any host system. The meters are persisted until overwritten at the next end-of-day.

**SAS** — Not possible through the SAS protocol.

### **Event Subscriptions (G2S eventHandler Class)**

**G2S** — Used to set subscriptions for events and associated data (meters, device status, and transactions). Associated data is sent with the events when they occur. The Operator to select which events are sent the different systems connected to the EGM. The subscription process ensures that only the data needed by a system is sent to it.

**SAS** — Not possible through the SAS protocol.

### **Employee Activity Reporting (G2S employee Class)**

**G2S** — Used to track meter movements while an employee is present at an EGM, allowing casino accounting to exclude meter movement due to employee preventative maintenance or EGM testing, from normal game activity. Can also be used to report activity codes entered by an employee while at an EGM, allowing automation of machine entry access logs.

**SAS** — Not possible through the SAS protocol.

## **Game Play, Jackpots & Bonuses**

### **Game Management (G2S gamePlay Class)**

**G2S** — Used to enable/disable individual games and denominations, allowing the Operator to enable individual games within a multi-game set and to select the denominations to offer to the player for each game. Provides access to game recall and outcome logs.

**SAS** — Game recall and outcome logs are largely not supported even with the most recent enhancements.

### **Progressive Jackpots (G2S progressive Class)**

**G2S** — Used to manage the payment of progressive jackpots. Supports multiple independent jackpot controllers and levels. Different games can be linked to different controllers providing unlimited configuration possibilities. Jackpots can be paid to the credit meter, by handpays, by vouchers, or to wagering accounts. Contribution meters help simplify controller implementations and reconciliations. Reconciliations can be done using G2S data collected remotely via the CMS or a separate G2S Host, without having to manually read progressive jackpot meters on the casino floor.

**SAS** — Remote configuration, contribution meters, and payments to the credit meter, by vouchers, and to wagering accounts are not supported.

### **Mystery Jackpots (G2S mystery Class)**

**G2S** — Used to manage the award of mystery jackpots. Supports multiple independent jackpot controllers and levels. Different games and denominations can be linked to different controllers providing unlimited configuration possibilities. Jackpots can be paid to the credit meter, by handpays, by vouchers, or to wagering accounts. Contribution meters help simplify controller implementations and reconciliations. Reconciliations can be done using G2S data without having to manually read mystery jackpot meters on the casino floor.

**SAS** — Remote configuration, contribution meters, and payments to the credit meter, by vouchers, and to wagering accounts are not supported. Limited to one external mystery jackpot connected to the secondary communications port.

### **Stand-Alone Progressive Jackpots (G2S spc Class)**

**G2S** — Used to remotely configure internal stand-alone progressive jackpots within an EGM and to report current jackpot values and resets.

**SAS** — Not possible through the SAS protocol.

### **Server-Based Bonusing (G2S bonus Class)**

**G2S** — Used to award server-determined bonuses to players. Wager-match and jackpot multiplier bonuses are managed by the EGM using parameters set by the sever. Awards can be paid to the credit meter, by handpays, to vouchers, or to wagering accounts.

**SAS** — EGM-managed bonuses and payments to vouchers and wagering accounts are not supported.

### **Central Determination (G2S central Class)**

**G2S** — Used by an EGM to request game outcomes from a central determination system. Specifically designed to meet the needs of Class II gaming in the United States.

**SAS** — Not possible through the SAS protocol.

## **Players**

### ***Player Tracking (G2S player Class)***

**G2S** — Used to track play while a player is present at an EGM including win/loss, time played, and theoretical win/loss. Can be used to award points and report hot players. Time-based and player-specific point calculation overrides are available.

**SAS** — Not possible through the SAS protocol.

### ***Picture-In-Picture Messaging (G2S mediaDisplay Class)***

**G2S** — Used to manage the Player User Interface – picture-in-picture windows through which players can interact with third-party applications on the main screen or secondary screens of the EGM.

**SAS** — Not possible through the SAS protocol.

### ***Tournaments (G2S tournament Class)***

**G2S** — Used to manage slot tournaments - enroll players, initiate sessions, report results. Supports embedded EGM-based user interfaces as well as external host-controlled user interfaces.

**SAS** — Can only be used to initiate tournament sessions.

## **Money Movements**

### ***Handpays (G2S handpay Class)***

**G2S** — Used to report large wins and cancel credits that exceed configurable limits. Supports local key-offs by attendants, remote key-offs by systems, as well as key-offs to the credit meter, vouchers, and wagering accounts.

**SAS** — SAS does not support remote key-offs by systems but allows manual Attendant key-offs to the credit meter, vouchers and wagering accounts.

### ***Ticket-In-Ticket-Out (G2S voucher Class)***

**G2S** — Used to manage the issuance and redemption of cash-out and promotional tickets. EGM may request multiple validation Ids to support offline voucher issuance. Includes a method for validating tickets that were printed while an EGM was offline. Vouchers tied to players when issued and redeemed.

**SAS** — Does not allow an EGM to request multiple validation Ids. Does not include a method for validating tickets that were printed while an EGM was offline. No player information.

#### **Wagering Account Transfers (G2S wat Class)**

**G2S** — Used to transfer funds to/from player accounts on a host system. Supports embedded EGM-based user interfaces as well as external host-controlled user interfaces.

**SAS** — Embedded user interfaces are not supported.

#### **Smart Cards (G2S smartcard Class)**

**G2S** — Used to manage and report transactions associated with smart cards. Allows application data to be relayed to host systems and verified. Includes secure transaction module status information.

**SAS** — Not possible through the SAS protocol.

#### **Direct Funds Transfers (G2S dft Class)**

**G2S** — Used to transfer funds between an EGM and a host system application. Designed to be used in conjunction with third-party applications running in Player User Interface windows - for example, to purchase keno tickets or pay tournament fees.

**SAS** — Limited functionality through the SAS protocol using AFT commands.

#### **Forced Cash-Outs (G2S cash-out Class)**

**G2S** — Used to remotely initiate a full or partial cash-out from an EGM.

**SAS** — Limited functionality through the SAS protocol using the AFT command.

### **Cabinet & Peripheral Devices**

#### **Overall Cabinet Management (G2S cabinet Class)**

**G2S** — Used to report the overall status of the EGM including door status, tilts, language, last game played, selected game, etc. Can be used to enable/disable entire the EGM, or selectively enable/disable game play or money in. Supports remote processor reset, remote master reset, operating hours, and time zone changes.

**SAS** — Features such as language, remote resets, operating hours, and time zone changes are not supported.

### **Coin Acceptors (G2S coinAcceptor Class)**

**G2S** — Used to report activity associated with coin acceptors, such as tilts, faults, and drop door access. Supports multiple currencies as well as configurable exchange rates.

**SAS** — Multiple currencies and configurable exchange rates are not supported.

### **Hoppers (G2S hopper Class)**

**G2S** — Used to report activity associated with hoppers, such as tilts, faults, hopper door access, and hopper status (full, empty, high-water mark, etc.) Supports multiple currencies as well as configurable exchange rates.

**SAS** — Multiple currencies and configurable exchange rates are not supported.

### **Note Acceptors (G2S noteAcceptor Class)**

**G2S** — Used to report activity associated with note acceptors, such as tilts, faults, and stacker door access. Supports multiple currencies as well as configurable exchange rates.

**SAS** — Multiple currencies and configurable exchange rates are not supported.

### **Note Dispensers (G2S noteDispenser Class)**

**G2S** — Used to report activity associated with note dispensers, such as tilts, faults, dispenser door access, and dispenser status (full, empty, high-water mark, etc.) Supports multiple currencies as well as configurable exchange rates.

**SAS** — Not possible through the SAS protocol.

### **Card Readers (G2S idReader Class)**

**G2S** — Used to validate IDs presented at an EGM. Supports multiple types of ID readers including magnetic cards, RFID cards, and biometric scanners. Allows host systems to see which player or employee is present at an EGM. Allows card readers to be connected directly to the EGM's mother board as peripheral devices. This eliminates the need for the separate player tracking hardware used in legacy EGMs.

**SAS** — Not possible through the SAS protocol.

### **Printers (G2S printer Class)**

**G2S** — Used to report activity associated with printers, such as tilts and faults. Can be used to configure templates into the printer and perform remote printing of receipts, coupons, and promotional items from those templates.

**SAS** — Remote printing is not possible through the SAS protocol.

### **Jackpot Signs (G2S sign Class)**

**G2S** — Used to configure and control the display of jackpot information on signs managed by an EGM. Used in conjunction with progressive and mystery jackpots.

**SAS** — Not possible through the SAS protocol.

### **Hardware Component Reporting (G2S hardware Class)**

**G2S** — Used to report the list of hardware components installed within an EGM as well as the capabilities of those components. Allows the Operator to remotely gather a complete list of hardware components, including model, serial number, and the software / firmware versions they are running. An incredibly useful tool when dealing with revoked or obsoleted software / firmware.

**SAS** — Not possible through the SAS protocol.

### **Data Storage Reporting (G2S storage Class)**

**G2S** — Used to determine the amount of storage available on an EGM for storing and installing software packages.

**SAS** — Not possible through the SAS protocol.

## **Remote Configuration**

### **Remote Option Configuration (G2S optionConfig Class)**

**G2S** — Used to remotely configure protocol-related and manufacturer-specific options for an EGM, allowing the Operator to manage the configuration of EGMs from a central location.

**SAS** — Not possible through the SAS protocol. Configuration must be done locally at the EGM.

### **Remote Option Configuration by Theme (G2S gameTheme Class)**

**G2S** — Used to configure theme-related options that are shared amongst multiple games within an EGM.

**SAS** — Not possible through the SAS protocol. Configuration must be done locally at the EGM.

### **Software Download (G2S class DOWNLOAD)**

**G2S** — Used to download and install software on an EGM and its peripheral devices, such as printers and note acceptors, allowing the Operator to manage the software / firmware installed on EGMs from a central location.



**SAS** — Not possible through the SAS protocol. Software / firmware must be installed locally at the EGM.

## **Regulatory**

### ***Software Authentication (G2S gat Class)***

**G2S** — Used to request the inventory of software / firmware components installed on an EGM and its peripheral devices and then to calculate the signatures of those components. Supports a wide range of algorithms, including SHA1 and SHA2. Fully compatible with the serial GAT protocol. Allows the Regulatory Agent to request GAT signatures remotely from a central location rather than connecting a laptop to each individual EGM on the casino floor, reducing EGM downtime and operational impact.

**SAS** — The SAS protocol only supports a limited subset of the GAT protocol.

### ***Responsible Gaming Enforcement (G2S informedPlayer Class)***

**G2S** — Used to access various controls available in the EGM to promote responsible gaming including game speed, maximum bet, continuous play, PIN activation, etc.

**SAS** — Not possible through the SAS protocol.