

# Slot Accounting System

ACCOUNTING

SECURITY

TICKETING

ADVANCED  
FUNDS  
TRANSFER

MULTIGAME  
MULTIDENOM

PROGRESSIVE

AUTHENTICATION

BONUSING



TM



# IGT's SAS Protocol

## The Evolution of SAS

IGT pioneered gaming machine communications over 18 years ago with the introduction of the Slot Accounting System (SAS) protocol. Initially designed to automate slot machine meter reporting and event logging, SAS has steadily evolved over the years to meet the needs of the industry, including player tracking, bonusing, ticketing and cashless gaming.

Every version of the SAS protocol is fully backward compatible with any previous versions. If the system issues a command that the gaming machine does not recognize, the gaming machine will simply ignore the request. The protocol also directs the system to ignore any exceptions sent by the gaming machine that it does not understand. It is important to note that the gaming machine only needs to support those commands in a protocol version that are relevant to its operation. For example, video machines do not need to support reel tilt messages.

### SAS 2 Versions

The SAS 2 protocol provided the base functionality that all later versions incorporate. This includes basic meter accounting polls and basic exception reporting. Basic meter polls include coin in, coin out, coin drop, jackpot, cancelled credits, and games played as well as bill validator accounting meters. The basic exception reporting includes door open/closed, power on/off, drop door open/closed, and handpay jackpot events.

### SAS 3 Versions

The SAS 3 protocol added an early form of Electronic Funds Transfer (EFT). The types of EFT supported included system downloads of cashable credits and non-cashable promotional credits. Uploads of cashable credits to the system were supported as well. EFT has since been replaced with a more robust form of funds transfer known as Advanced Funds Transfer (AFT).

### SAS 4 Versions

The SAS 4 protocol added multi-game accounting, bonusing, SAS controlled progressives, and real-time event reporting. The multi-game accounting allows the gaming machine to report accounting information for all playable games in the multi-game machine. Bonusing support includes mystery jackpots, wager matching, and other generic bonus types. Real-time event reporting provides faster reporting of exception events. SAS-hosted progressive broadcasts allow the system to act as a progressive controller for all machines connected to the system. This allows the system the flexibility to monitor and control different progressive amounts by machine bank and/or game type. Since the system is also the progressive host, progressive system monitoring and reconciliation is easier for the operator and the overseeing regulatory agency.

## **SAS 5 Versions**

The SAS 5 protocol added ticket in / ticket out (TITO) functionality. This functionality includes secure support for the generation and redemption of tickets at the gaming machine, as well as accounting meter support to properly report the total value and quantity of ticket transactions. SAS 5 also brought the addition of multi-denomination accounting (Version 5.02) and Advanced Funds Transfer (Version 5.10). Multi-denomination accounting provides enhanced reporting and accounting support for gaming machines with player-selectable credit values. AFT is IGT's modern, robust, secure protocol for transferring funds between a gaming machine and the system. Cashable funds transfer allows the casino to offer an in-house player debit card account, allowing the player to easily move funds from one machine to another. Cashable promotional and non-cashable promotional funds transfer and tracking capabilities support sophisticated casino promotions and player rewards. The system can even instruct the gaming machine to print a ticket for transferred funds, allowing special promotional awards or enhanced confirmation of delivery of funds.

## **SAS 6 Versions**

SAS 6 marks the beginning of true interoperability between casino systems and gaming machines. Representing a broad range of gaming industry manufacturers and operators, the Gaming Standards Association (GSA) adopted SAS 6 as a recognized communications standard for the industry in July of 2002. GSA has recently released an interoperability test suite to allow a manufacturer to certify their gaming machines as compliant with the SAS protocol.

## **SAS 6 on the Casino Floor**

IGT gaming machines with SAS 6 support the following functionality:

- **Event Reporting**  
The system can monitor door open and close events, tilts, handpay requests, printer paper low, and many other events that occur on a gaming machine.
- **Configuration Reporting**  
The system can determine many characteristics of a gaming machine such as manufacturer, accounting denomination, player denominations, supported paytables, and which paytables and denominations are currently available to the player.
- **Gaming Machine Control**  
A gaming machine can be disabled and re-enabled by the system while at idle. Optionally, the system can remotely reset hand pays, and determine whether a hand pay is allowed to be reset to the credit meter.
- **Accounting**  
SAS 6 supports the full set of meters required by the newest Nevada Technical Standards, including all money in, money out, money wagered and money won meters. In addition,

all game play meters are available for each paytable and each denomination supported on the gaming machine.

- **System Bonusing**

System bonusing allows a casino to improve player loyalty and control promotional expenses through the use of spontaneous jackpots and incentives delivered to players directly at the gaming machines in addition to normal game win. Separate meters for payable win, progressive win and system bonus win allow for detailed analysis of gaming machine performance.

- **Ticket In/Ticket Out (TITO)**

TITO allows a player to easily move money from one machine to another, generally without regard to a gaming machine's denomination or manufacturer. When the player cashes out, a bar-coded ticket is printed that can be inserted in the bill acceptor of another machine, or redeemed at a cashier or automated redemption kiosk. Players and casinos benefit from the freedom from the hassles of handling coin. Players no longer need to wait for hopper fills, and the casino can focus its energy on improving the players' overall experience.

Promotional ticketing allows a casino to print and mail out tickets to encourage players to visit the casino, or distribute tickets on the casino floor to attract new players or reward players for participating in a particular promotion. Promotional tickets can be either redeemable for cash or issued as "playable only" credits. With promotional ticket out, the player is not locked into playing only one machine.

- **Cashless**

Advanced Funds Transfer (AFT) is a secure technology for transferring funds between a gaming machine and a casino accounting system. Casinos can offer players in-house accounts tied to their player tracking accounts, so the player tracking card can work very much like a regular debit card. Not only can a player's cashable funds be moved from machine to machine, but all of the capabilities of promotional ticketing are also available using AFT. Promotional rewards can be delivered to a player directly at the gaming machine. The system can even instruct a gaming machine to print a promotional ticket usable in the restaurant or gift shop.

## Availability and Support

SAS is available to all manufacturers in the industry and has become the de-facto casino communications standard. Any bona fide gaming machine manufacturer can obtain the SAS protocol by submitting an official written request on company letterhead and signing a standard non-disclosure agreement. IGT does not charge the gaming machine manufacturer for the SAS protocol. Included with the protocol documentation is a Windows based SAS host simulator, which assists the gaming machine vendor in implementing the protocol.



For system vendors, IGT has developed a standard set of terms and conditions for licensing the SAS protocol. These terms include a nominal licensing fee for utilizing the protocol in a gaming system, as well as standard non-disclosure terms. Once a system vendor executes the SAS licensing agreement, the appropriate IGT gaming machine models will be supplied to the system vendor to perform integration testing. IGT also guarantees in the licensing agreement that the SAS protocol will be supplied to any gaming machine manufacturer needing to connect their games to the vendor's system.

IGT is dedicated to providing ongoing support to other manufacturers in their implementation of the SAS protocol, to help ensure the maximum in compatibility and security. You may request further information by sending an email to [SASman@igt.com](mailto:SASman@igt.com).