

Connecting the Dots



Diving
into **G2S**
for a
look

at
its **Real
World
Potential**

BY RUSS RISTINE

Editor's Note: In this second installment of a series of articles on GSA's Game-to-System (G2S) protocol and the networked casino floor, contributor Russ Ristine look at some of the potential real-world applications.

Most everyone agrees that the networked casino floor will bring a host of general benefits. But not everyone is aware of the possible applications that the Gaming Standards Association's powerful Game-to-System (G2S) protocol may bring to the gaming floor.

Most slot managers are already familiar with the general concepts of code download and remote configuration, since these are the first applications that most electronic gaming machine (EGM) manufacturers are touting as the main reasons for moving to this new environment. However, many may not be aware that the control mechanisms for download and configuration are expressed using G2S. This means that, because the EGMs from all manufacturers should be using exactly the same commands, slot operators really should (and will) be able to buy a generic download and configuration application (from Amazon?) that will work with every G2S EGM on the floor (assuming all G2S EGMs are certified as having implemented the protocol

in a consistent manner).

But first, here are some definitions:

- 1) Code Download – A G2S download management system directs an EGM to download new software from a server (probably on the property). Depending on the capability of the EGM, this software can be a new game, a note acceptor update, or even a new printer template (Leprechaun coupons for St. Patrick's Day?).
- 2) Code Verification – The G2S Game Authentication Terminal (GAT) class verifies that the game, printer, note acceptor, etc. software running in every G2S EGM is legitimate. The GAT routines that are included in G2S have been used for years by regulators to validate code in EGMs by going to the EGM and connecting a laptop directly to a serial port inside of the EGM. A casino operator can use this functionality to compare the digital signatures generated by the EGM for any code module against a known set (provided by the local testing agency) to ensure that all of the code in every G2S EGM is legitimate. Since Code Verification is automatically done by the system over the property's high-speed floor network, it can be performed automatically on all of the EGMs every day (vs. 10 percent of the games per year, as is the common practice with manual verifications).
- 3) Remote Configuration – Each G2S EGM exposes a group of configuration

options through the G2S protocol (much like they now do through the operator screens). An authorized G2S server can read the current configuration settings in the EGM, compare them against the standard settings, and then automatically make any changes that are needed for the EGM to conform to standard property settings.

- 4) Authorization – In G2S, one or more servers can be designated as authorizers of an EGM change (such as installing new code or changing configuration parameters). This ensures that the accounting server has a chance to grab a copy of the EGM's meters before the automatic update occurs.

With these basic definitions out of the way, let's look at some applications made possible by G2S:

Controlling active notes

Let's say your soft count team reports that counterfeit \$20 bills are being accepted by certain EGMs. You do a bit of research and quickly determine that all of these EGMs use model 1357 note acceptors made by the Great Note Acceptors company (GNA), running revision ABC-12345 of the software (all of which is reported to every G2S host every time the EGM starts up). You contact GNA, talk to your account representative, who says the company is working diligently to get this problem resolved, and the new code