Trusted Monitor™

Overview

Trusted Monitor™ (TM) is a monitoring tool developed for Trusted Draw™ (TD) and Trusted Play™ (TP) systems, to view the RNG and audit activity progress and results. It is a web application providing monitor and control functionality over the TP and TD servers and their applications. To ensure security TM is deployed on a web server outside of the secure environment of the data center where TD / TP are installed (outside of the firewall). TM provides easy-to-use, browser based graphical user interface to monitor the status of all TP / TD applications on all servers. In addition TM offers console processes that can be used by the off-the-shelf monitoring tools such as Tivoli or Big Brother to monitor remote systems. The inter-process communication interface used by TM for control and monitoring is XML-RPC, which is supported on virtually all platforms and languages

Access

Windows user security is used to control access to the TM application. Users will need a user name and password to log into TM; the account is local to the web server only, and not the TP / TD server.
All access to TM and control functions on the TP / TD application suite is through XML-RPC commands. This is the same interface used to access the Random Number Generation (RNG) function on the TP / TD.
The applications which accesses the monitor and control functions may be on the secure internal gaming network. The TCP/IP port number used for these functions will be different than the port number used for the gaming functions (RNG). This allows a firewall to restrict external access to only the monitor and control functions, preventing unauthorized access to RNG functions.

Monitored Information

The following information is available from TM via XML-RPC and browser interface:

1. Connectivity status of each TP / TD RNG Server
2. Cryptographic card state
3. Products' winning tiers generation information
4. Remote logging information – state of the remote logging, information about any resynchronizations during the current business day
5. Extracting and merging state on TP / TD audit systems

Console processes monitoring information will provide general system health information.

Screens for Web Based Monitoring

A few simple screens are provided in the base TM:
The Main screen provides information sufficient to see the state of all TP / TD systems, if there are any issues related to proper operation of TP / TD servers:

1. For each RNG server operational state of TP / TD RNG Service:
    a. connected,
    b. processing transactions,
    c. no of transactions processed during the last period,
    d. state of TP / TD Remote Logging Services
    (not active/ sending transactions/ recovering)
    e. any errors or warnings related to cryptographic cards
2. For each TP / TD Audit System:
    a. any of the services (TP Extract, BW Extract, TP Merge or TP Remote Send Files) has an outstanding job
    b. if there was any TP Merge error.

TP / TD RNG System screen will provide the following information for a specific TP / TD RNG System:

1. Connectivity information:
    a. no of open connection,
    b. peak (time and count),
    c. last error and last error time
2. Transactional information:
    a. current volume,
    b. peak volume (time and count),
    c. total number of transactions (since started or the start of the day, whichever is later)
3. Remote Logging Information:
    a. each remote system state (connected, sending data or recovering/resynchronizing data),
    b. no of resynchronizations during the day,
    c. last resynchronization time.
4. Any errors or warnings related to cryptographic card (error code, error time, etc)

Product Distribution screen for a specific TP / TD RNG system displays product distribution statistics since the last statistics were reset (beginning of the business day or product start, whichever is later).

TP/ TD Audit System Status screen display:

1. No of outstanding files to process for each of the service (TP Extract, BW Extract, TP merge, remote send to IBM system)
2. The last time each service was processing data
3. Last TP Merge error code and time

Note: Currently information is provided for each individual system, being independently requested by an external XML-RPC client. This information is then displayed collectively as in the **Main screen**.

Architecture

The drawing below shows the relationship between the network components.