

iTech Labs Internet Gaming Standards

High Level Description

iTech Labs Level-1 Certification

1. Evaluation of Random Number Generator (RNG)

The RNG is evaluated for statistical independence, uniform distribution and unpredictability by undertaking the following tests and reviews.

- Algorithm is identified from source code and researched for any known problems;
- Sample output from RNG undergoes Marsarglia's "Diehard" test;
- RNG seeding and background cycling are checked by source code review;

The use of RNG by games is evaluated to confirm:

- Correct scaling and mapping of the RNG output to produce game symbols, cards or other game outcomes;
- Game outcomes (symbols, cards etc.) are statistically independent, uniformly distributed and unpredictable.

2. Evaluation of game rules

Game rules are evaluated to confirm:

- Games operate as described in the game rules;
- Game rules adequately explain the operation of all components of the game including features, free games, double ups, gamble, jackpot etc;
- There is sufficient information on how to play;
- Prize determination is clearly explained;
- Payouts match the payable;
- Return To Player (RTP) exceeds 87%;

3. Evaluation of game artwork

Game artwork is evaluated to confirm:

- Consistency with game rules and paytables.
- There is no miss-representation of the game rules or payable in the artwork.
- Simulated games (e.g., card games, dice games etc.) accurately represent cards, dice or other physical devices.
- Adequate information on the game being played is available - player selections, bet, progress of the game, win etc.
- No display of indecent or offensive material.

4. Monitoring of RNG and RTP

- Signature of the certified RNG code is monitored by iTech Labs.
- RTP of the certified games are independently monitored by iTech Labs or the Gaming regulator.

iTech Labs Level-2 Certification

Level-2 certification includes Level-1 certification plus the following:

1. Functional testing of games

Game operation is evaluated to confirm:

- Game outcomes are not influenced by anything other than the RNG in conjunction with the rules and payable of the game;
- Game history/logs of at least 10 most recently played games/hands are available to players;
- Game data (bet, win, progress, player balance etc.) are correctly shown when games are played;
- Special features, free games, double ups, gambles etc. work correctly;
- Progressives (e.g., Jackpots) work correctly;
- Intermediate and final game outcomes are displayed for a reasonable time;
- Incomplete games are handled correctly;
- Multiplayer games are fair to all players:
 - irrespective of bandwidth, end player devices or client software;
 - if one or more players lose connection;
- Multiplayer games have adequate collusion detection and prevention mechanisms;
- Games cannot be played for bets outside minimum/maximum bet limits or more than the player account balance.
- Correct operation after re-start and recovery of game server.

2. Evaluation of system reports

System reports are evaluated to confirm:

- Data is accurately reported and correctly formatted;
- Report field widths cater for extreme cases;
- Time and date formats are consistent across all financial reports;
- Reports covering different time periods are reconcilable with each other, e.g. a weekly report should reconcile exactly with the total of seven daily reports;
- As a minimum, report set includes the following:
 - Games report (money played, money won, number of games/hands, net performance, and RTP for each game (e.g., Blackjack, Poker, Slot game Gold Nugget etc.) and total for all games (total money played, total money won, total number of games/hands, net performance for all games and RTP for all games)
 - Payment summary report (total deposits by each payment mechanism, total of all deposits, total withdrawals by each payment mechanism, total of all withdrawals)
 - Large wins report (wins exceeding US\$10,000)
 - Large payments report (deposits or withdrawals exceeding US\$10,000)

iTech Labs Level-3 Certification

Level-3 certification includes Level-2 certification plus the following:

1. Verification of source code

Source code is evaluated to confirm:

- Game win determination aligns with game rules;
- Source code is well structured, well commented and well documented;
- Appropriate use of random numbers;
- Absence of mechanisms affecting play;
- Absence of debug code;
- Absence of redundant code;
- No unused variables;
- Correct use of signature or encryption algorithms.

2. Player protection mechanisms

Following tests are performed:

- Sufficient information available to players regarding player protection mechanisms;
- Player self-exclusion and operator exclusion as applicable;
- Bet limits, deposit limits, loss limits as applicable;
- Parental control information as applicable;
- Contact points for problem gambling services.

3. System Integrity

The following system integrity mechanisms are verified:

- Software change control;
- Regular verification of software fingerprints of critical modules;
- Reconciliation between various financial reports;
- Regular verification of system alarms and event logs;

iTech Labs verifies procedures for all the above. Regular audit of these activities are conducted by iTech Labs or the Gaming regulator.

iTech Labs Level-4 Certification

Level-4 certification includes Level-3 certification plus the following:

1. Infrastructure and security review

The following areas are reviewed for secure and reliable operation:

- Equipment location;
- Network architecture;
- Network implementation;
- Network device configuration;
- Connections to external computer systems;
- Network intrusion detection;
- Time synchronization;
- Operating system reliability & security.

2. Review of Procedures

Procedures in the following areas are reviewed:

- Casino operating procedures
 - System management
 - Change control
 - End of day processing
 - Player account management
 - Game management
 - Tournaments and Promotions
- IT Infrastructure procedures