



Revision Table

Version	Description	Date
1.0	NetEnt CasinoModule™ 10.10 System Overview	28 March 2017

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System Overview

The sections below provide a high-level overview of the parts included in CasinoModule, such as the key features, games, system architecture, requirements, and the different wallet and currency options, as well as introduction to bonus programs and tournaments.

■ About CasinoModule[™]

Introduces CasinoModule and the different options.

Wallet Options

Outlines the two wallet options available and discusses the issues to consider when deciding on the appropriate option for your operations.

Multi-Currency

Provides detailed information about multi-currency functionality and outlines key factors to consider when deciding if a multi-currency set up of CasinoModule is suitable for your operation.

Bonus Programs

Gives a functional overview of bonus programs and provides guidelines to consider when implementing bonus schemes.

Tournaments

Gives an introduction to the types of tournaments and functions available within CasinoModule.

Seamless wallet and multi-currency are both NetEnt's optional offerings. If you would like to understand more about how these functions can add value to your day-to-day operation, please contact your Account Manager at NetEnt for further discussions.

System Requirements

Requirement	Recommendations
Bandwidth	56 kbit/s - minimum 10Mbit/s - recommended
RAM	2 GB - recommended
CPU	512 MHz - minimum 2 GHz Celeron - recommended
Operating Sys- tem	Microsoft® Windows® 7 - recommended Microsoft® Windows® 8 - supported Microsoft® Windows® Vista - supported Microsoft® Windows® XP - supported Macintosh OS® Leopard - supported Macintosh OS® X (older versions) - supported to some extent
Browser	Google Chrome latest version on Microsoft® Windows® - recommended Google Chrome older versions on Microsoft® Windows® - supported
	Microsoft® Internet Explorer® latest version on Microsoft® Windows® - recommended Microsoft® Internet Explorer® 10.0 on Microsoft® Windows® - supported
	Mozilla® FireFox® latest version on Microsoft® Windows® - recommended Mozilla® FireFox® older versions on Microsoft® Windows® - supported
	Apple® Safari on Mac OS® - supported

About CasinoModule™

CasinoModule is a casino gaming solution comprising a wide range of casino-style games supported by a powerful management system.

CasinoModule offers a wide range of the latest browser-based games, each available in multiple languages, helping you as a casino operator to reach the maximum player base. You will receive software upgrades with new games and features on a regular basis.

As an operator, you may operate in several jurisdictions, each having its own set of requirements for technology and business processes. CasinoModule offers functionality to conform to all such requirements, making the certification process as lean as possible. Information in the CasinoModule documentation is mentioned as 'Jurisdiction Specific' when applicable only in certain jurisdictions.

As an operator, you can choose to interact with CasinoModule for single currency or multi-currency casino operations.

CasinoModule offers two ways to handle player wallets to suit your needs (Basic or Seamless wallet mode).

NetEnt makes significant investments in research and development and we follow a strict development process to ensure the highest product quality.

Important:

It is important to understand that NetEnt does not provide a stand-alone gaming solution to operators: CasinoModule works *together* with your existing system to form a fully-functioning gaming site. This keeps architectural complexity and operational costs at a minimum and allows you to focus on your core business.

The following table highlights the parts that are supplied by NetEnt and the parts that must be provided by the operator.

Provided by NetEnt	To be provided by the operator	
 CasinoModule and its web services: CasinoSOAPMultiCurrencyService or CasinoSOAPService. Game clients in 23 languages ADMIN TOOL. Generic and dedicated testing environments. 	 Casino lobby with navigation and links to games Cashier system through which players can manage their accounts. Site login and registration functions. External wallet API (in Seamless wallet mode). 	

CasinoModule Key Features

- CasinoModule connects to your existing backend systems through interfaces based on Internet-standard technology.
- Players access CasinoModule games via the Internet, using a web browser.
- Players do not need to download and install the games manually; they can start playing right away.
- Games are launched from within your existing site, with full branding.
- Graphical integration and automatic registration provide a seamless experience to the player.

- CasinoModule supports both local and pooled jackpots on certain games.
- Players can take part in tournaments, see themselves in leaderboards, receive bonuses, and be rewarded with frequent player points.
- All game interfaces and rules are available in multiple languages.
- As an operator, you can choose to operate CasinoModule in any one of many different international currencies.
- The powerful analysis and administration tool, ADMIN TOOL, provides you with the means to monitor and manage games, players, tournaments, and bonuses.
- CasinoModule offers two ways to handle player wallets to suit your requirements (Basic wallet mode and Seamless wallet mode).
- As an operator, you can choose to interact with CasinoModule for single currency or multicurrency casino operations.
- CasinoModule can operate from any co-location hosting site. Currently the primary hosting centres are located in Costa Rica and Malta. Therefore, the game play between the player and CasinoModule is subject to either Costa Rican or Maltese legislation. Customer specific deployments are also possible in order to meet local legal requirements. You will receive a share of the money lost by the player in CasinoModule games an income that you can treat as affiliate marketing income.

Games

NetEnt's offering includes a wide range of games including:

- Casino table games like blackjack, roulette, and poker.
- Traditional slots and video slots.
- Mini-games blackjack, scratch ticket, and slots that can be deployed as pop-up games anywhere on a operator's site.
- Other games such as virtual horse racing, scratch tickets, and keno.

Key Game Information

Additional information about CasinoModule games is provided below.

Game Avail- ability	Your license agreement with NetEnt, the version of CasinoModule that you are running, plus any optional casino offerings determine the specific games and features that are available in a casino. For example:			
	Offering	Availability Restrictions		
	Seamless wallet	Some games are not available in Full wallet mode.		
	Multi-cur- rency	All games are available in a multi-currency setup of CasinoModule.		
	Note: For a full list of	available games, co	ntact your Techr	nical Integration Manager.
Game IDs		jame. The following		r the Basic wallet mode hen the games are avail-
	Offering		Suffix	Example
	Seamless wal	let	_sw	arabian_sw
Language Sup- port	- All games and game rules are available in at least 24 common languages. For a list of languages, see Supported Languages.			
Playing Modes	Players can play CasinoModule games either by using Play for fun (not betting with real money) or Play for real (using cash from their gaming/casino account).			
Game Tech- nologies	Games are delivered using Flash and HTML5 technology.		nology.	
NetEnt Show- case Games Lobby	All games are available for testing in the NetEnt games lobby at https://www.netent.com/games/ .			

Casino Lobby

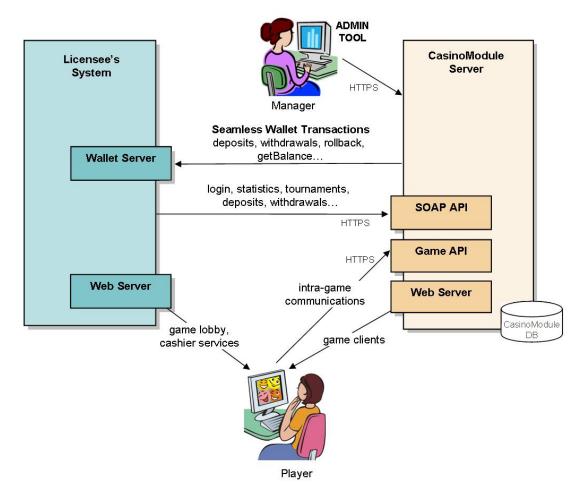
To complete the CasinoModule gaming solution, you create the web pages from which players launch games, join tournaments, and manage their accounts.

We call these web pages 'lobbies'. You host these web pages on your own servers. The lobbies communicate with CasinoModule using the open, well-defined Internet standard web services protocols of the CasinoSOAPMultiCurrencyService API or the CasinoSOAPService API.

You may design your games and tournament lobbies with your own graphics and branding standards so that they fit in with the rest of your site.

Interaction with the Operator's System

NetEnt hosts all games on a CasinoModule J2EE application server. This is where much of the in-game logic resides. When a player requests a CasinoModule game by clicking a link on your website, the client-side part of the game is sent as a Flash or HTML 5 file to the player's web browser.



Your system interacts with CasinoModule via the CasinoSOAPMultiCurrencyService API or the CasinoSOAPService API, a standard web services interface defined via WSDL. The SOAP API provides services for managing player logon and registration, game loading, player accounts, tournaments, and many other features of CasinoModule.

Player account, payment, and gaming activity are stored in the CasinoModule database (DB) so that interrupted games can be resumed without data loss.

Player account administration, operational statistics, and tools for tracking of player behaviour are provided via CasinoModule ADMIN TOOL, which has its own web interface.

Deployment Architecture

The network infrastructure of CasinoModule delivers a robust and stable service that enhances the player's experience and can survive threats from Internet attacks and other disasters.

In the standard deployment architecture (see example below), NetEnt sets up separate servers for game loading and game play:

- The static content needed when loading a game is served by a caching reverse proxy located close to one of the core Internet hubs (for example, in Amsterdam).
- The dynamic content needed when playing games is served by our dedicated, CasinoModule servers in secure hubs like Costa Rica and Malta.

Location: Costa Rica/Malta:BellMed Licensee's SOAP API traffic Casino Module System HTTPS casinoid-api.casinomodule.com casinold.casinomodule.com casinoid-game.casinomodule.com casino/d-admin.casinomodule.com Game playing traffic Administration traffic API traffic Game loading traffic Game services Location: Amsterdam HTTPS Web Server Player Licensee's Staff casinoid-static.casinomodule.com

CasinoModule Deployment Architecture

The following URLs are used to access CasinoModule:

- SOAP API URL The URL used to access the CasinoSOAPMulticurrencyService API / CasinoSOAPService API.
- ADMIN TOOL URL The URL used to access CasinoModule's browser-based administrative module.
- Game Load URL The URL used to load the initial static game content, served from Amsterdam.
- Game Play URL The URL used to load dynamic content during game play (not shown in the diagram above, but usually in the form *casinold*.casinomodule.com, and served from a CasinoModule in Costa Rica or Malta).

To provide an extra layer of security, these URLs are dynamically configurable via DNS so they can be switched in run-time without any downtime for the players. (This is only necessary in extreme circumstances; normal Internet security threats can be handled in other ways.)

We provide generic test URLs for the early stages of the integration project and, later, other URLs for the dedicated test environment and the production environment. For more information about the test and customer specific URLs, see $NetEnt\ CasinoModule^{TM}\ Integration\ Guide.$

Data Lifecycle Management

A data lifecycle management solution is implemented whereby certain data elements are removed from the online system and archived offline. These data elements are:

- Financial Transactions This data will be available online for 18 months. For the remaining period of the 10 years this data will be stored offline and available upon request.
- Game Round Data This data will be available online for a minimum of 12 months. For the remaining period of the 10 years this data will be stored offline and available upon request.

 Detailed Game Tracking Data - This data will be available online for 6 months, after which time it is permanently deleted.

Aggregated information available from the ADMIN TOOL **Statistics** menu is permanently available. However, the possibility to drill down to the individual game round or financial transaction is impossible after the data is removed from the online system and archived offline.

Timeouts when Playing for Real

If a player attempts to access a game using an invalidated session ID, (for example, due to inactivity or system restart) an error message is displayed in the game. The player can then log in again and resume game play. The game state is always stored so the players can resume game play exactly where they left off.

Tip:

When the player is playing a CasinoModule game for an extended period, you can periodically load an invisible HTML frame from your website to prevent the player's web session from timing out.

Play for Fun

Below is a summary of the steps involved when playing for fun.

Workflow

#	Description	Events	
1.	The player opens the operator website, enters the casino lobby, and then selects a game.	 The operator retrieves the game parameters from CasinoModule. The game parameters are different for each game and language. The operator creates a Play for fun session ID. The operator presents a web page that loads the game client. The game parameters and the session ID are passed to the game client as initialization parameters. The game client files are loaded from a static content site provided by NetEnt, and cached locally on the player's computer. The game client initializes and sends a game init request to CasinoModule. A temporary Play for fun player account is created inmemory in CasinoModule. The account is bound to the session ID and receives a pre-defined amount of Play for fun money. The Play for fun account balance is displayed in the game client. 	
2.	The player plays the game.	 The game client running in the player's web browser and CasinoModule communicate with an encrypted HTTP- based API during game play to execute game logic. 	
3.	The player exits the game.	 The Play for fun session expires after a time-out period, normally 30 minutes. 	

Jackpots

A jackpot is a pool of money to be paid out when a player wins the jackpot. The conditions for jackpot win are connected to the game logic.

A message is displayed to the players whenever a jackpot is unavailable, disabled, or closed. Also, a notification message is displayed to the players whenever the jackpot is won.

Note:

If a game is associated with multiple jackpots and one of the jackpots is unavailable, then the game becomes unavailable for the players. This is applicable for the unfinished games also.

Jackpot Structure

For the operator, there is no risk associated with offering jackpots since the pooled jackpot is built up by player contributions which in turn are part of the bets.

Neither jackpot contributions, nor jackpot wins affect the license fee that operators pay to NetEnt.

Jackpot Baby

Contributions from a jackpot based game are allocated to the jackpot pool and a percentage to the baby. The baby is utilised when the jackpot is re-initialised. Together with the seed value, the baby (or in some cases parts of the baby) forms the starting jackpot amount for the new jackpot game.

Jackpot Types

The jackpot type specifies whether the jackpot belongs to one separate operator or if it should be divided between several operators.

Local Jackpots

Because a local jackpot resides within CasinoModule, it cannot be shared with other operators. The jackpot is connected to one or a few specific games and is automatically deployed with the game(s).

Most local jackpots are progressive. This means that each bet contributes to a pool that increases until a player wins the jackpot. Local jackpots can also be fixed (non-progressive). A fixed jackpot has a pre-determined jackpot value.

For local jackpots the operator has to ensure that there is enough reserved bank funds at all times to cover for the upcoming jackpot win.

For more information, see CasinoModule™ ADMIN TOOL, menu option **Statistics** > **Jackpots** > **Local jackpot contribution**.

The total of the columns **Current amount** and **Current baby** compose the amount that must be reserved.

Apart from the players' contributions, a starting value called the seed is added to the new jackpot. This will be a cost for the operator.

Pooled Jackpots

Only a few games utilise pooled jackpots.

Pooled jackpots are progressive. This means that each bet contributes to a pool that increases until a player wins the jackpot.

Pooled jackpots work in the same way as local jackpots with the following exceptions:

- Bank funds corresponding to the jackpot value are held by NetEnt. The contribution to the pooled jackpot from each respective operator is invoiced by NetEnt, usually monthly.
- When a jackpot is won, NetEnt pays the amount to the operator in the casino currency. The operator then pays the player.

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Wallet Options

CasinoModule provides two different wallet options (that is, player account handling options) for the operators: Basic wallet and Seamless wallet.

When developing your casino operations you must select one of the wallet options for respective games. Depending on the wallet option chosen, the casino is set up in different modes. For Basic wallet (also mentioned as Casino wallet) the casino is set up in Basic wallet mode. For Seamless wallet the casino is set up in Seamless wallet mode.

For information about Seamless wallet integration, see *NetEnt CasinoModule* $^{\text{TM}}$ *Seamless Wallet SOAP API Integration Guide* and *NetEnt CasinoModule* $^{\text{TM}}$ *Seamless Wallet REST API Integration Guide*.

Basic (Casino) Wallet

- To play CasinoModule games, the player must manually deposit funds into his CasinoModule wallet. The player can also manually withdraw funds back to the operator's wallet
- Operators can set wagering requirements on winnings in bonus programs and tournaments, so that players must wager a specific amount before they can collect their winnings.
- Test players are not allowed to participate in bonus programs.
- For more information, see Basic (Casino) Wallet Play for Real.

Seamless Wallet Mode

- In ADMIN TOOL, all Seamless wallet game IDs are suffixed with the identifier 'SW'.
- To play Seamless wallet games, no deposit is needed.
- For more information, see Seamless Wallet Play for Real.

Effect of Seamless Wallet on System Load

A heavier load is placed on your system if many Seamless wallet games are played simultaneously due to the transactions going back to your wallet server.

To help with load reduction, the 'withdrawAndDeposit' API method should be implemented on your wallet server.

Considerations

Consider the following regarding wallet options:

- The Seamless wallet mode is not suitable for every operator. Several factors must be considered before deciding to proceed with Seamless wallet integration:
 - Transaction load: Can your wallet server handle the increased load required to process every bet and win transaction by every player?
 - **Hosting location:** Are your wallet server and the CasinoModule server sufficiently close to avoid communication delays?
 - **Network errors:** Can your support services and the network infrastructure handle communication problems that may arise?
 - Game availability: All Flash and HTML5 games are available in Seamless wallet mode.

■ The existing operators can change from Basic wallet mode to Seamless wallet mode. Changing from Seamless wallet mode to Basic wallet mode is not possible.

Note:

Seamless wallet is one of NetEnt's optional offerings. To find out more how this function can add value to your day-to-day operation, please contact your Account Manager at NetEnt for further discussions.

Basic (Casino) Wallet - Play for Real

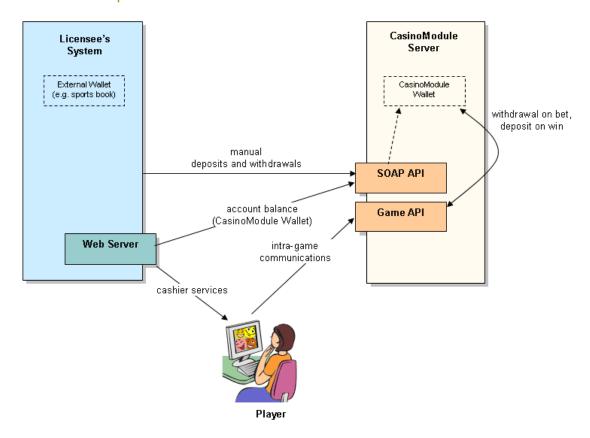
Below are the steps involved when a player plays a Basic wallet game for real.

Workflow

#	Description	Events
1.	The player logs on to your website and enters the casino lobby.	 Your system queries the account balance of the CasinoModule wallet using a web services call to CasinoModule. The casino lobby web pages are presented to the player showing both the balance in the CasinoModule wallet and the balance in your system's wallet.
2.	The player enters the amount he wishes to transfer from the your wallet to his CasinoModule wallet.	The amount is transferred from your system's wallet to the CasinoModule wallet via a web services call. Note: If the currencies differ, you are responsible for making the exchange-rate conversion after making the deposit.
3.	The player selects a casino game.	 Your system logs the user into CasinoModule via a web services call, and stores the returned session ID in the web session bound to the player. A game page is returned to the player, containing the game parameters that load the game, along with the session ID. The game's static content is loaded, usually from a proxy server to speed up loading time. Note: Proxies are not shown in the diagram below.

#	Description	Events
4.	The player plays the game.	 The player's computer and the CasinoModule server communicate during the game to execute any in-game logic. A reality check begins as soon as the player starts a CasinoModule game. The reality check continues during the entire session. If the player exceeds a time limit, play time or idle time, the following occurs: Idle time - The reality check is reset and then restarts when the player resumes playing. Play time - A pop-up provides information about the length of time a player has been playing and the win/loss during this time. The player chooses to end the game or to continue playing.
5.	The player exits the game.	 If the player performs an explicit logout from your site, your system logs the player out of CasinoModule via a web services call. Otherwise, the session expires after a timeout period, usually 30 minutes. For more information, see Timeouts when Playing for Real. The player enters an amount he wishes to transfer from his CasinoModule internal wallet back to your system's wallet. The withdrawn amount is transferred to your wallet server from CasinoModule via a web services call. Note: If the currencies differ, you are responsible for making the exchange-rate conversion after making the withdrawal.

Casino Module Operation in Basic Wallet Mode



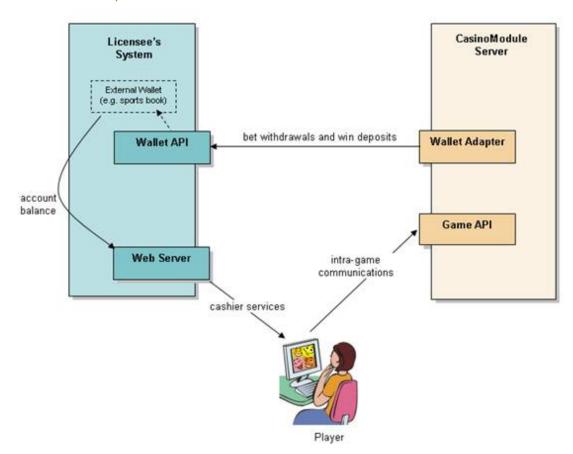
Seamless Wallet - Play for Real

Below are the steps involved when a player plays a Seamless wallet game for real.

Workflow

#	Description	Events
1.	The player logs on to your website and enters the casino lobby.	 Your system gets the account balance from your own wallet server. The casino lobby web page is presented to the player, along with the current account balance.
2.	The player selects a casino game.	 Your system logs the user into CasinoModule via a web services call, and stores the returned session ID in the web session bound to the player. A game page is returned to the player, containing the game parameters that load the game, along with the session ID. The game's static content is loaded, usually from a proxy server to speed up loading time. Once loaded, the game interacts with the CasinoModule server passing back the session ID. The backend logic maps the session ID to the user account, to allow real-money play.
		Note: Proxies are not shown in the diagram below.
3.	The player plays the game.	 The player's computer and the CasinoModule server communicate during the game to execute any in-game logic. The player's bets are withdrawn from, and his wins deposited to, his account on your wallet server via a call from CasinoModule to your wallet server. A reality check begins as soon as the player starts a CasinoModule game. The reality check continues during the entire session. If the player exceeds a time limit, play time or idle time, the following occurs: Idle time - The reality check is reset and then restarts when the player resumes playing. Play time - A pop-up provides information about the length of time a player has been playing and the win/loss during this time. The player chooses to end the game or to continue playing. The player chooses to end the game or to continue playing. The player chooses to end the game or to continue playing. The player chooses to end the game or to continue playing. The player chooses to end the game or to continue playing. The player chooses to end the game or to continue playing. The player chooses to end the game or to continue playing. The player chooses to end the game or to continue playing. The player chooses to end the game or to continue playing.
4.	The player exits the game.	■ If the player performs an explicit logout from the operator site, your system logs the player out from CasinoModule via a web services call. Otherwise, the session expires after a time-out period, usually 30 minutes. For more information, see Timeouts when Playing for Real .

CasinoModule Operation in Seamless Wallet Mode



Multi-Currency

CasinoModule provides support for multiple currencies, allowing the player to use the player currency for all transactions. The player experiences all gaming and presentations in the local currency, with no currency conversions.

For each player transaction, CasinoModule makes a currency conversion and holds a transaction value both in player currency and in the casino currency. The casino currency value is used for statistics, accounting, jackpots, and tournament results, and is never seen by the player. The operator can follow up on game play in player currency or casino currency, and relevant ADMIN TOOL reports offer a currency filter.

For more information about multi-currency migration, see *NetEnt CasinoModule™ Multi-Currency Migration Guide*.

Multi-currency and Seamless wallet are both parts of NetEnt's optional offerings. If you would like to understand more how these functions can add value to your day-to-day operation, please contact your Account Manager at NetEnt for further discussions.

Games and Game Play

All game clients have been modified to handle multi-currency play.

Players can use Play for fun in any valid player currency. To enable this, the Play for fun session ID must include the ISO currency code. If the session ID does not end with a currency code the game is initiated in the casino currency. For information about creating a session ID, see $NetEnt\ CasinoModule^{TM}\ Integration\ Guide$.

The available amount for playing in player currency is calculated from the amount configured in the casino currency. The calculation uses the current exchange rate. The amount is rounded as follows:

- if < 100 -> round to nearest 10 (never round to 0)
- if < 1000 -> round to nearest 100
- if < 10000 -> round to nearest 1000

Currencies

Currency codes, names and signs are implemented according to ISO 4217.

Supported currencies are configured per casino. NetEnt can add valid currencies and the operator can enable valid currencies as a player currency at any time.

Currencies currently supported by NetEnt are listed in Supported Currencies.

Exchange Rate Update Methods

Important:

Operators should be fully aware of the exchange rate risks associated with implementing these update methods.

For each player currency, NetEnt sets up an exchange rate update method: Automatic, Web Service, or Manual:

■ Automatic - NetEnt automatically activates a daily official exchange rate, delivered by an external supplier, for each cross rate. The rates are updated at a scheduled interval, which is configurable. A missing delivery triggers an alarm, which is sent to NetEnt.

- Web Service NetEnt updates the exchange rate, whenever provided by an operator via a web service, for each cross rate. A check is made that this new exchange rate does not deviate by more than small amount from the NetEnt rate.
- Manual The operator can use the ADMIN TOOL Exchange Rates option to manually change exchange rates by entering a new rate, and the date and time when the rate will be activated. A check is made that this new exchange rate does not deviate by more than small amount from the NetEnt rate.

All exchange rates use six decimals; however currencies are rounded to two decimal places when displayed to the player.

The money in a player's casino account is not affected by exchange rate updates.

Frequent Player Points (FPP)

Frequent player points are calculated using the casino currency. Taking the casino currency as Euro, here are two examples:

- 100 EUR (casino currency) = 100.00 FPP
- 100 SEK (player currency) = 100 SEK x 0.091475 (exchange rate) = 9.1475 EUR = 9.14 FPP

As shown above, frequent player points are awarded using two decimal places.

Jackpots

Jackpots are kept in casino currency. A jackpot is won in player currency.

It is possible to contribute to a jackpot in all currencies, and see the amount of game play each currency has contributed to a jackpot.

- Local jackpots. Local jackpot values are always in casino currency, but it is possible to display jackpot values in player currency as well.
- **Pooled jackpots.** All casinos contribute to the same jackpot, even if the casinos have different casino currencies. CasinoModule exchanges all contributions to the pooled jackpot currency. The jackpot is always paid out in the jackpot currency.
- **Jackpot contribution and chance of winning.** In jackpot games where a fixed bet is required to have a chance of winning the jackpot, the chance of winning depends on the stake. The bet in player currency is converted to casino currency using the current exchange rate.
- **Jackpot payout.** The jackpot is kept in the casino currency and is converted to the player currency using the current exchange rate at the time of payout.

Considerations

A multi-currency casino is not suitable for every operator. Several factors must be considered before deciding to proceed with a multi-currency casino:

- Impact on casino: Are you an operator with multiple casinos migrating to a single multi-currency casino, or a single casino migrating to a multi-currency casino? In some circumstances not all statistical, player, bonus program, and tournament information can be transferred to a new multi-currency casino. This may result in additional work before or after migration.
- Available currencies: Can NetEnt support the player currencies required by your casino?
 For information on currently supported currencies, see <u>Supported Currencies</u>.
- Free rounds configuration: Will you be using free rounds bonus programs? Free rounds configuration (bet level, bet lines, coin values, etc.) for all player currencies must be set up by NetEnt's IT Operations department as it is not configurable via ADMIN TOOL.

Migrate from the Single Currency SOAP API

To enable multi-currency in the operator's system, the operator must change service invocations that involve monetary values and other parameters that depend on currency information.

For information on migrating to a single multi-currency casino, see the CasinoSOAPMultiCurrencyService file in $CasinoModule^{TM}$ SOAP API documentation available on the Client Area of the NetEnt website. This file contains a summary of all multi-currency API methods, guidelines for using those methods and caching responses, exception handling and error codes, and a list of the methods required for minimal integration.

The CasinoSOAPMultiCurrencyService API differs from the CasinoSOAPService API in that it has been developed to:

- Return objects instead of strings where appropriate.
- Include new and enhanced methods.

ISO Codes for Multi-Currency

The multi-currency feature includes the implementation of ISO 4217 three-character currency codes. Any information that does not have a correct ISO code must be converted.

Multi-Currency in ADMIN TOOL

Three-letter ISO 4217 currency codes are shown throughout ADMIN TOOL to easily distinguish between casino currency and player currencies.

An overview of the multi-currency related features in ADMIN TOOL is given below.

Exchange Rates

The **Exchange rates** option allows the operator to manually change current and future exchange rates for currencies that have been set up by NetEnt with update method set to Manual.

Using this Exchange rates option each currency can be enabled or disable as a player currency.

Exchange Rate Effects

When exchange rates change, the following will also change:

- Tournament leaderboards
- Prize monies set in casino currency
- Deposit values in casino currency
- Player account balances in casino currency
- Any jackpot value displayed in player currency
- Bonuses with exchange on demand
- WinOnCustomer in Basic wallet mode.

Dashboard

The Casino Dashboard is presented using the casino currency. The value of deposits in casino currency is calculated using the exchange rate at the time of display of the dashboard.

Casino Monitoring System (CMS)

The Casino Monitoring System (CMS) is presented using the casino currency. The value of deposits in casino currency is calculated using the exchange rate at the time of display of the dashboard.

The **Deposits** and **Bonuses** tabs give a detailed presentation of deposits and granted bonus amounts in player currency.

Player Profile

The **Player profile** option is presented using player currency amounts, with casino currency amounts shown in parenthesis.

The WinOnCustomer is displayed in casino currency. Win On Customer is updated in real-time and is calculated as:

■ Bet - Win - Player Compensations

When Player Compensation is included in the WinOnCustomer calculation, there is up to a one-hour delay on the figure.

On clicking **Money account transactions**, for each transaction the following information is added:

- Casino Currency Amount
- Player Currency Amount
- Player Currency
- Player Currency Balance After

On clicking **Give a manual bonus**, **Add or remove money**, or **Manage play limits**, a player currency amount can be specified.

Bonus Programs

It is possible to create a bonus program that is valid for multiple currencies. The casino currency bonus specified is automatically exchanged to each player currency using the current exchange rate. Player currency bonuses can be rounded to even amounts or changed by entering new values.

When setting up a free rounds bonus program the coin values per included currency are used.

Tournaments

When setting a money prize, first set the money prize in casino currency. The casino currency prize specified is automatically exchanged to each player currency using the current exchange rate. Player currency prizes can be rounded to even amounts or changed by entering new values.

When the tournament win criterion is set to Best overall net win or Best net win for 20 consecutive rounds, game rounds are valued in casino currency. The leaderboard score is based on player winnings in casino currency.

Note:

In a multi-currency setup of CasinoModule, players who play in a currency where the maximum bet can be higher than other currencies, have an advantage when the win criteria is Best Net Win for 20 consecutive rounds.

SQL Named Query

When an SQL named query is run, the Currency ID is shown in the result where appropriate.

Statistics Currency Filter

A currency filter has been added to selected ADMIN TOOL pages, which allows you to display statistics for a single currency. Currency filtering can be used when displaying:

- Deposits
- Game statistics
- Accounting (casino result)
- Unique login
- Player register and same day deposit
- Pooled jackpot and local jackpot contribution
- Top players
- New players
- Player balance
- Affiliate report

Bonus Programs

The sections below provide a functional overview of the CasinoModule bonus programs and guidelines for consideration when implementing bonus schemes on your online casino. For details on how to configure the bonus programs using ADMIN TOOL, see the *NetEnt CasinoModule* $^{\text{TM}}$ *ADMIN TOOL Guide*.

This information is intended for operators and their staff who are responsible for implementing and managing bonus programs in the casino.

Introduction to Bonus Programs

The aim of a CasinoModule bonus program is to provide the Casino Manager with a way of rewarding loyal players and encouraging newcomers whilst minimising loss risk. Additionally, the setting up of bonus programs is easy and yet comprehensive enough to cater for a wide variety of scenarios.

A bonus program consists of a suite of configurable options that enable specific players to be targeted for preferential treatment. Bonus programs are ultimately designed to increase the amount of activity on the casino site. Typically, bonus programs are a way of:

- Rewarding loyal players.
- Attracting new players to the casino.
- Encouraging players to play for longer periods.
- Encouraging players to try out new games.

Once a bonus program has been created, a Casino Manager can:

- Monitor bonus program performance and activity.
- Monitor bonus costs.
- Inactivate a bonus program.
- Prolong a bonus program.
- Forfeit all bonuses for a player.
- Configure the bonus cost alert threshold.

For detailed information about creating and configuring bonus programs, see *NetEnt CasinoModule* $^{\text{TM}}$ *ADMIN TOOL Guide*.

Note:

The wagering requirement is also recorded, and this means that the player cannot "withdraw" bonus money, including the bonus money winnings, (in this case return the money to the operator) until the wagering requirement has been fulfilled.

It is possible for a player to withdraw their cash money without fulfilling the requirements; however, if the money was received from a Deposit bonus (Basic wallet mode), the bonus amount might automatically be removed from his account before the withdrawal is processed. Bonus money from other bonus programs remains when withdrawing cash from the casino.

The bonus programs available for games depend on the wallet option you have implemented and the type of game being played, for example, Basic wallet versus Seamless wallet games.

Bonus	Purpose	When activated	Details
Deposit bonus (Basic wallet games)	Increase the transfer of money from the players' main account to the Basic wallet.	When players trans- fer funds from their main account with the operator to their CasinoModule account.	 The bonus amount can be a fixed value or a percentage of the transfer. A cap is optional. The operator can choose if the bonus money granted should be forfeited if the player withdraws the money that has granted him the bonus.
Reward bonus	Stimulate player loyalty.	Awarded to players based on their level of CasinoModule game play.	 Bonus money can be granted to a player either after having played a game a certain number of times, or when a minimum bet amount has been reached. The bonus money can be paid out when the entire wagering requirement has been fulfilled, in full or in incremental steps which are configurable. There is an option to either select the reward for all game play, select a few games or just one game.
Login bonus	Stimulates player entry to the casino page.	When the player logs into the Casino.	 A small bonus money pot is granted the player when he enters the page. The bonus can be configured to be granted on one or more logins.
Free rounds bonus	Encourage play- ers to try new games.	When the player starts up the game.	 The player is granted free rounds in one or more games. The player gets to keep any winnings they receive during free round play once the wagering requirement, which can be set to 0 (zero), has been fulfilled. The winnings are in the form of bonus money. Free rounds may start during a classic tournament. Rounds do not count towards tournament rounds, score or result.
Manual bonus	Stimulate player loyalty.	From the specified date given.	 The bonus amount is a one-off fixed amount. The bonus amount is valid within a set period of time. A minimum wager is required by the player for the bonus to

Bonus	Purpose	When activated	Details
			be received.
Play (Jurisdiction Specific)	Only used for playing and to grant Real Bonus.	From the specified date given.	 Any winnings from play bonus will only be in play bonus. Play bonus will never give any real money. A player using play bonus will not be able to play jackpot games.
			Note: Play bonus has an expiry date which is set when receiving the bonus. If this date is reached before any wagering requirement is fulfilled, then any remaining bonus is removed from the player account.
Real (Jurisdiction Specific)	To ensure that players play for all money received from a bonus program.	Contact your Tech- nical Integration Manager for inform- ation on enabling Real Bonus.	 Can be either enabled or disabled. When enabled, all play bonus money for which the wagering requirements have been fulfilled will be awarded to the player as 'real bonus.' This real bonus money is treated the same as real money except that it cannot be withdrawn. The player can receive real bonus from multiple bonuses, yet the bonus will be considered a single bonus sum. All winnings when playing with real bonus are paid out as real money.
			Note: The bonus cannot be withdrawn or forfeited.

Quick Reference Guide for Bonus Programs

Activity Type	To do this, use	Role
Set up and configure	Configure bonus cost alert threshold ADMIN TOOL > Admin > Performance alert	Manager
	Create a bonus program ADMIN TOOL > Admin > Bonus programs > Create a new bonus program	Manager
	Give a manual bonus	Manager

Activity Type	To do this, use	Role
	ADMIN TOOL > Tracking > Player profile > Give a manual bonus	Player Support
	Display player bonus details in their wallet SOAP API	IT Professionals
Information to players	Publish FAQs on website/ promote bonus programs Webpage to publish FAQ. Use bonus banner and bonus information page	Manager IT Professionals
Monitor costs	View bonus costs ADMIN TOOL > Statistics > Player compensations	Manager Staff Support
Monitor bonuses	View a player's active bonuses ADMIN TOOL > Tracking > Player profile > Manage bonuses	Manager Support Player Support
Manage	Forfeit a player's bonuses or free rounds ADMIN TOOL > Tracking > Player profile > Manage bonuses	Manager Support Player Support Staff
	Activate a bonus program for a player ADMIN TOOL > Tracking > Player profile > Manage bonuses Promotion Codes Or The SOAP API (activateBonusProgramForPlayer)	Manager Support Player Support Staff IT Professionals
	Inactivate a bonus program ADMIN TOOL >Admin > Bonus programs	Manager
	Select one or more bonus programs a player can participate in ADMIN TOOL > Tracking >Player profile > Manage bonuses	Manager Support Player Support Staff
	View players' bonuses ADMIN TOOL > Tracking > Player profile > Manage bonuses	Manager Support Player Support Staff

Overview of Financial Transactions

During the normal course of events, players will deposit money and play games; some of which they will win and some they will lose. Some players will also be given bonuses. The financial transactions are therefore many and varied and as such a strict order of fund use, based on the first-in first-out method is used. Essentially, the priority of fund use is that the deposited money (real money) is used first and bonus money is used last.

A player can calculate the bonus amount credited to the player account prior to depositing specified amount.

A player can bet and lose bonus money with the wagering requirements on that bonus money still not being fulfilled. In this scenario, where the player bets and loses some bonus money, and then bets the remaining bonus money and wins, then the winnings are used to replenish

the bonus amount first. Once the bonus amount is filled to its original limit, the additional winnings are maintained as free cash.

To sum up, the following rules apply:

- Money is bet in this order: Real money and then bonus money.
- Money won is deposited in this order: Bonus money (to the maximum bonus amount bound by wagering requirements) and then real money.

Action	Real Money	Bonus Money	Balance	Comment
Deposits 100 EUR. Gets 10 EUR login Bonus	100	10	110	
Bets 105 EUR and loses	0	5	5	Real money depleted first, followed by bonus money.
Bets 5 EUR and wins 20 EUR	10	10	20	Bonus money replenished first to the maximum bonus amount bound by wagering requirements, followed by free money.
Bets 20 EUR and wins 30	20	10	30	Winnings over and above the maximum bonus amount bound by wagering requirements are available as free cash.

Player Wallet

The player wallet is the basic cash flow information that shows the players how much money they have to play with in the casino. As the casino operator, you determine how and where this information is shown; however, NetEnt suggests that the following information including bonus information is advisable:

- Account balance overview
- State clearly how much real money is in the account.
- State how much bonus money is currently available for play.
- Real money breakdown
- Show the deposits the player has made.
- Show how much the player has bet.
- Show how much the player has won.
- Bonus money breakdown
- Detail the bonuses that have been granted, identifying both the type of bonus and the reason why it was given.
- Show how much bonus money has been converted to real money when the wagering requirements have been met.
- Show how much wagering requirements remain to be met for each bonus.
- Show bonuses that have expired or have been forfeited, including forfeit due to security reasons.

If the player attempts to make a withdrawal before the wagering requirement has been met, we recommend displaying an alert to inform the player that the bonus may be removed from the account if the withdrawal money is a security for any bonus money previously granted via a deposit bonus.

Bonus Amounts

The bonus amount is the amount (in player's currency) to be awarded to a player participating in a bonus program. Depending on the wallet options you have implemented, the calculation and granting of bonus amounts may differ.

For fixed value entries the maximum value is 1000.

Initially it looks like a figure as large as 9999 can be keyed in, however upon clicking the **Next** button during setup an error message will be shown stating the 1000 maximum value.

There are different ways of calculating the amount of bonus that should be granted and of course when a bonus is to be granted, hence the need for different types of bonus programs. The current bonus programs are therefore aimed at different types of players and for different circumstances.

The following table presents the likely scenarios for bonus use and suggested methods for calculating the bonus values to be given:

Bonus Program Type	Bonus Amount Calculation + When granted
Deposit bonus (Basic wallet mode)	Usually a percentage of the amount deposited by the player (max 100%). For example if the player deposits €50, they are offered an extra €25 to play with (50%). To the player it looks like a lot of free cash but the catch is that they must play for a while before receiving the bonus. The use of the wagering requirement prevents players from simply withdrawing the extra cash without playing.
	Note: The player must deposit the minimum deposit amount in one lump sum in order to qualify for the bonus. If the player initially deposits less than the minimum required amount, the bonus is automatically forfeited.
	Alternatively, a fixed sum can be granted (max 1000). The wagering requirement still applies. A player can calculate the bonus amount credited to the player account prior to depositing specified amount.
Login bonus	The login bonus is normally given in conjunction with an advertising campaign for a new game. The idea is to entice existing players to try out the new game, initially for free. Once hooked they will start spending their own money.
	Note: There is currently no function for specifying games that the login bonus is to be used on. Market evidence however shows that the majority of players will by default use the login bonus money to try out whichever game is advertised with the bonus.
	The amounts are small - enough to cover the cost for one or two rounds or spins, for example, \in 20 on the video slot Mystery at the Mansion is sufficient for 4 spins (max bet lines with a coin value of 0.05).
Reward bonus	The reward bonus is for loyal, regular players who usually deposit large amounts of cash to the casino. From an advertising perspective, it is a way of making players feel both special and rewarded. Additionally, there is every chance they will tell their friends about the extra special treatment - free advertising and a chance to gain more loyal players. The bonus is based on either the number of game rounds a player plays or the

Bonus Program Type	Bonus Amount Calculation + When granted
	amount the player bets. The bonus can be awarded after x number of specified game rounds or in incremental steps - $\[\in \]$ after x rounds. Additionally there is an option to either select the reward for all game play, select a few games, or just one game. Example: Number of game rounds = 10 Reward bonus = $\[\in \]$ 20 Credit policy is in incremental steps of 10 Then the player will receive $\[\in \]$ every round for 10 rounds Note: There is no maximum limit for the number of game rounds set; however, the input fig-
Free rounds bonus	ure cannot be any higher than 999999999. The minimum game round number is 10. Any winnings awarded during the play of the free rounds are treated as bonus money. The player must fulfil the wagering requirements of the bonus program in order to receive the free round winnings as cash. All free rounds must be completed before any money won is transferred to the players account. As the individual free rounds are played, they do not affect the game win nor the casino result. Instead, upon finishing the last free round, the collected winnings are awarded to the player as a bonus amount. This affects the accounting in the same way as any other bonus.
Manual bonus	The manual bonus is the original bonus option that was available in previous CasinoModule releases. Manual bonuses are not considered part of the bonus program suite but are accessible for configuring from the bonus program admin pages. Manual bonuses are configured on a per player basis from the user profile page. As the limitation is that the bonus cannot be set for groups of players, this bonus was originally designed to give bonuses to specific individuals on specific occasions such as a welcoming gift or for the biggest single loss for a period. The amount of bonus given is still subject to the wagering requirements, minimising the risk of loss to the casino.

Bonus Program Promotion Codes

Operators can grant bonuses per players based on promotion codes. They can select the promotion code from an existing list of codes or provide a new code. If the code is used for another active or future bonus program, then an alert message is displayed.

If a promotion code is configured for a bonus program, then players must enter the code, otherwise bonus is not granted. Operators activate the code for a bonus program or a player. Operators can do this through SOAP API or the **Player profile** page in ADMIN TOOL. Players can also activate the code for themselves while they register or log on at the operator site.

The code becomes inactive when a player uses it. Operators can reactivate the code (passing the same promotion code again) for recurring bonus programs.

One activation code may be mapped to multiple bonus programs.

Note:

Promotion codes are not case-sensitive and the maximum length is 50 characters. Special characters and space are not allowed in promotion codes.

Bonus Conditions

Several different types of conditions affect how bonuses are granted and paid out. These conditions are described in detail below.

Conditions for Granting Bonuses

Condition	Description
Maximum bonus program cost	If there is a limit set on the bonus program and it has been reached, it means that there is no more money in the bonus program pot to be received by players.
Promotion Code	In bonus programs with promotion codes, the code must be used to activate the program for the player to receive the bonus.
Max bonuses per player	A bonus may only be granted to the player for the maximum number of times configured with the bonus program. The bonus will be denied if that limit is reached.
	Note: The bonus promotion code must be used to reactivate the bonus program for each repeated granting.
Bonus inclusion on Manage player bonuses page	All active bonuses for the player are selected on the Manage player bonuses page in ADMIN TOOL. If the bonus program is not selected here, then the player will not be granted that bonus. For more information, see $NetEnt\ CasinoModule^{TM}\ ADMIN\ TOOL\ Guide$.
	Note: The check boxes for active bonus programs for which the player is not eligible will be greyed out on the Manage player bonuses page.
Excluded from bonus option on Manage player rights page	Any bonus may only be granted to the player if this option is not selected on the Manage player rights page in ADMIN TOOL. For more information about player rights groups, refer to <i>NetEnt CasinoModule™ ADMIN TOOL Guide</i> .

Conditions for Granted Bonuses to Become Withdrawable

The following conditions apply before the player actually receives the bonus as withdrawable cash:

Condition	Description
Bonus pro- gram schedule	After the validity end date configured in the bonus setup, the bonus money will expire and not be available for use any more.
Wagering of bonus money win- nings	If a player has won an amount by placing bonus money in the bet, the amount is considered as bonus and will not be converted into real cash until the wagering requirements of the original bonus have been fulfilled. If the bonus is approaching its expiration date, then the player can be at risk of a win vanishing from his/her account if the wagering requirements have not yet been fulfilled. This goes for all wins, including jackpot wins.

Chained Bonus Programs

Bonus programs can be chained to each other. In a bonus program chain a specific bonus program must be completed before the player is eligible for another specific bonus program. A bonus program that is not the first program in the chain is called a 'chained bonus program'.

For a bonus program to be completed at least one bonus deposition from this program must have reached status 'wagered' (for each player respectively).

If it is a free rounds program, then free rounds played with no winnings will also be considered as wagered when the value of the casino property

ignoreZeroDepositsForFreeRoundBonus is set to False.

A chained bonus program is granted immediately when completing the previous bonus program in the chain; that is, the player does not need to log in again for the bonus to be granted. An exception is free rounds which are not active until the player reloads a game where the free rounds can be played.

However, a chained bonus program cannot be granted at the same time as other bonus programs in the chain.

Example:

Bonus program B depends on bonus program A (that is, bonus program A must be completed before bonus program B becomes eligible for the player). The player has not received any of these bonuses. In this case the player only receives bonus A when making a deposit, even if the deposit is big enough to cover both bonus A and bonus B. Another event must be triggered, for example another deposit, for bonus B to be granted.

Maximum Bonus Program Cost

Casino Managers can limit the cost of a bonus program by specifying a maximum bonus program cost. When this threshold is reached no more bonuses can be awarded for this program.

Max bonus program cost = Sum of all bonuses awarded - Sum of all bonuses forfeited.

When configuring the bonus program, there are no automatic checks to ensure that the total bonus being offered is below the maximum bonus program cost. Therefore it is advisable to carry out a calculation to ensure that the bonus 'pot' doesn't run empty before all of the players offered the bonus have had the chance to gain their bonuses (within the bonus time period).

Total number of players offered bonus x Fixed value amount \leq Maximum bonus program cost Or

Total number of players offered bonus x Bonus cap ≤ Maximum bonus program cost

Wagering Contribution Factor

Different game types hold different risks. For some games the player can easily wager the requirement on a bonus by playing safe; for other games it is harder to play safe. Also, the player may have to play for longer in certain games in order to acquire a bonus. In order to handle these differences between games, each game is associated with a wagering contribution factor (% of the bet). Games which are easily wagered with low risk are typically assigned a factor of 0%.

Example:

A player always bets on black on a classic roulette table. When doing so the player will have a 48.6% chance of winning, resulting in the wagering requirement being reached with minimum losses. Conversely it is much harder to play safe on a slot game.

The wagering contribution factor is defined into every CasinoModule game, but can be changed while creating the <u>Bonus Programs</u>. It determines whether the game itself entitles the player to any bonus that has been granted. It is applicable for bets and not for round based wagering requirements. By default:

- Table Games or Video Pokers have a wagering contribution factor of 0 = no bonus no matter how much the games are played.
- All other games have a factor of 100 = provided the wagering requirement is fulfilled, the bonus will be received.

Cash-In Wagering Requirement

You configure the **Cash-in wagering requirement** when you create a bonus program. A **Cash-in wagering requirement** indicates that a player may not withdraw a bonus money payout until they fulfil the wagering requirements for that payout.

The **Wagering requirement** is the number between 1 and 100 that acts as a multiplier in the formula to determine cash-in wagering requirements.

This wagering requirement does not apply to table games or video pokers. They have a wagering contribution factor of 0, which, unless the values are overridden in the bonus program setup, will result in no fulfilment of wagering contributions no matter how much a game is played.

The following formula shows how the Cash-in wagering requirement is calculated.

Amount to be turned over = Cash-in wagering requirement * Bonus Amount

For example, if the wagering requirement was 25, and the bonus amount was 10 Euros then the cash-in requirement would equal 250 Euros.

After the required amount of money has been wagered, the remaining bonus money is converted into real cash thus allowing the player to withdraw it from the casino. CasinoModule tracks all game play and updates the remaining cash-in wagering requirement after each bet.

If a player has received bonus money through multiple bonus programs, there is only ever one bonus active at a time. When the wagering requirements are fulfilled, only the bonus money that pertains to that bonus (including the bonus money winnings) is converted into real money.

Credit Wagering Requirement

The **Credit wagering requirement** is only applicable to reward bonuses. It works in principle like the cash-in wagering requirements, but must be fulfilled before the bonus money is even granted.

Forfeiture of the Bonus

A player can lose the bonus (including bonus money winnings) offered to them if:

- The bonus type was Deposit bonus, and the **Forfeit** option was set to 'enabled' during bonus creation. In other words if the player tries to withdraw money from their account before fulfilling the wagering requirement of the bonus.
- The casino staff decides to revoke a bonus previously granted to a player. This can be done from the **Manage player bonuses** page in ADMIN TOOL.

Expiry Date for Bonus Money

You must specify a date period within which the bonus offer is valid. The date can be set by specifying the number of days from the creation date of the bonus or by stating an actual date for ending the validation period. The maximum is 6 months (180 days) from the payout date.

The reason for this is to prevent the situation whereby bonus money sits unused in player's accounts for limitless time periods.

Note

Bonuses are expired by a job that runs once every 24 hours. Because of this, it may take up to 24 hours after the scheduled expiry time for a bonus to actually expire.

Once a bonus program is active, it is not possible to make changes to the schedule. However, programs can be ended earlier than the scheduled end date if required. This is done by inactivating the bonus program.

If a player uses bonus money in a bet and wins, the bonus money winnings are added to the bonus. If the bonus is not wagered before its expiry date, the player will lose all bonus money (including the bonus money winnings).

If a player is playing a game round where parts of the bet consists of bonus money and the bonus expires or is forfeited during the game round, then when the game round ends, the part of the win which corresponds to the expired bonus will be immediately discarded.

The discard transaction can later be traced from **Tracking > Player profile>Money account transactions** in ADMIN TOOL

Example:

- A bet of €5 is placed. €4 of this is real money, €1 is bonus money.
- While the game is being played, the bonus expires. The game round stays open.
- The game round later ends with the player winning €50.
- €10 of the winning is then immediately discarded as it is attributed to a bonus which has now expired.

Introduction to Game Wallets

The following information is Jurisdiction Specific:

CasinoModule uses gaming sessions and game wallets to separate the fund types used by a player. Fund type includes bonus or money in player currency. For more information about fund types used in a game wallet, see Introduction to Bonus Programs.

CasinoModule creates a new game wallet for every new gaming session of a player.

Workflow

#	Description
1.	The player starts a gaming session. CasinoModule creates a new game wallet.
2.	The player assigns the fund type and balance for the game wallet within the limits allowed by CasinoModule.
3.	When the player is finished with the game, the player closes the gaming session by closing the game. CasinoModule then drops the associated game wallet and transfers all remaining balance to the underlying player account.

Bonus Winnings Abuse Prevention

To prevent bonus money from being abused, the bonus money winnings must be wagered before they are converted into real money. In addition, the winnings received from betting with bonus money is considered bonus money.

For example:

Type of money	Amount
Real money deposited by the player	€100
Bonus money received from the casino	€100
Total money in the player's sports book	€200

If the player bets €200 and wins, then the player gets:

Type of money	Amount
Real money after bet	€200 (€100 used in the bet plus the won amount of €100)
Bonus money after bet	€200 (€100 used in the bet plus the bonus money winning of €100)
Total money in the player's sports book	€400

Players can then only withdraw \leq 200 from a \leq 100 deposit, thus preventing abuse of the bonus money winnings.

Make Bonus Money Unavailable

CasinoModule provides you with the option of making bonus money unavailable in games with a wagering contribution factor of 0 (zero). The default setting, however, is that the bonus money is available in all games. The wagering contribution factor can be set for each game to any value between 0 to 100%.

Ensure Bonus Payout is Under 100%

For many games, the average payout lies close to 100%. Even a small player advantage on top of this can temporarily make the practical payout exceed 100%. Please consider the following example.

Example:

A new player is given \le 100 as a bonus. The wagering multiplier for the bonus is set to 20; that is, the player must turn over \le 2,000 to withdraw the bonus money. If the player chooses to play a game that has a 96% average payout, and then wagers the \le 2,000 and wins an average total of \le 1,920, then the player may withdraw the \le 100 bonus. This gives a total balance of \le 2,020, with an earning of \le 20 for the player. This corresponds to a payout of 101%.

To eliminate this scenario, you should consider the following table when setting up bonus programs:

Highest payout % of games eli- gible for wagering	Minimum wagering requirement multiplier for total payout to be <= 100%
95%	20
96%	25
97%	34
98%	50

Mathematically: Multiplier >= 100 / (100 - <highest payout %>)

Minimum 25x Multiplier Recommendation

Using the default wagering contribution factors, we recommend a minimum 25x multiplier when setting up bonus programs. You can make bonus money unavailable in games with a wagering factor of 0 (zero), or change the games that have this wagering contribution factor while creating Bonus Programs.

Promote Bonus Programs

For a bonus program to perform its function - to attract more players and retain loyal ones - you must ensure that information about the bonus programs on offer is effectively advertised. Typically, three methods are used to make the players aware of bonus activity:

Method	Description
Bonus ban- ner on the front (home page)	The use of a banner is a good way of initiating a game in 'Free round' mode if the player is part of a free round bonus program. Notification via a personalised email can encourage the player to look for the special banner on the Casino site, and to select that, in order to initiate the game in free round mode.
Bonus information page	A bonus information page, normally accessible from the Casino page, gives details of the types of bonuses the online casino offers and in what circumstances. We recommend that existing bonus information pages are updated with information about all of the bonus programs the Casino Manager makes use of.
Personalised emails	Personalised emails to existing and loyal players. For example if a bonus program is created for a few loyal players, it might be considered more personalised to send direct emails to these players rather than displaying a front (home) page banner that is viewed by all.

Bonus Program Recommendations

- Incorporate an area on your website to promote and inform players about how bonus programs work at your casino, including frequently asked questions (FAQ). This enables players to use this information as a first point of call for answers to common questions, thereby reducing time spent by customer care staff responding to the most frequent queries. Provide detailed information such as:
 - Wagering requirements and withdrawal.
 - Bonus money expiration. For example, the minimum wagering requirement must be fulfilled no later than 90 days after the promotion has been credited to a players account. Failure to meet the minimum wagering requirement within 90 days will be cause for the promotional bonus to be forfeited by the player.
- Operator reserves the right to modify, alter, discontinue, or terminate a promotion at any time for any reason whatsoever, without notice to players.
- Operator may in its sole discretion, limit the eligibility of players or of any one player to participate in promotions, and to restrict the eligibility of any group or category of players to participate in promotions.
- By default, bets do not count towards fulfilling the wagering requirements in games that have risk of bonus abuse. For example, Craps, Baccarat, or Roulette. You can view and modify the wagering contribution factor for these games during bonus program set-up.
- Wagering with Play for fun money does not count towards the wagering requirements.
- How free rounds work with classic tournaments, for example, the free rounds are not counted towards the tournament rounds, score, or result.

Tournaments

Tournaments are an excellent way of helping to maintain interest in your website. They provide on-going activities for players and help provide the feel of a dynamic website that has continuously exciting challenges. If they are correctly managed, tournaments increase the gaming volume at an online casino and have a positive impact on the casino result.

In tournaments, players get to compare their score against other players, adding a competitive dimension to their game play. The tournament winners are awarded with prizes or cash and, usually, the amount of money a player spends on a tournament does not affect his chances of winning: the player with the best score wins the tournament.

CasinoModule supports tournaments that allow players to play games against the dealer and compare their result against others in a leaderboard. Tournaments run for a certain time period, usually a weekend or a few hours. Several tournaments can run at the same time, and can be set to allow all or a specific group of players to participate.

For information on how to manage tournaments, see *NetEnt CasinoModule* $^{\text{TM}}$ *ADMIN TOOL Guide*.

Purposes for Having Tournament

It is important to decide the purpose of a tournament before it is set up and held. The following purposes of casino tournaments are most common:

- Benefit from the ongoing popular tournament trend among other online casinos and players.
- Create positive player experiences and make the casino a dynamic website.
- Strengthen player loyalty, as tournament participants are often very loyal to the casino.
- Use promotion of tournaments as a tool to reach players by e-mail.
- Give news value to the website when winners are presented there.

Qualifiers and Grand Finale

Tournaments can be set up in a way where the players first must qualify in a tournament to reach the grand finale with the best prizes. For example, three or four qualifier tournaments can be held and the top three players in each qualifier are welcome to participate in the grand finale. Please note that the grand finale must then be set up to only include the qualified winners.

High Roller Tournaments

A tournament can be arranged to be available only for high rollers or players selected by other preferred criteria. In that case you are recommended to set up high roller games and a big prize pool.

Classic Tournaments

Classic Tournaments are used to increase the gaming volume and revenue from existing players. They are played with 'real' money.

Classic Tournaments features:

 Target existing casino players in order increase the gaming volume and have a very positive impact on the casino result.

- Involve players competing against each other by playing 'real money' games. In addition to the normal winning or losing, they also compete for the prize pool of the tournament.
- Do not require the player to actively choose to participate (as soon as the player plays a game that is in a classic tournament, the player is automatically entered in the classic tournament).
- Can use automatic or manual payments.
- Can use all games, but the most famous tournaments are normally the ones with popular games. A tournament can include a single game or a mix of games.

Free round bonus programs may have free rounds allocated to players on games included in a classic tournament. If a player participates in such a tournament the free rounds are not counted towards the tournament rounds, score, or result.

Related Topics

Website Tournaments
Tournament Setup

Website Tournaments

Tournaments are configured in ADMIN TOOL and integrated with your website.

When implementing tournaments, integrators should refer to *NetEnt CasinoModule* $^{\text{TM}}$ *Integration Guide* and *CasinoModule* $^{\text{TM}}$ *SOAP API* documentation available on the **Client Area** of the **NetEnt website**.

Tournament Winners and Highlights

Use tournament highlights on your website and casino lobby as an important way to promote tournaments and direct players to the tournament area of your casino. Make tournaments as visible as possible, using banners.

Publish the winners in all kinds of tournament on your website to attract other players to participate in future tournaments. The results of the latest casino tournaments can be presented not only on the tournament lobby but also on the start/home page of the casino. Alternatively you can use a Tournament Winners page to provide this information.

Recommendations:

- Dedicate a section in the Tournament Lobby to present the results of the latest casino tournaments. Include information such as Tournament name, qualifying rounds, minimum number of rounds, score type, top winners and scores, and prizes.
- Publish the result of the latest casino tournament on the home page of your casino.

Frequently Asked Questions (FAQ)

Publishing frequently asked questions (FAQ) about tournaments at your casino empowers players to participate fully in your tournaments. Providing reference material enables players to use this information as a first point of call for answers to common questions, thereby reducing time spent by customer care staff responding to the most common queries.

Recommendations:

- Incorporate an area on your website to promote and inform players about how tournaments work at your casino.
- Provide detailed information about how tournaments work at your casino such as:
 - What are casino tournaments?
 - Where do I find a schedule of tournaments and specific details tournament details?

- How do I participate?
- Who wins?
- How are prizes distributed?
- What is the leaderboard?
- What is a wagering requirement?
- How do I change my display name?

Related Topics

Tournament Lobby

Tournament Lobby

A casino tournament lobby acts as a promotion and information centre for all your casino tournaments.

When players enter the tournament lobby, only the tournaments they can participate in are listed. Filters set for the tournament determine whether or not a particular player can participate.

As well as presenting the tournament schedule, you can also display in the lobby prize winners from previous tournaments. From the lobby, specific pages can be used for each tournament to give players relevant information about the tournament.

Tournament Details Page

Use a tournament details page, accessible from a tournament link in the tournament lobby, as a central point of information about a specific tournament. Inform players about the time and date for the tournament, rules, prizes, games included, leaderboard information, final result, winners etc.

All this information can be retrieved using the CasinoModule SOAP API.

Make game play in a tournament simple by providing links to the games included in a tournament on the tournament details page. On the game pages make it clear that the player is participating in a tournament. In addition, a link back to the tournament details page allows players to go back and choose another game in the tournament.

Display Tournament Leaderboards

Use the dynamic leaderboard provided by NetEnt to display information about tournaments on your website in various locations, for example, on the tournament lobby or tournament details page, alongside games included in a tournament, and on the start or home page of your online casino.

Before a tournament, use it to announce the start of a tournament; during a tournament use it for players to compare their place in the tournament, and after a tournament to display the tournament winners.

Recommendations:

Note:

You may have a different integration set-up depending on your particular jurisdiction.

- Display the leaderboard on game pages to provide tournament participants with an update of the current status of the tournament players.
- Customise the leaderboard to suit the look and feel of your casino website.
- Present the leaderboard to players in the language a tournament game is being played in by a player, or the language in which the webpage is being viewed.

You specify when the leaderboard should be displayed and removed when creating or modifying a tournament in ADMIN TOOL. For more information see *NetEnt CasinoModule* TM *ADMIN TOOL Guide*.

For information about implementing the leaderboard on a web page, see *NetEnt CasinoModule* Integration Guide.

Tournament Setup

ADMIN TOOL is used to create and manage tournaments. This is defined when setting up tournaments.

- Tournament Naming and Games
- Tournament Schedules
 - Start and end of the tournament
 - Start and end of the leaderboard display
- Tournament Invitations and Extra (Robot) Players
- Tournament Prizes

For details about setting up individual tournaments, see the *NetEnt CasinoModule* $^{\text{TM}}$ *ADMIN TOOL Guide*.

Tournament Naming and Games

The purpose of the tournament will determine the games available for play in the tournament. In addition, careful name choice of tournaments assists with the promotion of tournaments and enticing new players to tournaments.

Tournament Games

Choice of games plays an important role in the design and setup of tournaments and is influenced by the intended target group and tournament purpose. You can select one or more games for a tournament from the list of CasinoModule games available for inclusion in a tournament. The games are organised in game groups.

Tournament Schedules

The tournament schedule plays an important role in the running of all tournaments.

Tournament Start and End Times

Flexible setting of tournament schedules gives you the option to choose tournament length, date and time. When introducing tournaments to a casino website for the first time, we recommend the tournament to be held for two or three days, but when the players continuously participate, the tournament length can be decreased.

Recommendations of the tournament length, date and time are as follows:

- Long-time tournaments. Hold long-time tournaments during weekends.
- **Short-time tournaments.** Hold short-time tournaments during evenings instead of day or night.
- **Regular.** Hold regular tournaments at the same time during the day or weekend or month, for example, lunch time, late evening, weekend, end of the month.
- One off. Special promotional events, for example, new release of games. To encourage game play in a profitable but infrequently played game.

The prize structure must be adapted to the tournament length. A short-time tournament normally offers a smaller prize pool while a long-time tournament covers a bigger prize pool.

Promotion of a tournament should be relative to the size of the prize pool. Consideration should be given to how a tournament will be promoted.

Leaderboard Display

Flexible setting for when the leaderboard is to be displayed gives you the option to choose when players can view the leaderboard for a tournament. Recommendations are:

- **Leaderboard display time.** Setting the leaderboard to be displayed 1 hour before the tournament starts will notify players the tournament is due to start soon.
- **Leaderboard end time.** Keeping the leaderboard visible for 1 hour after tournament ends will let the players view the results of the tournament.

Leaderboard display:

The leaderboard can be displayed in advance, before the tournament starts, to show the countdown to the launch of the tournament.

During a tournament the leaderboard displays the current top players. Players can compare themselves to other participants. The leader board also indicates if a player has played sufficient rounds to qualify for a tournament.

Parameters that can be set to control the appearance of the leaderboard are described in $NetEnt\ CasinoModule^{TM}\ Integration\ Guide.$

Tournament Invitations and Extra (Robot) Players

Selecting who can participate in a tournament and adding robot players is an important part of setting up casino tournaments.

Tournament Filters

You can run tournaments for all casino players or target tournaments to specific groups of players depending on the purpose of the tournament.

If a tournament is open to all players, any player may participate. Alternatively, use invitation filters such as a pre-defined player selection list to make tournaments available to selected players. Using CasinoModule invitation filters, the operator have the power to specify selected players based on gender, country, age, affiliates, registered date, and user name. For country or affiliate, you can also exclude players. When several selection criteria are defined all criteria must be fulfilled for each player.

Estimate Number of Players when Using a Filter

When using filters, an estimate number of player's feature allows you to estimate the number of possible players matching the invitation filter. You should use this to ensure there are sufficient players to make a tournament worthwhile.

If you want to create more specific filters for your casino tournament you should contact <u>support@netent.com</u>.

Use Extra Players

To increase the activity in the tournament, extra (robot) players can be used. Extra players are CasinoModule server-controlled test players that play randomly to inspire real players to play more. The extra players' results are displayed on the leaderboard and therefore indicate greater tournament activity to other players.

When introducing tournaments at your online casino, we recommend using extra players in the beginning. After a while the extra players will not be necessary. You should create appropriate names that look like real players to avoid players knowing there are extra players playing in the tournament.

Tournament Prizes

The main attraction of a tournament is the opportunity to be a winner and win one of the available prizes. Prizes used in tournaments can be cash, bonus money, frequent player points, or tangible items such as multimedia electronics.

Within the CasinoModule tournament feature prizes are defined by a minimum number of completed game rounds, winner selection and payouts.

Game Rounds

The number of game rounds required for players to participate in the tournament depends on the length of a tournament, but we recommend 100 game rounds as a good starting point. The 100 game rounds can then be increased to 200 - 300 rounds after a while.

Winner Calculation

CasinoModule offers high flexibility in deciding the winner in a tournament. The following score types are possible:

- **Best overall payout factor.** The player with the highest monetary payout % (total Win / total Bet) wins.
- **Best overall net win.** The player with the highest (Win Bet) wins.
- Best equalized payout factor per game round. The player with the highest average (Win / Bet) for all game rounds wins, as opposed to Payout factor which calculates (total Win / total Bet), resulting in that the payout on a large bet is valued higher than the payout on a small bet.
- Best net win for 20 consecutive rounds. The player with the highest (Win Bet) score summary of 20 rounds played in succession wins. CasinoModule only considers finished game rounds for evaluation. To evaluate the last 20 consecutive rounds, CasinoModule compares the starting time of the rounds and chooses the 20 latest finished rounds to calculate a player's score. During the player's first 20 rounds the score on the leaderboard is updated after every round.

However, evaluation of which rounds are consecutive will not work if the rounds are not played strictly sequentially, for example if rounds are started and finished while another round is still running. In other words, playing different tournament games simultaneously may render incorrect results. Most likely the player's score will be lower than if playing the rounds sequentially.

Note:

In a multi-currency setup of CasinoModule, players who play in a currency where the maximum bet can be higher than other currencies, have an advantage when the win criteria is Best Net Win for 20 consecutive rounds.

■ Best equalized payout factor for 20 consecutive rounds. The player with the highest average (Win / Bet) for 20 game rounds played in succession wins. For scoring calculations to work according to expectations, it is recommended not to facilitate playing on several tournament games simultaneously.

CasinoModule only considers finished game rounds for evaluation. To evaluate the last 20 consecutive rounds, CasinoModule compares the starting time of the rounds and chooses the 20 latest finished rounds to calculate a player's score.

Note:

For scoring calculations to work according to expectations, it is recommended not to facilitate playing on several tournament games simultaneously. For more information, see 'Best net win for 20 consecutive rounds'.

■ **Most game rounds.** The player who has played the greatest number of game rounds during the tournament.

Equalized payout factor is the most commonly used score type. Equalized score types can be considered as the most fair win criteria, since they focus on player scores (as opposed to considering the size of individual bets) thereby allowing low rollers and high rollers to compete on the same terms.

Publish the score type on the tournament details page to inform players of the score calculation rules before joining a tournament.

When the tournament ends robot players and real players who have played less than the specified number of rounds are ignored when selected winners.

Payout

Prizes, defined within the Tournament feature of CasinoModule, are specified as shares of the prize pot or as real money amounts with or without a wagering requirement.

However, it is not necessary to have real money payouts. Prizes like multimedia electronics can also be attractive for players. When using real money or bonus money for prizes, the prizes will be added to the players' casino accounts automatically as soon as the tournament is finished.

Normally, the total prize pool for the tournament is covered by the income from the game win that the tournament will generate. You can apply the following combinations of prizes:

- Flat Prize Structure
- Other Prizes

Flat Prize Structure

In general, a tournament attracts more players if a flat prize structure is used (for example the top ten players will be awarded prizes). The amount of money or real money in the prize pool must also be decided, taking the client base and the game activity in the casino into consideration (Tournament payout).

When using a flat prize structure you can have cash or bonus money prizes.

- Cash Prizes: Money prizes without a wagering requirement that can be withdrawn from the casino immediately.
- Bonus Money Prizes: When using bonus money prizes, a wagering requirement must be chosen. The wagering requirement specifies how many times the money (the winning bonus money) must be used in the games before it can be withdrawn from the casino. Normally a wagering requirement of 35 is preferred for classic tournaments, but in case of very high prize amounts a lower wagering requirement should be considered to avoid extreme high amounts as wagering requirements. Also, when choosing a wagering requirement, the expiry date for the bonus money must be set. If the bonus is not wagered by the end of the expiry date, it is expired and no longer available to the player.

Note

Wagering requirements are set to 35 by default. When set to zero, the player may withdraw the winnings immediately (as real money).

Other Prizes

Most Played Game Rounds. To increase the number of game rounds played in a tournament, it is possible to encourage play with an extra prize given to the player who has played the highest number of game rounds. Normally this kind of prize is given in bonus money. (Achieve this by making a manual Cash or Bonus money payment to the player).

- Frequent player points. Bonus frequent player points can be awarded as extra prizes in the tournament to encourage extra game play and increase player loyalty. (Achieve this by awarding manual frequent player points to players or by increasing frequent player points for games included in a tournament during the tournament period.)
- Tournament Mystery Jackpot. An extra prize for one of the participants in the tournament, a tournament mystery jackpot, will increase the numbers of participants in the tournament. All participants have the same opportunity to win this surprise prize. The winner is normally drawn in a lottery. (Achieve this by making a manual Cash or Bonus Money payment to the winner.)

Supported Languages

CasinoModule games are available in the following languages.

Use the following language codes when launching games and implementing different casino functions such as game history, and the leaderboard. The code must match one of the language codes listed below.

Language	Code
Brazilian Portuguese	br
Bulgarian	bg
Croatian	
Czech	
Danish	
Dutch	nl
English	en
Estonian	et
Finnish	fi
French	fr
German	de
Greek	
Hebrew	
Note:	
Hebrew language is not supported in Touch games.	
Hungarian	hu
Italian	it
Norwegian	no
Polish	pl
Portuguese	pt
Romanian	ro
Russian	ru
Simplified Chinese	cn
Slovakian	
Spanish	es
Swedish	
Turkish	

Supported Currencies

CasinoModule supports the following currencies. For further information about currency configuration, please contact support@netent.com.

ISO code	Description
ARS	Argentine Peso
AUD	Australian Dollar
BRL	Brazilian Real
BGN	Bulgarian Lev
CAD	Canadian Dollar
CHF	Swiss Franc
CNY	Chinese Yuan Renminbi
CZK	Czech Koruna
DKK	Danish Krone
EUR	Euro
GEL	Georgian Lari
GBP	British Pound
GHS	Ghanaian Cedi
HKD	Hong Kong Dollar
HUF	Hungarian Forint
HRK	Croatian Kuna
ISK	Iceland Krona
INR	Indian Rupee
JPY	Japanese Yen
LTL	Lithuanian Litas
MYR	Malaysian Ringgit
MXN	Mexican Peso
NOK	Norwegian Krone
NZD	New Zealand Dollar
PEN	Peruvian Nuevo Sol
PHP	Philippine Peso
PLN	Polish Zloty
RON	Romanian New Leu
RUB	Russian Ruble
SEK	Swedish Krona
SGD	Singapore Dollar
THB	Thai Baht
TWD	Taiwan Dollar

ISO code	Description
TRY	Turkish Lira
UAH	Ukraine Hryvnia
USD	US Dollar
ZAR	South African Rand