

Ticket-In Ticket-Out (TITO) and Card Based Cashless (CBC) Gaming in Gaming Venues

Technical Standards

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1. Introduction

- 1.1. The objective of the Ticket-In Ticket-Out (TITO) and Card-based Cashless (CBC) gaming technical standards is to specify sufficient requirements and controls to ensure:
 - the integrity and fairness of the system
 - security and auditability of the system and associated equipment
 - system reliability
 - that responsible gambling is fostered.

2. Document Purpose

- 2.1. This document specifies technical standards for the operation of cashless gaming – both TITO and CBC – on gaming machines operating in Victorian club and hotel gaming venues. These requirements have been determined by the Victorian Commission for Gambling and Liquor Regulation (the Commission) as technical standards under section 10.1.5B of the *Gambling Regulation Act 2003 (Vic)* (the Act).
- 2.2. This document, together with relevant legislation and regulations, is to be used by cashless gaming system providers, venue operators and Accredited Testing Facilities (ATFs) to determine and certify compliance of cashless gaming systems, including proposed variations to already-certified systems.
- 2.3. The document will also be used by the Commission to evaluate compliance when assessing cashless gaming systems for auditing and inspection purposes.
- 2.4. The document is supplementary to all other applicable standards, including standards for gaming machine types and monitoring.
- 2.5. Matters arising from the testing of gaming equipment which have not been addressed in this document (e.g. due to omissions or new technology) will be resolved at the sole discretion of the Commission.

Document Ownership

- 2.6. This document is published by the Commission.
- 2.7. Copying or reproducing this document (or any part of this document) for commercial gain, without prior permission is prohibited.
- 2.8. The Commission wishes to recognise and provide thanks to the Queensland Office of Liquor and Gaming Regulation (QOLGR) for providing the basis for the development of these technical standards.

3. Document Scope

- 3.1. The requirements in this document apply to all TITO and CBC gaming facilities implemented in club and hotel gaming venues in Victoria.

4. Out of Scope

- 4.1. These technical standards currently do not apply to:
 - cashless gaming at the casino (which is in place under other regulatory arrangements)

- the use of CBC wallets or TITO Tickets from one venue in another venue, even if owned by the same venue operator, which would need to be the subject of further arrangements¹ or
- use of decentralised cashless gaming systems where the critical data is carried only on the card or device and not on a central host computer (e.g. smart cards).

¹ Although loyalty and pre-commitment functionality on player cards work across venues, the CBC functionality currently does not.

5. Background Information

Legislation

- 5.1. The enabling legislation is the Act and the associated regulations. The requirements specified in this document are supplementary to and do not take the place of any of the requirements of the legislation or regulations. To the extent that anything in these standards is inconsistent with legislation or regulations, the legislation and regulations prevail in that order.

Components of a cashless gaming system

- 5.2. A cashless gaming system includes, but is not limited to, the following networked devices and documentation:
- a cashless gaming system server computer
 - equipment within gaming machines (subject to approval by VCGLR):
 - card readers in the case of CBC gaming
 - Ticket readers (usually bank note acceptors) and Ticket printers in the case of TITO systems and
 - any interface device(s) required to facilitate communication with the cashless gaming Server computer via the monitoring system (e.g. an interface device in a cashless gaming site controller)
 - equipment/devices required to adapt some EGMs to make them capable of cashless gaming
 - a cashier terminal²
 - a Credit Redemption Terminal (CRT) (optional)
 - system documentation: user documentation (instructions and procedures for technical support and operational staff), and information about network topology.
- 5.3. Some of the networked devices set out at 5.2 above are subject to prior approval (equipment installed in a gaming machine, or any elements that form part of the Central Monitoring and Control System (CMCS)), but all of them must be compliant with the relevant technical standards.

Implementation requirements

- 5.4. Venue operators must not install and operate a cashless gaming system unless:
- the system provider has shown evidence that the cashless gaming system has been independently tested and compliance of the cashless gaming system with legislation, regulations and standards, has been certified by an Accredited Testing Facility (ATF)
 - the certification specifies the components of the system that have been subject to testing and certification
 - the Monitoring Licensee has confirmed that interconnectivity and interoperability between the cashless gaming system and the CMCS has been certified by an ATF

² The cashier terminal is expected to perform a similar function (for TITO Tickets) to that currently performed by the Microlot terminal in respect of non-TITO Tickets, as well as functionality currently performed by terminals connected to back of house systems.

- the TITO/CBC system provider has confirmed that the TITO/CBC system Server will be able to generate all the required reports for TITO & CBC gaming, for the venue or for regulatory purposes
 - the in-venue components of the system are installed and maintained by a licensed Gaming Industry Employee (GIE) technician working for a company listed on the Roll of Manufacturers, Suppliers and Testers
 - contractual arrangements are in place, if necessary, between venue operators and system operators to ensure that Commission inspectors have access to all cashless gaming system components for audit and investigation purposes
 - contractual arrangements are in place between system operators and venue operators to ensure that system variations are only carried out following independent testing and certification of the changes by an ATF.
- 5.5. Any part of a cashless gaming system that is intended for installation in a gaming machine, must also be submitted to the Commission for approval either as part of a new gaming machine or as a variation to the particular gaming machine type pursuant to sections 3.5.4 or 3.5.5 of the Act respectively.
- 5.6. Other relevant technical standards, including the *Victorian Central Monitoring and Control System Requirements* and the Commission's standards for electronic gaming machine types and games are published on the Commission's website at www.vcglr.vic.gov.au. See Chapter 14 for a list of reference materials and relevant or related standards.

System Responsibilities

- 5.7. The following principles apply to the provision of TITO:
- The TITO system generates and records Authentication Codes, and is responsible for authorising or validating TITO Tickets after they have been input to an EGM, CRT or cashier terminal
 - All communication from a TITO System to EGMs is via the CMCS
 - The CMCS generates and records Authentication Codes for (non-TITO) hand pays which exceed TITO cash out limits, and, as per pre-TITO processes, is responsible for authorising or validating hand pays when they are claimed from the cashier.
- 5.8. The following principles apply to the provision of CBC gaming:
- CBC system creates and monitors cashless wallets, and records deposits and withdrawals made via the cashier, a CRT and at EGMs
 - The CBC system authorises payments from cashless wallets to EGMs
 - All communication from a CBC System to EGMs is via the CMCS
 - The CMCS generates and records Authentication Codes for (non-CBC) hand pays which exceed CBC cash out limits, and, as per pre-CBC processes, is responsible for authorising or validating hand pays when they are claimed from the cashier.
- 5.9. The CMCS continues to be responsible for maintaining limits on funds transferred to a gaming machine, which includes any cashless gaming transfers to a gaming machine.
- 5.10. Both the CMCS and the TITO/CBC systems must maintain logs of transactions in an accessible format (e.g. Word or Excel) for venue operators and the Commission.

6. General System Requirements

- 6.1. Cashless gaming systems – both TITO and CBC – must support a high level of:
 - security
 - integrity and
 - auditabilityand operate in a way that fosters responsible gambling.
- 6.2. Cashless gaming systems must be designed to comply with TITO or CBC gaming requirements in the Act, and any associated directions, standards or regulations. In particular, the systems must support transactional limits specified in the Gambling Regulations 2015. See Table 12.1 in this document for system-related transactional limits that apply in addition to those contained in other instruments.
- 6.3. Transactional limits must be controlled and administered by the CMCS and supported by the cashless gaming system. Such controls must be automated to prevent human error, and where limits are programmed into the CMCS and/or cashless gaming system, controls must ensure they are not changed without authorisation.
- 6.4. Cashless gaming systems must adopt security provisions that allow various levels of access to be authorised for restricted numbers of staff, and such arrangements must be documented. This must include provision for access by the Commission's inspectors to audit reports, and transaction data for inspection purposes.
- 6.5. The cashless gaming system database shall be designed such that no single point failure of any portion of the system would cause the loss or corruption of data. This may be achieved through data backup, redundancy or any other arrangement that demonstrates security of data.
- 6.6. The cashless gaming system database shall be designed such that all the critical information generated (Authentication Code, Ticket amount, status of the voucher, cashless wallet transactions, date and time of transactions) shall be stored such that it is not possible to alter this information once it is stored in the database, unless processes are implemented to provide for this by authorised personnel under specified circumstances, or for a legitimate status update, which is logged.
- 6.7. The cashless system must support signature checking of the cashless gaming server by the CMCS. This checking must be performed at least on the following instances:
 - when the communication between the CMCS and the cashless server is established (or re-established)
 - periodically at least once a day
 - on demand at any time.
- 6.8. The cashless gaming system must give visibility to the CMCS of each individual CRT and cashier terminal as a separate component of the cashless gaming system. Each component must have a unique identification which will allow the CMCS to associate logs with each device. The cashless gaming system must support signature checking of cashier terminals and CRTs by the CMCS. Note that, in addition, a cashless gaming system server may be designed to carry out its own signature checking and verification of cashier terminals and/or CRTs. Signature checking of the CRTs and cashier terminals must be performed at least on the following instances:
 - when the communication between the cashier terminal/CRT and the cashless system is established

- periodically at least once a day
 - on demand at any time.
- 6.9. A request for a signature check on a CRT or cashier terminal is to be sent from the CMCS to the cashless gaming system server. The server will carry out the signature check on the CRT or cashier terminal, and provide the results to the CMCS. The CMCS will verify the results against the expected signature. Any component that fails a signature check must be disabled by the server (at the request of the CMCS) until it passes the signature check. If the cashless gaming system server fails the signature check, the CMCS must cease transmitting TITO data until the problem is resolved. This means that the operation of cashless gaming will have limited functionality until the problem is resolved. Similarly, if any or all cashier terminals or CRTs in a venue fail the signature check, the cashless gaming system server must close those terminals down until the problem is resolved.
 - 6.10. In the event that cashless processes become unavailable in a venue, cashless systems and associated processes must provide for patrons to retrieve credits from gaming machines, via the use of hand pays.
 - 6.11. Sensitive data transmitted between modules of the cashless gaming system must adhere to current industry standards for data encryption.
 - 6.12. Cashless gaming systems must interface to an EGM through the CMCS of the Monitoring Licensee. The appropriate interface and specifications are to be determined by the Monitoring Licensee. Cashless gaming systems must be interoperability tested with the CMCS and tested end-to-end to demonstrate that they do not impede the ability of the Monitoring Licensee to monitor gaming machines or carry out other obligations required under its licence.
 - 6.13. The cashless gaming system shall be designed to ensure that a power loss or a restart of any node will not result in the loss of any financial information or result in the generation of duplicate transactions. Cashless gaming systems must also automatically restart after a loss of power without manual intervention, and without loss of data.
 - 6.14. Cashless gaming systems must protect the privacy of player funds.
 - 6.15. Cashless gaming system transactions must be reconcilable to transactional level data maintained on the CMCS. Systems must allow for commands initiated by the cashless gaming system to be traced to the response commands issued by the monitoring system to the gaming machine.
 - 6.16. Transactions must be auditable and be able to support the resolution of customer disputes. Audit reports with references to Authentication Codes should include only the last 4 digits for security reasons.
 - 6.17. The installation of the cashless gaming system components into gaming machines or other gaming equipment must not void the compliance of the equipment into which it is installed. The installation must have regard to any applicable standards and requirements under which the equipment was originally approved and all other original product certifications.
 - 6.18. Cashless gaming systems must not compromise an EGM's compliance with the current Commission standards for electronic gaming machine types and games (see Chapter 14).
 - 6.19. Cashless gaming systems must provide for accountable, transparent and auditable recording and reporting of transactions so as to enable the accurate calculation and reporting of gaming revenue, player payments, and any other financial information required for a venue to comply with its regulatory obligations (e.g. remittance of Unclaimed Winnings and/or Unclaimed Money to the State Revenue Office and to assist with banking requirements).

7. TITO-specific requirements

- 7.1. The Ticket-In (TI) functionality is equivalent to a player inserting cash. The Ticket-Out (TO) functionality is equivalent to a player pressing collect and collecting credits from the EGM. TITO Tickets can be redeemed for cash by presenting the TITO Ticket to the CRT or to the attendant at the cashier's desk or by inserting the TITO Ticket back into an EGM as credits.
- 7.2. TI may be facilitated by the EGM either by a dedicated TITO device or a bank note acceptor that can read TITO Tickets.

TITO-specific System Requirements

- 7.3. In the event any TITO records are changed, an automated audit log shall be generated to capture the changes to the following (at a minimum):
 - TITO Ticket Authentication Code
 - data element and value before change
 - data element and value after change
 - time and date of change and
 - identification of user who performed the change.
- 7.4. Authentication Codes must be 18 digits long.
- 7.5. Each TITO system must have an algorithm that generates a unique Authentication Code for each individual TITO Ticket. To ensure integrity, the algorithm used for the generation of the Authentication Code must ensure that Tickets produced by different TITO systems will not have the same Authentication Code and that part of the number is randomly generated to prevent prediction of numbers for fraudulent purposes. The Monitoring Licensee will oversee the implementation of an industry wide algorithm that ensures the generation of unique Authentication Codes, via its contractual arrangements with third party suppliers.
- 7.6. The TITO system shall have the capability to generate daily monitoring logs of user accesses and security incidents (e.g. unauthorised attempts to log in).
- 7.7. The TITO system must ensure that Tickets can only be redeemed once.
- 7.8. The Monitoring Licensee must also have the ability to provide transparent and auditable recording and reporting of transactions to assist venue operators and regulators should the need arise.
- 7.9. Authentication Codes pertaining to unredeemed Tickets in a production TITO system must be kept confidential to prevent fraudulent use of the Authentication Codes for forged Tickets. If access is possible, then the access must require a specific action (i.e. a password or key) on the part of at least two senior employees of the system operator (which could be the third party supplier or the venue operator). The only time the system may acknowledge an Authentication Code of an unredeemed Ticket is when the barcode is read on an unredeemed Ticket or input to the system.
- 7.10. A TITO supplier must cooperate with any audit, review or investigation carried out by the venue operator or the Commission in order to effectively resolve any dispute in relation to a TITO Ticket.

Ticket requirements and details

- 7.11. This section specifies requirements for TITO Tickets, including the Ticket size and minimum information that must be displayed on Tickets.
- 7.12. Tickets must be durable and resist fading or smudging, through the use of appropriate technology (e.g. top coated thermal paper or high quality thermal paper).
- 7.13. TITO Tickets must be designed to industry standard, being 156mm by 65mm.
- 7.14. The Ticket must be legible, and, aside from the Authentication Code and bar code, must have information printed in plain English.
- 7.15. The Ticket must be printed with a heading that uniquely identifies the Ticket for TITO purposes. e.g. The words “CASH OUT TICKET”.
- 7.16. The Ticket must include the following information:
 - venue name
 - unique identifier of the gaming machine that was used to print the Ticket. (If the Ticket has been printed by another device, such as a CRT or cashier terminal, it should include an appropriate unique identifier for that equipment as agreed with the Monitoring Licensee).
 - prominent display of the date and time-stamp at the time of printing. e.g. “Printed: dd/mm/yyyy hh:mm:ss AM/PM”). The time stamping shall be done using the local time, which must be identical to (or reconcilable with, allowing for transmission delays) the time recorded by the TITO Server for that particular Ticket. It must be possible to reconcile the details on a Ticket with the monitoring system credit collect details.
 - the Ticket value in dollars and cents and in a font larger than other text. e.g. “**Amount: \$1,234.56**”
 - a second method printed on the Ticket to verify the value of the Ticket. e.g. the amount of the Ticket in words
 - the Authentication Code sent by the TITO system as part of the approval of the Ticket-Out process.
- 7.17. The Ticket must be encoded with a machine-readable Authentication Code that must be secure and unique to each Ticket. See also paragraph 7.5.
- 7.18. The Ticket must include the following static gambling helpline information text (which may be pre-printed on TITO ticket on the left hand end (on either the thermal printed side or the reverse side) or any other message by agreement with the Commission:

“Gambling too much?
For free and confidential advice 24/7 call the Gambling Helpline on 1800 858 858 or visit gamblinghelponline.org.au”.
- 7.19. The Ticket may contain venue promotional or advertising information on the reverse side of the Ticket (non-thermal printing side), but care must be taken that such information must not contravene the requirements of section 3.5.34AA of the Act in relation to gaming machine advertising (e.g. the reverse side may contain an advertisement for the venue’s bistro).
- 7.20. Sample concept Ticket: The following image is a sample concept ticket only. Variations that adhere to above-mentioned principles are acceptable. If in doubt, refer to the VCGLR for advice.



- 7.21. “Short Pay Receipts” are a type of TITO Ticket and are to be generated, monitored and validated by the TITO system, when a CRT does not have the right change to redeem a TITO ticket for cash (see section 9.9). The CRT must request a short pay receipt from the TITO System, in the same way that an EGM requests an Authentication Code for a payout.
- 7.22. Any Short Pay Receipts generated by a CRT must be clearly marked “Short Pay Receipt” and “Please see Cashier”. These Tickets must not be able to be inserted into EGMs and used for credits. Short pay receipts may or may not contain a bar code. If they do, either the system must recognise them as a short pay receipt, and reject them when they are inserted in an EGM, or the bar code might be placed on the Ticket where it can only be read by a scanner at the cashier station.

Ticket-In

- 7.23. Ticket redemption on a gaming machine, CRT or cashier terminal shall only be possible when the TITO server has successfully validated the Authentication Code for the TITO Ticket.
- 7.24. Authentication Codes must be generated, and validation/authorisation must be provided, only by the TITO Server.
- 7.25. The TITO Server must verify the machine readable Authentication Code printed on the Ticket and log the “Ticket-In Request” to instigate authorisation for the amount on the Ticket.
- 7.26. If an EGM is not currently in a state to receive credit or the Ticket is invalid then the Ticket must be ejected back to the player.
- 7.27. A TITO Ticket must be rejected by the system if it will cause the EGM credits to exceed the accumulated credit value greater than the maximum credits allowed in a gaming machine. Once it is advised of the Ticket value, the CMCS is responsible for checking whether the EGM credits will exceed the accumulated credit value. If so, the CMCS is to instruct the EGM to reject the Ticket. The TITO Server is responsible for advising the CMCS if a Ticket is a “short pay” ticket generated by a CRT and the CMCS will advise the EGM to reject the Ticket, and the patron is to be advised to attend the cashier.
- 7.28. The TITO server shall provide the capability for the display of relevant informative messages whenever a player-initiated Ticket is being processed for payment. This

- message may be displayed on the EGM screen (via the CMCS) or on the Player Tracking Module (PTM) (via direct communication from the TITO server).
- 7.29. As a minimum the TITO system must have a method to prominently display a message on the EGM (via the CMCS), the CRT, Player Tracking Module (PTM) or the cashier terminal, with the reason for a rejected Ticket. A list of rejection codes is to be determined by the Monitoring Licensee in consultation with the Commission. These messages must be displayed for a reasonable period of time, must be legible and provide reasons in layman terminology.
- 7.30. The validation system shall update the Ticket status on the database during each phase of the redemption process. As a minimum, whenever the Ticket status changes, the following information shall be recorded:
- venue name
 - date and time of status change
 - Ticket status
 - Ticket value and
 - equipment ID (as recorded in the CMCS) of the EGM, cashier terminal or CRT that requested the validation.
- 7.31. The TI device must reject all other Ticket insertions until the current Ticket has been accepted or rejected (not accepted) or rejected (timeout). The current Ticket is to be held in escrow while processing takes place, as per QCOM protocol.
- 7.32. If a Ticket inserted in an EGM is authenticated, the TITO system must log the Ticket validation, and the CMCS must instruct the EGM to add the Ticket amount to the credit meter, and update all the applicable meters. The Ticket should be retained for collection in the EGM. An identical process should take place for a TITO Ticket inserted in a CRT, or scanned at the Cashier terminal, as applicable to that process, with appropriate logs retained.
- 7.33. The TITO Server must log an event should a Ticket printer error (as per QCOM specified Ticket printer errors) occur during the Ticket validation process.
- 7.34. The TITO system must have a provision to log all attempted TI Requests instigated on the system. This is known as the Cash Ticket-In Log. This log must include every new entry that has been verified by the TITO system including the following details as a minimum:
- venue name
 - time and date
 - amount
 - Authentication Code
 - Ticket type
 - equipment ID and
 - status.
- 7.35. The Cash Ticket-In Log must indicate a status for each transaction whether the Ticket-In Request is/was awaiting approval, denied, or approved.

Ticket-Out

- 7.36. Ticket printers must be installed safely and securely to prevent injuries to customers/attendants using the TITO device.
- 7.37. A TITO Ticket is printed by a Ticket printer when a player presses 'Collect' on the EGM or for a win payout that cannot be credited to the credit meter. A TITO Ticket should not be printed when a hand pay is required. A hand pay Ticket (cashier only) may be printed in the EGM when an attendant "keys off" for a hand pay.
- 7.38. The Ticket reader shall provide the capability for the display of relevant informative messages on the EGM or CRT whenever a player-initiated Ticket is being processed prior to printing. In particular, players must not be misled into thinking that nothing is happening and walk away from the machine before the Ticket is printed. This information can be displayed on the EGM screen or the PTM.
- 7.39. A TITO Ticket can be redeemed for cash or inserted into a gaming machine to convert the credits on the Ticket to credits on the gaming machine.
- 7.40. The unique Authentication Code to be printed on a Ticket shall be generated by the TITO Server.
- 7.41. The TITO Server shall only accept one (1) authorised Ticket per valid validation number, when a Ticket is being redeemed.
- 7.42. The TITO Server shall record the Ticket information correctly and store the Ticket information into the database.
- 7.43. The Ticket-Out system shall record all the details specified in the section "Ticket requirements and details" associated with the Ticket generated by any gaming machine.
- 7.44. At any given time, the TITO system shall be able to identify the status of a Ticket (e.g. Pending, Void, Paid, Unpaid, Locked) or any other relevant transaction status.
- 7.45. The TITO system must resume and recover upon any interruption; there must be no possibility of creation of orphaned Ticket (a Ticket that has been printed with an Authentication Code but does not exist in the TITO System) and the system must reconcile after any interruption, or at least log and report any anomaly.
- 7.46. It must be possible to log a fault with the CMCS Site Controller when the TITO system is interrupted during Ticket printing.
- 7.47. The TITO system must have a provision to log all attempted Ticket-out requests instigated on the system. This is known as the "cash ticket-out log". This log can be in any format but must be able to be viewed or printed and must include every new entry that has been verified by the TITO system including the following details as a minimum:
 - venue name
 - time and date
 - amount
 - Authentication Code
 - equipment Id
 - status.

Limits and controls

- 7.48. TITO tickets may be purchased from a cashier terminal or CRT. TITO systems and the CMCS must prevent the cashier terminal or CRT from producing a ticket in excess of that allowed by regulations.
- 7.49. TITO systems and the CMCS must be designed to allow for a maximum TITO ticket value, that can be printed by an EGM, above which cashing out is to be achieved by a non-TITO ticket, or hand pay, which must be redeemed either at a CRT or a cashier terminal. This must match, or be less than the value set in regulations. i.e. venues may wish to set their own hand pay requirements but these must be equal to or less than the limit set by regulations. Amounts above MAXTCASHIER must be taken to the cashier terminal.

8. CBC-specific requirements

Specific CBC gaming system requirements

- 8.1. CBC gaming systems must
 - allocate a unique account number for each cashless wallet
 - allocate a unique reference number for each card
 - keep records for reporting and auditing purposes (either hard copy or online) as required by any applicable legislation regulations, or standards
 - support other relevant legislative requirements, such as “know your customer/anti-money laundering” legislation
 - complement and support the CMCS’ control and monitoring of all cashless transactions in accordance with transaction limits set by regulations
 - produce all player, venue operator, and audit reports specified in this document
 - support an appropriate process to replace/refresh damage card, and
 - replace a lost card.

Cards

- 8.2. CBC gaming cards must be the same cards used for state-wide pre-commitment and loyalty schemes associated with gaming. Hence, technical requirements for CBC gaming cards are identical to those for pre-commitment.
- 8.3. Cards may be casual/anonymous or registered to a player. Every card must be linked to an account or “cashless wallet”, each with a unique identifier/account number.
- 8.4. If a CBC system is provided on a loyalty system the provider may use the loyalty identifier on the magnetic stripe to identify a player and their cashless wallet. Notwithstanding that the loyalty identifier may be used across different venues, the player must have a different cashless wallet in each venue. If the CBC system is not provided in conjunction with a loyalty system, or if the loyalty provider wishes to allocate a separate identifier for a cashless wallet, another track on the magnetic stripe must be used.

Cashless wallets

- 8.5. Both casual players and registered players must set up an account or cashless wallet if they are to use CBC gaming facilities.
- 8.6. The cashless wallet account must be stored on the CBC system and linked to the CBC gaming card.
- 8.7. Cashless accounts must be used only within the venue that issued the card and cashless wallet, although the card may be used for pre-commitment in other venues.
- 8.8. Access to registered player cards and wallets must be via a PIN, password, or other secure means. Casual players must be given the option of access to player cards and wallets with or without a PIN, password or other secure means of access. Processes must be implemented to reset PINs or passwords if they are forgotten. Players must be able to reset their own passwords and PINs. Cashiers must not have access to player PINs or passwords.

- 8.9. Registered players must have access to account statements to show cash-in and cash-out transactions, including:
- Time and date of transaction
 - Device identification (EGM identifier, cashier terminal and operator identifier, or CRT identifier)
 - Amount deposited or amount withdrawn from cashless wallet
 - Details where payment has been made by cheque, or electronic funds transfer.
- 8.10. Cashless wallets must not be allowed to have a negative balance. The transfer of funds from a cashless wallet to an EGM must not cause the balance on the cashless wallet to become negative, and the transferred amount must not cause the credits on the gaming machine to exceed an amount equivalent to [BNKTLIM] as specified in standards or an amount specified in regulations.
- 8.11. CBC gaming systems must provide for cashless wallets to have a maximum balance, above which further funds cannot be deposited at a cashier terminal or CRT. If the maximum has been set by regulations, venue operators may choose to implement either the regulated limit or a lower limit. Requests for a deposit that would take the cashless wallet balance above this limit must be declined.
- 8.12. When a CBC card is inserted in an EGM, the player is to be given a choice to transfer none, all or some of the funds in the cashless wallet to the EGM via the CMCS, subject to verification of the cashless wallet account balance by the cashless system.
- 8.13. When a player chooses to cease gaming on an EGM, by pressing the “collect” button or removing their CBC card, the EGM must immediately transfer all credits on the EGM to the cashless wallet (via the CMCS). This avoids a player leaving credits on an EGM. This does not over-ride the requirement for a hand pay, if the amount is above the hand pay limit or if the accumulated credits exceed MAXTCASHIER. If the gaming machine is not responding at the time the card is withdrawn, the system should credit the cashless account as soon as the gaming machine becomes responsive, or the CBC gaming system should be able to provide for, or account for, the player to be reimbursed via a hand pay.

Unclaimed Money and Unclaimed Winnings

- 8.14. CBC Systems must be designed to allow venue operators to extract reports to enable them to identify “Unclaimed Winnings” under the *Gambling Regulation Act 2003* or “Unclaimed Money” under the *Unclaimed Money Act 2008* at the appropriate time for submission to the State Revenue Office. The following is a guide to the obligation in respect of cashless wallets:
- **Registered cards and cashless wallets:** If a cashless wallet has been inactive for more than 12 months on 1 March in any year, the funds are considered to be Unclaimed Money under the *Unclaimed Money Act 2008*.
 - **Anonymous cards and cashless wallets:**
 - Balances are to be split into “accumulated credits” and “unaccumulated credits”. Unaccumulated credits result from a player putting a cash deposit into a cashless wallet. Accumulated credits result from transferring credits from a gaming machine back into a cashless wallet.
 - If an anonymous card cashless wallet has been inactive for 12 months on 1 March each year, the unaccumulated credits are to be treated as Unclaimed Money under the *Unclaimed Money Act 2008*. The accumulated credits are to be treated as Unclaimed Winnings under the *Gambling Regulation Act 2003*.

- 8.15. When players upload funds from a cashless wallet, the unaccumulated credits must be used first.

Limits and controls

- 8.16. CBC gaming systems and the CMCS must be designed to allow for the enforcement of limits and controls specified in relevant regulations.

9. Credit Redemption Terminals (CRTs) and cashier terminals

- 9.1. CRTs are approved self-service terminals, at which players may:
 - redeem TITO Tickets for cash
 - withdraw funds from a cashless wallet
 - deposit funds in a cashless wallet
 - check cashless wallet balances and/or print statements
 - break bank notes into notes of a lower denomination, or
 - print TITO Tickets after insertion of cash.
- 9.2. CRTs and cashier terminals must be connected to the CMCS via the cashless gaming system server. Although the cashless gaming system server controls cashless gaming transactions on cashier terminals and the CRTs, the CMCS must reflect such transactions for monitoring purposes in real time or near real time equivalent to that of EGMs.
- 9.3. CRTs and cashier terminals must have a unique identifier to be used by the TITO or CBC system and the CMCS, in order to identify transactions made at the terminal. The system must enable a log of such identifiers (to enable auditing and investigation of issues) to be retained and maintained by the venue operator in the event that terminals are replaced or shifted. Logs must be maintained on the cashless system and in the CMCS. It should be possible to reconcile a relatively recent CRT transaction log with CCTV footage of a patron using the CRT.
- 9.4. Cashier terminals must individually identify authorised users and have adequate password/PIN controls (individual identification and password/PIN for each authorised staff member).
- 9.5. Access to funds on a Registered Card at a CRT or cashier terminal must require the player to provide their PIN or password to the system.
- 9.6. The maximum Ticket value redeemable at a CRT must not exceed MAXTCASHIER. Venue operators may set their own limits above which players must attend a cashier, but those limits must not exceed MAXTCASHIER in accordance with regulations.
- 9.7. TITO systems must provide for a maximum ticket value that can be purchased at a CRT, which can be configured to match regulations or a lower amount.
- 9.8. CRTs and cashier terminals must be designed to enable testing upon installation. They must have inbuilt fault diagnostics and trigger alarm messages to the Server and/or the cashier terminal if a fault is detected by the system.
- 9.9. CRTs and cashier terminals must communicate in a secure manner with the cashless gaming system and the CMCS to validate and redeem Tickets, or pay out funds from a cashless wallet.
- 9.10. CRTs and cashier terminals must have system-based security provisions that detect tampering or misuse. Such controls are expected to complement physical supervision.
- 9.11. In situations where a CRT has insufficient funds to completely pay out a TITO Ticket, the CRT may issue a "Short Pay Receipt" (for the balance of the funds) for redemption at a cashier desk only. In the case of a cashless wallet, the player should be given a choice to take a partial cash-out, or cancel the transaction and attend the cashier.
- 9.12. A CRT must not provide any additional functionality relating to banking transactions i.e. ATM or EFTPOS functionality.

- 9.13. A CRT and cashier terminal audit screen must have the facility to display device software and firmware version identifiers and appropriate software validation for critical software and firmware used in the terminal.
- 9.14. As a minimum, the CRT must have a log of the last 100 TITO Tickets redeemed or printed, plus, in the case of CBC gaming, the last 100 payouts by account number.
- 9.15. CRT screens must provide messages and instructions in plain English. CRTs may be programmed to toggle to an alternative official language but must default to English after 60 seconds of inactivity. Testing of such CRTs must include certification that the alternative language is a true translation of the English message.
- 9.16. CRTs may display an Out of Order message on the screen as appropriate and when possible.

10. Reporting Requirements

- 10.1. TITO and CBC gaming systems must be able to generate reports for:
- patron statements (in the case of cashless wallet accounts)
 - venue operators
 - other regulatory bodies (as required), and
 - the Commission.
- 10.2. At a minimum, patron statements for card-based cashless patrons must contain, for any specified year, month or week:
- patron details (registered cards only)
 - cashless wallet account number or identifier
 - venue name
 - account balance at start, and account balance at end of period
 - total cash deposited during period
 - total funds downloaded to gaming machines during the period
 - total funds uploaded from gaming machines to a cashless wallet
 - CRT and cashier withdrawals
 - detailed breakdown of deposits, uploads, downloads and withdrawals by time and by equipment identifier.
- NB: the above statement might only be available for a casual card while the card remains active.
- 10.3. At a minimum, any TITO system must provide the capability for venue operators to generate the following reports:
- list of Tickets printed over any specified period of time by venue, by EGM, by self-service terminal or cashier terminal
 - list of Tickets redeemed over any specified period of time, by each EGM, by CRT and each cashier terminal (this can be reconciled with Tickets retrieved from EGMs or terminals or Tickets retained at the cashier terminal)
 - a report showing all transactions on the CRT over any specified period of time to enable reconciliation with cash and Tickets retrieved from the CRT
 - list of Tickets redeemed over a specified amount over any period of time (in particular, amounts of \$2000 or more in order to demonstrate that payment was made by cheque or EFT)
 - a report showing all expired Tickets at a given time
 - an audit trail report of transactional level logs to assist in dispute resolution
 - a Ticket liability report at a given time
 - a list of unclaimed Tickets that are more than 12 months old as at 31 March each year, to enable funds to be provided to the State Revenue Office (NB: this report must include **all** unclaimed Tickets, not just those over \$20).
- 10.4. The cashless gaming system shall produce an audit trail for every user login and logout, and this should be kept in the system Server with restricted availability to appropriate senior staff of the venue operator.

- 10.5. At a minimum, CBC gaming systems must produce the following reports for venue operators:
- status of CBC account balances at the venue at any point of time
 - for a specified period, total funds at the start, cash in and cash out during the period and funds remaining at the end of the period, broken down by account
 - for any specified period, funds in and funds out of a particular EGM, and for the venue as a whole
 - registered accounts with and without non-zero balances that have been inactive greater than any specified period of time at a specified point in time, in particular for 1 March each year
 - for inactive accounts at 1 March each year, balances are to be split into Unclaimed Money and Unclaimed Winnings as defined in Chapter 8.
- 10.6. Both TITO and CBC gaming systems must have a general reporting function that enables new or special purpose reports to be developed upon request of a venue operator or the Commission, based on data fields that are or reasonably could be expected to be configured in the system.

11. Other requirements

Additional legislative obligations

- 11.1. In conducting cashless gaming, venue operators must also be aware of other legislative obligations, including but not limited to:
- *Financial Transactions Act 1988 (Cth)*
 - *Privacy Act 1988 (Cth)*
 - *Unclaimed Money Act 2008 (Vic)*.

Changes to systems

- 11.2. Any variation to a cashless gaming system must be tested by an ATF to ensure ongoing compliance with this standard.
- 11.3. In addition, changes to equipment located on or in a gaming machine are subject to approval pursuant to section 3.4.5 of the *Gambling Regulation Act 2003*.

12. Cashless gaming limits

- 12.1. Cashless gaming limits set in TITO or CBC systems and the CMCS must enforce and support compliance by venue operators with transactional limits set in the Act, Ministerial Directions and Standards, and the relevant documents should be referenced when testing such systems. The following additional transactional limits should be set by the system.

Table 12.1

Parameter	Limit
Minimum time a Ticket is redeemable for use in a TITO device attached to a gaming machine or a CRT (MINTRTIME)	24 hours
Maximum time a Ticket is redeemable for use in a TITO device attached to a gaming machine or a CRT (beyond this time it must be taken to the cashier)	30 days
Maximum time that a cashless wallet or card may be inactive before venue operator suspends account and forwards funds to State Revenue Office.	12 to 24 months: As at 31 March each year, any funds in an inactive account that is more than 12 months old must be paid to the State Revenue Office
Minimum time that a cashless wallet or card may be inactive before the venue may suspend the card and/or account (and direct the player to the cashier) Note: Venue Operators may suspend cards and/or accounts at any time for an excluded or barred patron.	Registered Card: 6 months Casual Card: 24 hours.

13. Glossary

Acronyms/Glossary	Description
Accumulated credits	Applies to cashless wallets associated with anonymous/casual player cards: that part of the cashless wallet balance that has been downloaded from credits on a gaming machine, (regardless of how the credits were accumulated on the gaming machine) (see also, "Unaccumulated credits).
ATF	Accredited Testing Facility, a Roll Listee with national accreditation for approval of gaming machine types and games.
Authentication Code	A unique number that is printed on a TITO Ticket, which is also stored in the TITO Server for validation and redemption.
BKNTLIM	As specified in the Commission Standards, the maximum credit balance which may exist on a gaming machine or account beyond which a note acceptor must be disabled due to a High Credit Balance condition. Further input from TITO tickets or cashless wallets is also not allowed once BKNTLIM has been reached.
Cashier Terminal	A TITO validation terminal or CBC terminal operated by a cashier, and connected to the cashless gaming system, usually in a venue's cashier booth.
Cashless gaming	The ability to input and collect credits to or from a gaming machine without using cash – includes TITO and CBC gaming.
Cashless wallet	A cash account linked to a CBC card. It may be registered to a person (Registered Card), or anonymous (Casual Card).
Casual card	A card that is associated with a player whose details have not been registered against the cashless wallet or the card.
CBC	Card based cashless gaming: the use of a card to input and collect credits to or from a gaming machine. The credits are drawn from a "cashless wallet", an account associated with the card.
CMCS	Central Monitoring and Control System, the system used by the Monitoring Licensee to monitor games and machines in Victorian club and hotel venues.
Commission	See VCGLR
Credit Redemption Terminal (CRT) a.k.a. Cash Redemption Terminal	A self-service terminal which redeems TITO Tickets for cash, or vice versa, or enables a CBC customer to input or withdraw cash to or from their cashless wallet. To do so, it must be connected to, and in communications with, the TITO Server or Cashless Gaming System, and the CMCS must allocate a unique identifier to the CRT. The terminal may also provide note breaking functionality.
CRT	See Credit Redemption Terminal
EGM	Electronic Gaming Machine
MAXTCASHIER	An accumulated credit limit, above which cash out must cause the player to attend the cashier, and be paid by cheque or EFT (where there is a 24-hour delay on receiving funds in their account)
MONITORING LICENSEE	The organisation appointed by the Minister to conduct monitoring of gaming machines in Victorian clubs and hotels, currently Intralot Gaming Services Pty Ltd.
PTM	Player Tracking Module
Registered Card	A card that, together with the cashless wallet, is associated with a particular player, whose details are recorded on the CBC system.

Acronyms/Glossary	Description
Server	Central, host computer, responsible for controlling and monitoring cashless gaming transactions. The computer may be located at back of house in a venue, or at a third party's premises.
Short Pay Receipt	A Ticket produced by a CRT when the CRT has insufficient notes or change to pay the whole value of a Ticket that a patron is attempting to redeem for cash. For example, if a patron redeems a Ticket to the value of \$23.50 at a CRT, but the CRT has \$20 notes, and \$2 coins but not smaller change, the CRT may dispense \$22 in cash as well as a "Short Pay Receipt" for \$1.50 which the patron may take to the Cashier.
TI	Ticket-In
Ticket	TITO Ticket, Hand pay Ticket, or short pay Ticket. If not stated otherwise, in this document, "Ticket" refers to a TITO Ticket.
Ticket-In	The process of a player inserting a TITO Ticket into an EGM via the barcode reader.
Ticket-Out	The process of an EGM printing a Ticket rather than presenting a player with cash when the player presses the collect button. This may or may not be a TITO Ticket. A non-TITO Ticket out Ticket must be taken to a cashier to redeem for cash.
TITO	Ticket-In Ticket-Out, a form of cashless gaming.
TITO Server	The computer that controls and logs all TITO transactions in a venue. It is responsible for generating and recording the unique Authentication Code on each TITO Ticket.
TITO System	The combination of relevant equipment and software in an EGM, the monitoring system, and third party systems involved in TITO transactions, monitoring and control.
TITO Ticket	A Ticket printed by a gaming machine when a player presses "collect", or by a CRT or cashier terminal. TITO Tickets can be redeemed for cash at the cashier terminal, or at a CRT. TITO Tickets can be redeemed for machine credits by inserting them in another gaming machine. All TITO Tickets have a bar code and a unique Authentication Code.
TO	Ticket-Out
Unaccumulated credits	Applies to cashless wallets associated with anonymous/casual player cards: that part of the cashless wallet balance that was deposited by cash, but has not yet been uploaded to a gaming machine, or withdrawn as cash. (see also, "Accumulated credits")
Unclaimed Money	As defined in section 3 of the <i>Unclaimed Money Act 2008</i> . Note the different definition for "Unclaimed Winnings".
Unclaimed Winnings	As defined in section 3.6.13 of the <i>Gambling Regulation Act 2003</i> . Note the different definition for "Unclaimed Money".
VCGLR	Victorian Commission for Gambling and Liquor Regulation

14. Reference material

Bibliography	Author	Location
<i>Commission Standards for Gaming Machine Types and Games</i>	The Commission	www.vcglr.vic.gov.au (see technical standards page)
<i>Gambling Regulation Act 2003</i>	State Government	www.legislation.vic.gov.au/
<i>Gambling Regulations 2015</i>	State Government	www.legislation.vic.gov.au/
<i>Gambling Regulation (Pre-commitment and Loyalty Scheme) Regulations 2014</i>	State Government	www.legislation.vic.gov.au/
<i>Ticket-In Ticket-Out (TITO) and Card Based Cashless (CBC) Gaming in Gaming Venues – Operational Requirements</i>	The Commission	Being drafted in parallel with this document. TRIM Ref CD/17/18569
<i>Victorian Central Monitoring and Control System Requirements Document 31 January 2012</i>	The Commission	www.vcglr.vic.gov.au (see technical standards page)
<i>Victorian Player Account Equipment Technical Requirements Document Dec 2016 Version 2.0</i>	The Commission	www.vcglr.vic.gov.au (see technical standards page)

15. Document information

Document details

Criteria	Details
TRIM ID:	CD/17/15718
Document title:	Ticket-In Ticket-Out (TITO) and Card Based Cashless (CBC) Gaming in Gaming Venues
Document owner:	Director, Licensing

Version control

Version	Date	Description	Author
V0.1	11/08/2017	Removal of Operational Requirements to a separate document. Hence this document becomes Version 0.1 of the Technical Standards. (with a new TRIM Ref number)	Steve Thurston, VCGLR
V0.2	12/10/2017	Collation of comments and edits from industry into red line version: comments ranged from typographical/editorial suggestions to requests for clarification of responsible parties (e.g. division of responsibility between CMCS and cashless gaming systems), clarification of security requirements and issues with the application of national standards for quality and security that are onerous.	Steve Thurston, VCGLR
V0.3	17/11/2017	Refinement of text to accommodate feedback and removal of redline to produce a clean copy	Steve Thurston, VCGLR
V0.4	30/01/2018	Further amendments based on technical discussions with Monitoring Licensee and an ATF submission	Steve Thurston, VCGLR
V0.41	24/04/2018	Stylistic changes to accommodate late 2017 changes in regulations	Steve Thurston, VCGLR
V0.5	06/12/2018	Section 7.9 (sample concept ticket) clarified. Change to section 8.8 to make PINs on casual cards a player option.	Steve Thurston, VCGLR
V1.0	30/01/2019	Removal of "Draft" watermark, acceptance of changes in V0.5, for publication.	Steve Thurston, VCGLR

Document approval

This document requires the following approval:

Name	Title	Organisation
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Ross Kennedy	For, and on behalf of, the Commission	VCGLR

NB: This standard must be made or varied with the approval of the Minister.

Audience

The audience for this document includes venue operators, third party system providers, gaming equipment manufacturers, the Monitoring Licensee and Commission staff to guide the implementation of TITO and CBC gaming.