



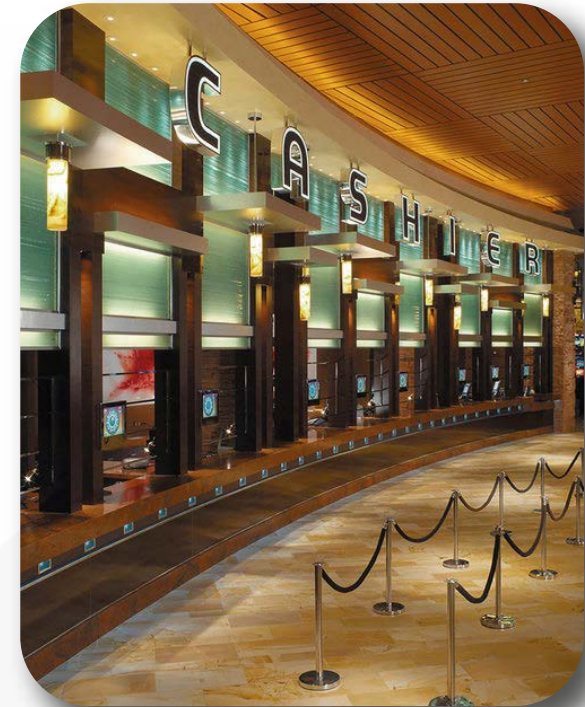
Perfect Cage™

POWERED
BY **PJM3.0**

Perfect Cage™

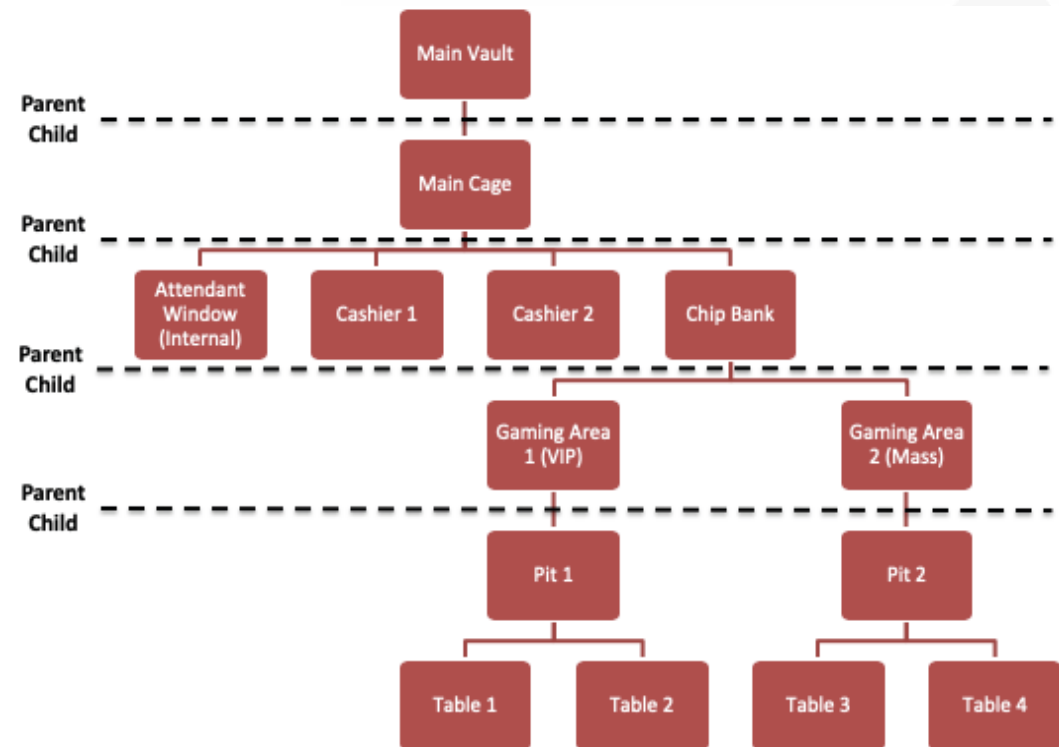
Perfect Cage is a comprehensive solution supporting visibility and liability reporting across cage locations including vaults, banks, and cashier windows as well as cage and table chip transactions and inventories.

End-to-end traceability and real-time chip verification create dramatic efficiencies for fills, credits, and chip transfers as well as fast and secure transactions.



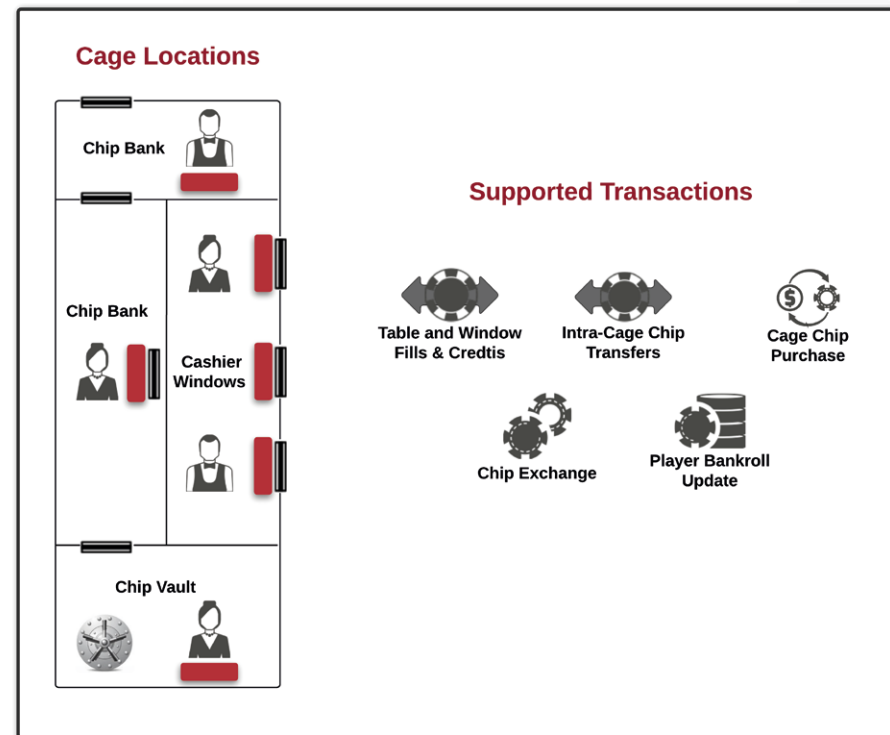
Flexible Operational Configuration

- ◆ Multi-site support
- ◆ Any configuration of Vaults, Cages, and Cashier locations
- ◆ User-defined location names and transaction types per location and between locations
- ◆ Configurable security profiles per role: Manager, Cashier, and Carrier (for table fill/credits)



Supported Locations and Transactions

- ◆ Transaction logging and reporting
 - ◆ Table fills and credits
 - ◆ Cashier to Chip Bank fills and credits
 - ◆ Chip transfers between locations
 - ◆ Player buy in, change, cash out at Cashier locations



Options and Features

- ◆ **Perfect Counter™**
Deploy real-time chip verification across cashier transactions at cage windows
- ◆ **Cage Inventory Management**
Configure cage locations, execute transfer transactions, and track inventory levels and variances with missing chip details using RFID to RFID verification between locations
- ◆ **Chip Lifecycle Management**
Lifecycle tracking from receiving through destruction as well as real-time liability reporting
- ◆ **Chip Enforcer™**
Flag chips part of an unauthorized or improper transaction, suspicious transaction, or theft
- ◆ **Chip Ownership**
Report chip liability by player, flag player-owned chips, and associate cage transaction to players and individual chips
- ◆ **Integrated Fills and Credits**
Link to Perfect Pay and other table products (described below) for integrated fills and credits with optional table inventory alerts
- ◆ **Integration Options**
Integrate data, events, transactions, and alerts to treasury, player management and other casino management, surveillance, financial, reporting, and AML systems

Unique Perfect Cage Benefits

- ◆ Provide physical verification of individual chips by UUID sent and received between cage and casino locations
- ◆ Increase table uptime by increasing the speed of fills and credits using RFID validation between locations
- ◆ Increase chip security using system verified tracking and timing from transaction request to completion, reducing opportunities for collusion
- ◆ Ensure that chips are never delivered to the wrong location
- ◆ Existing manual procedures for fill and credits are reduced at both cage and table locations, increasing transaction speed with the removal of manual chip counts and verification against paperwork
- ◆ Improve the ability for compliance to audit and track fills and credits in progress and completed
- ◆ Significantly reduce the time required to count down cage areas at the end of a shift
- ◆ Produce a chip liability report directly from the system based on chip inventory management by location

Other Product Highlights

Protection from counterfeit chips

Enhanced AML support

Protection from Counterfeit Chips

- ◆ Perfect Cage™ is secured against counterfeits by pairing the PJM™ RFID unique chip identification with a secure, encrypted database of the casino's valid RFID chips
- ◆ A single, encrypted master list of all chips purchased by an operator is used to ensure the integrity of the currency supply
- ◆ Every chip detected at any table or cage location within the Perfect Cage™ network is verified against this Secure System Chip Cache (SSCC) ensuring there is no point of vulnerability

Enhanced AML Support

- ◆ Automatically aggregate cash transactions by player across cage and table locations
- ◆ Alert on aggregate cash transactions at configured thresholds
 - ◆ *Buy in threshold by total value and number of transactions*
 - ◆ *Cash out threshold by total value and number of transactions*
 - ◆ *Apply rules to combine threshold for buy in and cash out*
 - ! Example one: Casino threshold of buy in and cash out greater than 1,000 within 5 hours
 - ! Player A has buy ins of 500, 200, and 350, with cash out of 500, 400, and 200 within 3 hours
 - ! Transactions are flagged when criteria are met that triggers alert and API notification
 - ! Example two: Casino threshold is any total buy in of 2,500 within 48 hours
 - ! Player B has buy ins of 500 at cashier 1, 600 at table 2, 800 at table 3, 900 at cashier 2
 - ! Transactions are flagged when aggregate buy in threshold is met that triggers alert and API notification

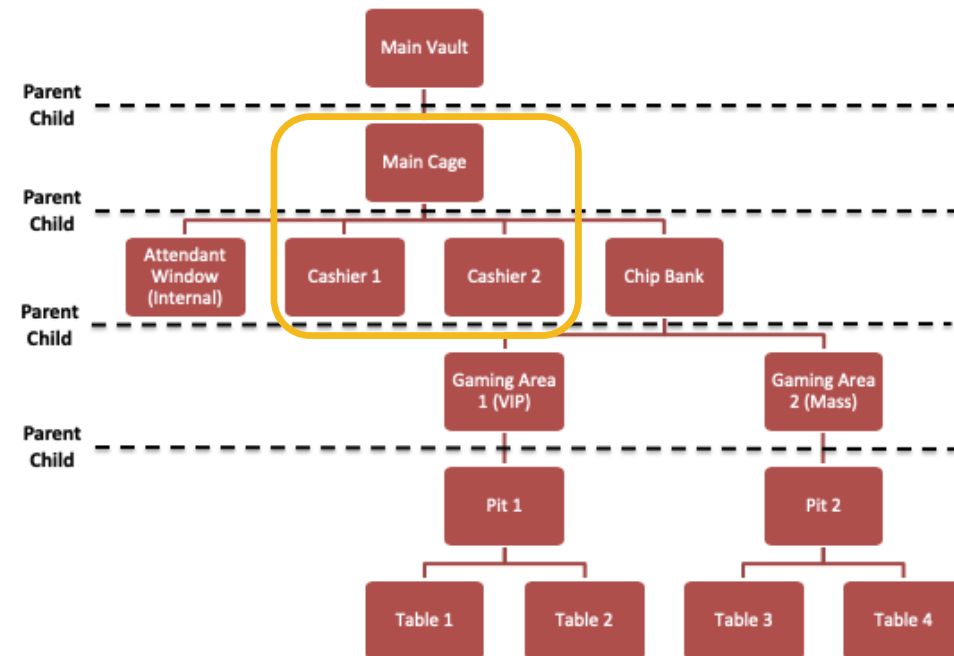
Perfect Counter™

The Perfect Counter cage option displays the chipset, count, and value of chips read on a cashier, bank or vault location when chips are placed on a connected antenna.

Every chip is verified against the secure list of all chips owned by the operator as well as based on configured values per location for Chipset, Casino ID, Site ID, and Negotiability.

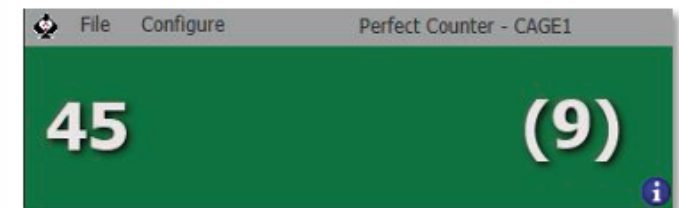
Verify Chips Across Cage Locations

- ◆ Configure Cage and Cashier Locations
- ◆ All chips sighted are either verified, or alerted as invalid against the Secure System Chip Cache

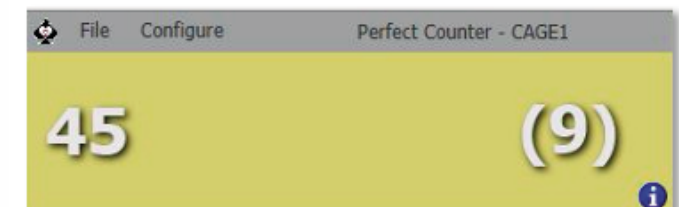


Verify Chips Across Cage Locations

- ◆ Perfect Counter displays the count and value of chips read in a window on a user's desktop when the chips are placed on a connected antenna
- ◆ More detail including denomination, chip count, value, currency type, chip set name, casino, site, negotiability and valid/invalid status is available



A green background means that all chips are known and valid.



A yellow background indicates that chips known but invalid at the location are present.



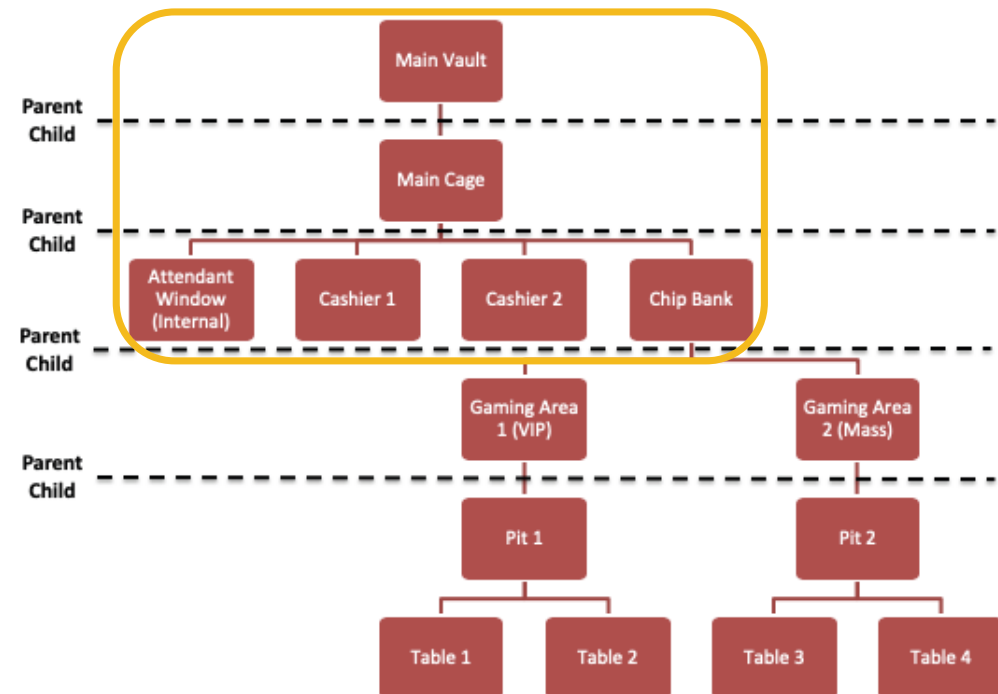
A red background indicates that an unknown chip is present.

Cage Inventory Management

Perfect Cage supports RFID inventory management for all cage locations with flexible configuration for single or multi-cage operations. Both RFID enabled and non-RFID locations are supported at both table and cage locations are supported at both table and cage locations. UI views are customized for Cage Management, Cashier, and Chip Bank locations.

Flexible Cage Configuration

- ◆ Multi-site support
- ◆ Configure multiple Vaults, Cages, and Window locations
- ◆ Location names are configurable and hierarchically related
- ◆ Location relationships define which locations can request and/or receive transactions from other locations
- ◆ Set allowable chipsets per location
- ◆ Set allowable transaction types per location
- ◆ Set shift start and end times for location inventory updates and reporting by shift



Treasury Manager - Chip Inventory View

- ◆ View and report inventory by location, status, shift, chip set, currency and denomination
- ◆ Chip liability report updated as inventories update

Home

Total Chips

Treasury Manager

GAMING DAY

ROLL TIME

18-Feb

PP Master

INVENTORY

3,000,000,000

FILLS

50 (5,000,000)

CREDITS

50 (5,000,000)

TRANSFERS

50 (5,000,000)

BUYINS

50 (500)

CASHOUTS

5 (500)

CHANGE

20 (30,000)

99

9999

Site

All

Location

Treasury

Status

All

Cage

All

Shift

All

Chip Set

All

Currency

All

Denomination

All

CHIPSET	COUNT	VALUE
Chip set 1 (HKD)	65	150,000,000
Chip set 1 (MOP)	10	20,000,000
Chip set 3 (MOP)	10	5,000,000
Chip set 4 (MOP)	23	2,500,000
Chip set 5 (HKD)	17	1,500,000
Chip set 6 (MOP)	33	1,500,000
Chip set 7 (HKD)	21	500,000
Chip set 8 (HKD)	15	150,000
Chip set 9 (HKD)	10	55,000
Chip set 10 (MOP)	20	24,000

DENOMINATION	COUNT	VALUE
10,000,000	5	50,000,000
5,000,000	10	50,000,000
1,000,000	50	50,000,000

Grand Total

234

34,765,800

Cashier View - Buy In

FILL REQUESTED

IN-TRANSIT

14:43

10,000,000

Cashier

Alerts

Shift

08-Jan

Select Buy In Type

Cash

Associate

Player

Agent

Total Value

500,000

CHIP SET

Chip-Set_1_1_1_1_Cash

DENOMS	COUNT	VALUE
10,000	50	500,000
TOTAL	50	500,000

Cancel

Confirm

BUY INS

CASH OUT

CHANGE

FILLS / CREDITS

INVENTORY

TRANSACTIONS

CAGE > CASHIER-WINDOW-1 | 18-DEC | 22:38 | NIGHT SHIFT

GUPTA, AMIT (123001)

Cashier View - Quick Change

FILL REQUESTED

14:43

IN-TRANSIT

10,000,000

Cashier Window

Alerts

Shift

08-Jan

CHIPS IN

Place Chips on Antenna

CHIPS OUT

Cancel

Confirm

BUY INS

CASH OUT

CHANGE

FILLS / CREDITS

INVENTORY

TRANSACTIONS

CAGE > CASHIER-WINDOW-1 | 18-DEC | 22:38 | NIGHT SHIFT

GUPTA, AMIT (123001)

Chip Lifecycle Management

Perfect Cage ensures global chip inventory management with Chip Lifecycle Management. The chip lifecycle starts with check-in to verify new chip orders against a secure chip cache of valid chips.

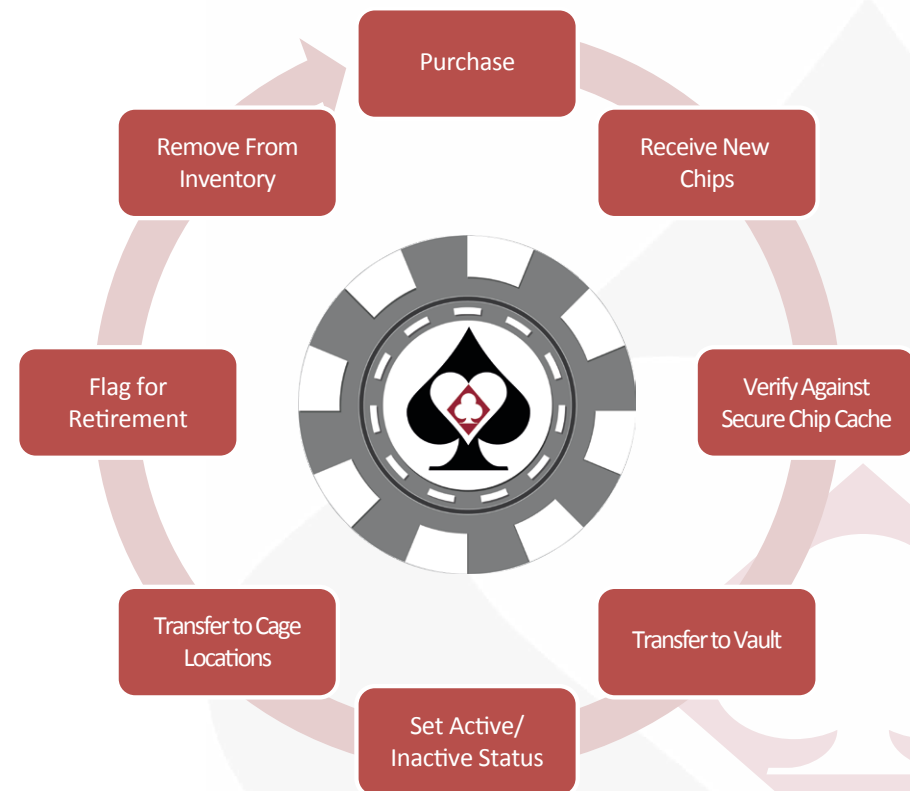
Chips not in the cache are automatically alerted as invalid providing protection against counterfeit chips. Each chip status determines allowable transactions and inclusion in liability reporting.

Chip Lifecycle Management

◆ Chip states:

- ◆ *Pending – Not verified*
- ◆ *New – Verified but not added to an inventory location*
- ◆ *Inactive – Not transactable*
- ◆ *Active – Transactions allowed*
- ◆ *Retired – Not transactable, not in liability*
- ◆ *Removed – Not transactable, not in liability*

◆ Set optional chip flags with Chip Enforcer™ (i.e. Suspect, Stolen)



Real-time Chip Liability Reporting

Chip Liability = verified inventory – last cage inventory update – last table inventory update

- ◆ Report by Chip Lifecycle Status (i.e. active, inactive, retired)
- ◆ Counts by location on demand at opener/closer/shift change/gaming date roll
- ◆ Drill down by casino, currency, negotiability, chipset, chip ID and chip ownership (if using)
- ◆ Automated updates after every cage and table transaction (with table integration)
- ◆ See outstanding liability by patron to see top chip holders and patron chip walking
- ◆ Identify potential AML risks

Chip Enforcer™

Chip Enforcer allows an operator to identify and flag individual chips or groups of chips by their unique ID that are part of an unauthorized or improper transaction, a suspicious transaction, or a chip theft. After a flag is activated, the operator is notified when the chips are seen again at a table or cage location. A chip flag can trigger a range of enforcement options from making the chips invalid so they may not be wagered or cashed out, to a silent notification sent only to authorized security or surveillance users.

Chip Enforcer™ - Manage Chip Security

- ◆ Automatically identify chips that are missing, part of an overpayment, or part of a suspicious transaction
- ◆ Manually or automatically flag these chips as Not Playable, Invalid, Cage Exchange Required, or Stolen
- ◆ Search for individual Chip IDs
- ◆ Compare specific “before and after” table inventory scans to identify stolen ships
- ◆ Use Chip Enforcer™ to alert for AML issues such as:
 - ◆ *Cash buy in and cash out with no play, and*
 - ◆ *Enforce photo ID on file or cash out or buy in at configured thresholds*

Chip Enforcer™ - Manage Chip Security

g1 ga oa p1

Casino Manager

Gaming Day 12-Mar-20
Roll Time 00:00
12-Mar role, test 09:54

< PIT1

Open Tables 1/1

Utilization (%) 11

Casino W/L (465)

Theo Win 15

Hold (%) (52)

Total Buy In 900

Avg Bet 93

Handle 1,300

Rated Play (%) 0

17

6060

1

Tables

Players

Performance

Manual Ratings

Opener/Closer

Chip Security

Search Chip ID

-Action-

Submit

Compare Scans >

Missing Chips 3 Missing Chips

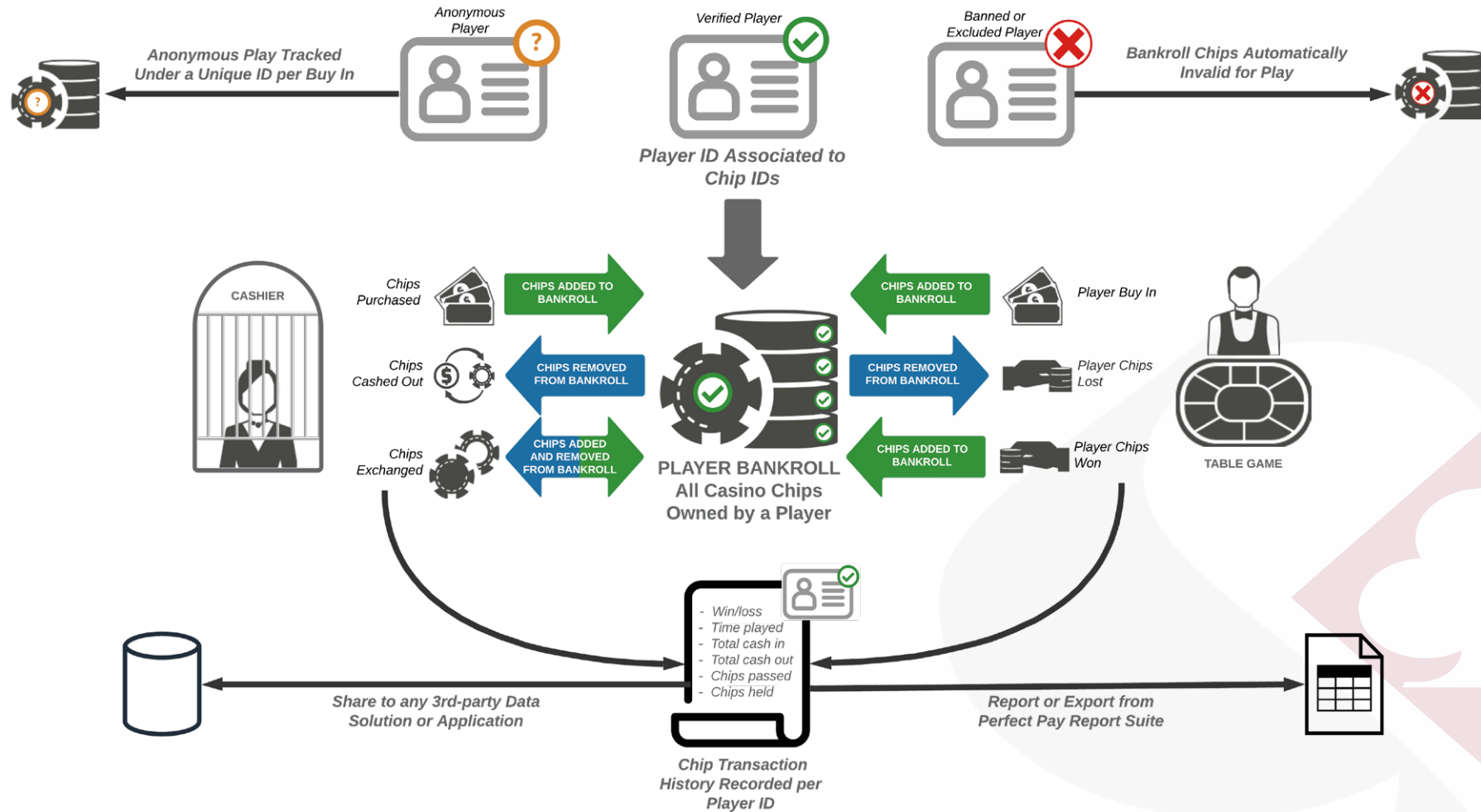
Filters

<input type="checkbox"/> Chip Set	Chip ID	Denomination	Missing From	Missing Event	Scan Type	Missing Date & Time	Supervisor	Dealer	Action
<input type="checkbox"/> DEF_24_1_1_9_CASHABLE	e0054001804f900a	5	Tab1	Missing from chip tray	Manual	12-Mar-2020 09:51	Master, PP (0)	Master, PP (0)	Select
<input type="checkbox"/> DEF_1_1_1_1_CASHABLE	e04ff0010014aae4	5	Tab1	Missing from chip tray	Manual	12-Mar-2020 09:51	Master, PP (0)	M	<div> <div>Not Playable</div> <div>Cage Exchange</div> <div>Stolen</div> <div>Valid</div> </div>
<input type="checkbox"/> DEF_24_1_1_9_CASHABLE	e0054001804fba66	100	Tab1	Losing Chip Missing	End of Game	12-Mar-2020 09:42	Master, PP (0)	M	

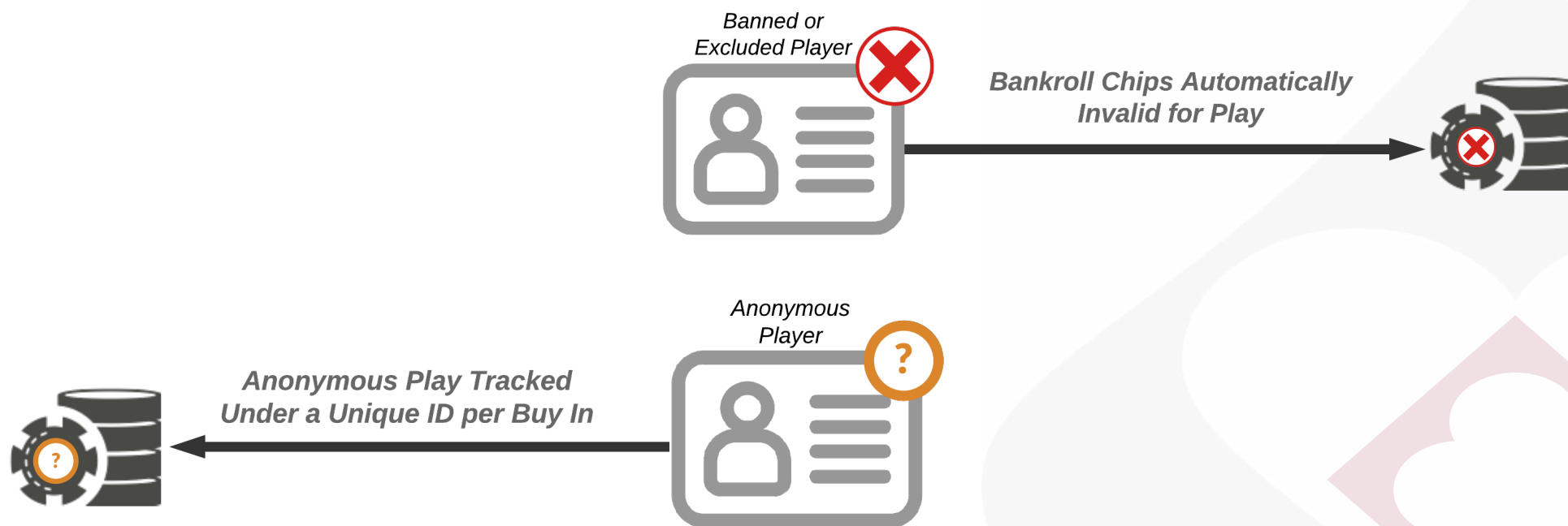
Chip Ownership

Chip ownership automatically and exactly tracks player chip transactions by known and anonymous players at table and cage locations. Chip ownership data is updated in real time when chips are purchased, cashed out, exchanged, won, or lost.

Chip Ownership and Bankroll Tracking for Known Players



Anonymous Bankrolls and Banned/Self-excluded Players



Chip Ownership at the Cage

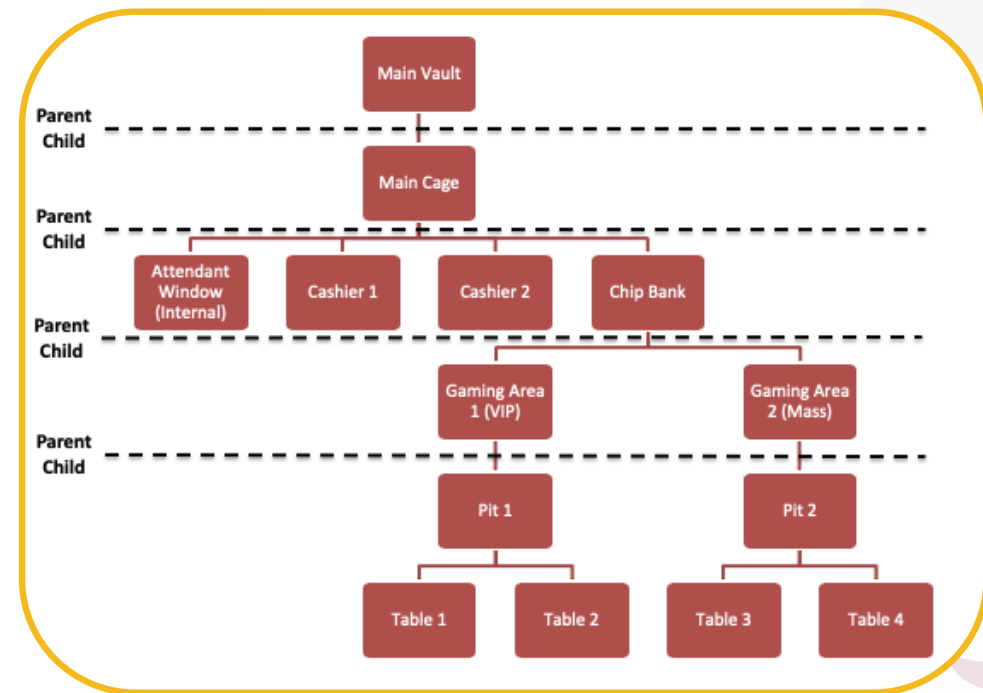
- ◆ Identify chips as Player owned or casino owned
 - ◆ *Improves liability reporting*
 - ◆ *Supports automated and streamlined transactions at the cage*
- ◆ Associate cage transactions to known and unknown players
 - ◆ *Known players are associated to a CMS ID*
 - ◆ *Unknown players are assigned a unique ID*
- ◆ Flag chips owned by specific players to enforce business rules
 - ◆ *Flag chips owned by banned, barred or self-excluded players as invalid*
 - ◆ *Flag chips involved in suspect or incorrect transactions for return to cage (i.e. no ID on file, stolen)*

Integrated Table Fills and Credits

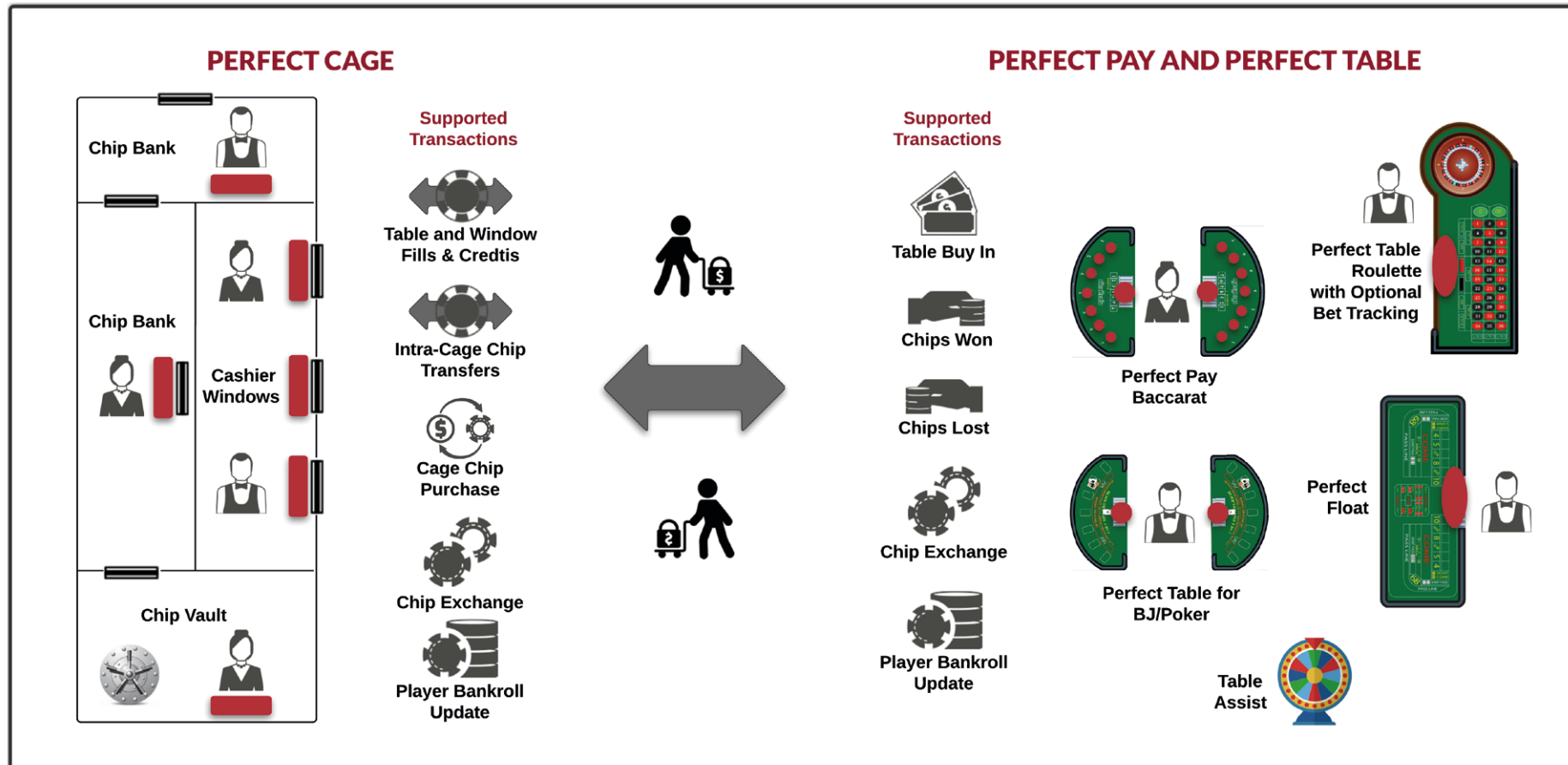
Fills and credits are supported between Chip Bank and associated table locations. Multiple table types are supported including Perfect Pay, Perfect Table, and Table Assist supported games. Fill and Credit transactions are timed and tracked by status and location. Integration to table and treasury systems is available.

Smarter Fills and Credits

- ◆ Configure both Cage and Table locations
- ◆ Chip IDs sent and received are verified against the chip transaction record
- ◆ Alert table personnel for suggested fills and credits with one-tap request submission per configured inventory levels
- ◆ Set a timer for the completion of fills and credits and alert when exceeded with option to disable chips
- ◆ Automatically invalidate fill/credit chips that fail to reach their destination, so they are not playable or cashable
- ◆ Fills received at the wrong location are immediately identified

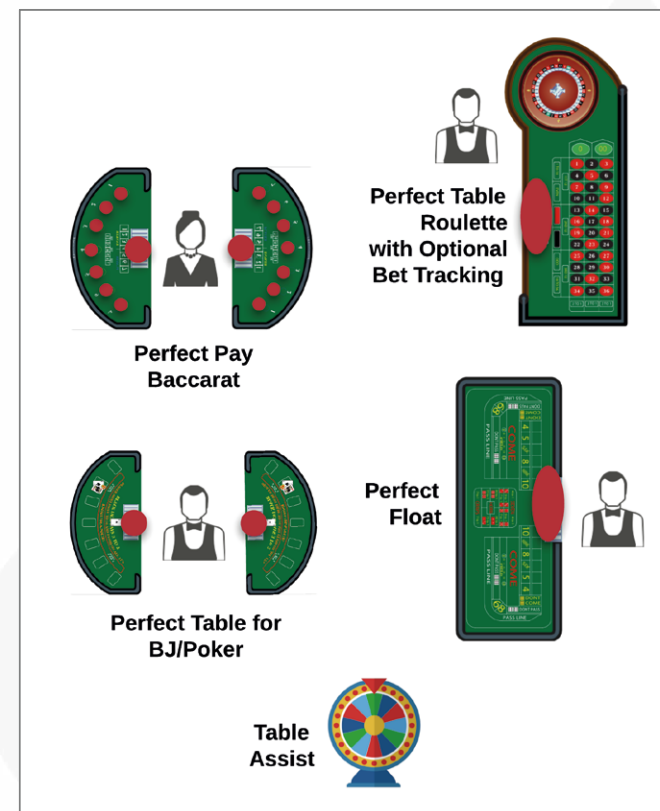


Integrating Cage and Table Operations



Supported Table and Game Types

- ◆ **Perfect Pay Baccarat**
 - ◆ *RFID chip tray, Dealer Antenna, Dealer Display*
 - ◆ *Bet tracking*
- ◆ **Perfect Table for BJ/Poker**
 - ◆ *RFID chip tray, Dealer Antenna, Dealer Display (in Beta)*
 - ◆ *Bet tracking (planned)*
- ◆ **Perfect Table for Roulette**
 - ◆ *Chip inventory management (planned)*
 - ◆ *With or without bet tracking (planned)*
- ◆ **Perfect Float**
 - ◆ *Chip inventory tracking for a non-chip tray location (i.e. craps, planned)*
- ◆ **Table Assist**
 - ◆ *Manual inventory and table management support (i.e. carnival game, planned)*



Integration Options

Integrate data, events, transactions, and alerts to treasury, player management and other casino management, surveillance, financial, reporting, and AML systems.

Share Data Across the Enterprise

- ◆ Inventory levels and updates per location
- ◆ Cage transaction status
- ◆ User actions
- ◆ Events and alerts:
 - ◆ *Fill or Credit not received*
 - ◆ *Fill or Credit required*
 - ◆ *Banned player at cashier location*
 - ◆ *Aggregate cash transactions at threshold*
 - ◆ *Chip stolen from table sighted at cage*
 - ◆ *Invalid or suspect chip sighted*



Solution: Perfect Cage