CathexisVision POS Integration White Paper

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1 Introduction

This document details the features/abilities of the Cathexis POS device when integrated with the CathexisVision software. Functionally, this integration will include the triggering of standard CathexisVision system events, based on information received from the device. For instructions on configuring the integration, please consult the Cathexis POS Integration Guide, and/or the CathexisVision Setup Manual.

1.1 Integration Purpose

The Cathexis Point of Sale (POS) driver sends and receives UTF-8 encoded XML messages over UDP and can be used to integrate third-party POS systems. A POS simulator is included with the POS device to assist third-party POS developers with API implementation.

1.2 Requirements

1.2.1 General Requirements

- Windows 7 - 64bit and later, Windows Server 2008 R2 and later.
- Ubuntu 12 and Ubuntu 16.

1.2.2 CathexisVision Requirements

1.2.2.1 CathexisVision Software

CathexisVision 2019.1 and later.

Notes:

1. For information regarding the regular operation of a POS device, please consult the relevant POS manufacturer.
2. The connection is via UDP, and the port number on the POS system needs to match the number entered in CathexisVision during setup.

1.2.2.2 CathexisVision License

License Name	License Description
CCPS-1001	Cathexis POS ill license (one per till required).
CCPS-2000	Cathexis POS device (one license per integration device required).
CCPS-3000	Cathexis POS bundle (includes one device license and unlimited till licenses).

2 Integration Components and Features

2.1 Integration Components

All CathexisVision integrations have two component levels: **Device** and **Object**.

Device The device is CathexisVision software's interface, which handles all the interaction between CathexisVision and the integrated hardware. When you add an integration to the CathexisVision system, you add a device. The messages received from the device are called Device Events.

Objects Objects are the individual pieces of hardware that comprise the integration. There may be multiple "object types" under the objects group. For example, the main controller and door nodes, of an access control system, are both objects. They are different types of objects.

2.2 Cathexis POS Integration Features

This section indicates the Cathexis POS integration features.

General Device Features:

- The Cathexis POS device can be used to integrate third-party POS systems.
- A POS simulator is included with the POS device to assist third-party POS developers with API implementation.
- The Cathexis Point of Sale (POS) driver sends and receives UTF-8 encoded XML messages over UDP.
- CathexisVision receives event messages from the POS device.
- System and till device event messages can be used to trigger a CathexisVision system event.
- Till objects support camera overlays.

2.2.1 Device Objects

Object Type		Feature
System	**General Object Features**	• Populates once communication is established with the POS system. • Displays information about the connected POS system. • Heartbeat sent to CathexisVision every 10 seconds to determine online/offline status. • State changes can be used to trigger CathexisVision system and map events.
	Object Properties	The following System object properties are indicated in CathexisVision: • ID and name of System object, • Manufacturer, • Model number, • Version number, • Online/offline state (determined by receipt of heartbeat at ten-second intervals).
	Command	N/A. Object cannot be commanded.

Till	**General Object Features**	• Relevant till objects populate when CathexisVision receives device event messages. • Displays information about the associated till. • Till events on the device can be used to trigger CathexisVision system and map events. • Supports camera overlays.
	States	N/A. No state information for till objects.
	Object Properties	• ID and Name of till, • Cashier ID, • Cashier Name, • Version number, • License (yes/no).
	Commands	N/A. Till cannot be commanded.
Communication Channel	**General Object Features**	• Represents the UDP channel used by the integration device. • Channel will not go down when communication with POS system is lost. o If system event triggered on connection state is required, use system object.
	States	N/A. No state information for communication channel.
	Object Properties	• ID and Name of communication channel, • Channel status (will not change if communication lost), • Details, • Creation type, • Creation time, • Idle time (min).
	Commands	N/A. Communication channel cannot be commanded.

2.2.2 Device Events

Event Element	Features/Abilities
General	• Event messages generated by the device will generate device event messages in CathexisVision. • These device event messages can be used to trigger system events.

Device Event Types	The following device event messages are received from the POS device and displayed in the CathexisVision device events tab and integration meta-database: • All events, • End transaction, • Start transaction, • System, • Tender, • Till, • Total, • Item.
CathexisVision Event Actions	Events generated by the device are reflected in CathexisVision, and can be used to create CathexisVision system events. The device and device objects cannot be controlled as part of the system events.

2.2.3 Meta-database

A unique meta-database is created on the CathexisVision server for this integration. It is fully searchable with configurable filters based on device event information (as above) and time stamping. The filtered event/s and the associated video will then be available for review in a new window from which an archive can be created and exported.

Database Element	Features/Abilities
General	• All device events are sent to the integration meta-database. • Database entries include the footage from cameras linked to device objects. • Multiple cameras may be linked to multiple objects. • Device event meta-data is displayed where applicable. • Databased device events may be viewed in the embedded video player, which includes the usual CathexisVision video review tools.
View Options	The meta-database may be viewed by the following options: • Transactions, • Transaction all, • Till Status, • System Status, • Items.
Sort Options	The meta-database may be sorted by: • Time, • Till ID, • Till Name, • Cashier ID, • Cashier Name, • Transaction ID, • Item Description. The available sort options depend on the selected view.
Easy Search	The meta-database may be searched specifically for: • Till ID, • Till Name,

	• Cashier ID, • Cashier Name, • System State, • Item Code, • Item Description. The available sort options depend on the selected view.
Filter	The meta-database may be filtered according to: • Start Time, • End Time, • Till ID, • Till Name, • Cashier ID, • Cashier Name, • Time, • Transaction ID, • Item Code, • Quantity, • Item Value, • Total Value. The available sort options depend on the selected view.
Export	Database entries may be exported in CSV and PDF format.
Manage Reports	Generate scheduled meta-database reports.

2.2.4 Maps

The CathexisVision GUI provides for configurable site maps that feature multi-layered, hierarchical, interactive interfaces providing representation and control of a site and its resources. The table below highlights some features.

Map Element	Features/Abilities
General	• Device objects can be embedded in a site map which offers multiple action options when: o Messages are received from the device, o The device triggers an event, o The user manually initiates a map action. • System and till objects support map functionality.
Map Action Triggers	• All device objects may be set to trigger a map action if the user left-clicks on map. • System object may be set to trigger a map action if a state change message is received from the device. • Till object may be set to trigger a map action if a device event message generated by the device is received. • All device objects may be set to perform a map action if *any* event occurs on the device. • Device objects which can be configured to trigger CathexisVision events, may also be set to perform a map action when specific CathexisVision events are triggered.
Map Actions Options	When triggered (see above), objects may perform the following map actions (where applicable):

	• Connect to a site. • Perform an animation. • Go to a camera preset. • Load a map. • Set a PTZ relay output. • Show a popup menu. • Set a relay output. • Show an HTML block. • Show a block of text. • Show a device popup menu. • Show a device event notification.

3 Conclusion

Please remember that this document was designed to deal specifically with this integration. For further information about the CathexisVision software please consult the main manual (http://cathexisvideo.com/).

For support please contact support@cat.co.za