

Integration between ATM/POS Device and Embedded VMS / NVR Device (Real-time Messaging) 16.03.07.01

Introduction

Security Management System supports integration with ATM / POS systems.



There are 3 types of integration modes available -

- (a) Integration between ATM / POS device and Embedded VMS / NVR device (real-time messaging)
- (b) Integration between transaction database manager system and Central Monitoring Server / CMS software (real-time messaging)
- (c) Integration between transaction database manager system and Central Monitoring Server / CMS software (non real-time messaging)

This document describes the 'Integration between ATM / POS device and Embedded VMS / NVR device (real-time messaging)' integration mode in detail.



Integration between ATM / POS device and Embedded VMS / NVR device (real-time messaging)

Overall working

- 1. Embedded VMS / NVR has TCP server socket, listening for transaction record notifications from external systems (the external system in this case is ATM / POS device)
- 2. The ATM / POS device connects to the TCP server socket from Embedded VMS and sends a transaction record notification message in pre-defined XML format
- 3. The Embedded VMS processes the transaction record notification and sends back response indicating success / failure
- 4. If the transaction record notification message is valid, it is parsed by the Embedded VMS and the data is added to Embedded VMS database. The transaction record message is also forwarded to the CMS

Integration example used in this document

For every ATM/POS integration, the transaction record may contain different information (fields). Embedded VMS / NVR supports definition of these fields, as per the project requirement.

The examples in this document are for following integration requirements –

- (a) Type of integration ATM
- (b) Number of fields in each transaction record -4
- (c) Field 1 = ATM ID (text type field)
- (d) Field 2 = Date and time (data-time type field)
- (e) Field 3 = RequestID (text type field)
- (f) Field 4 = CardNumber (text type filed)

TCP server socket

- 1. The TCP server socket is available at port number 5500
- 2. The TCP server socket is available at IP address displayed in the Embedded VMS GUI
- 3. The ATM / POS device connects to the TCP server socket whenever a transaction record notification is needed to be sent and closes it after sending the notification



and receiving the response; for next transaction record notification, new connection is made with the TCP server socket.

Notification Format

The notification is in XML format, as follows -

```
<NData>
 <NRequestType>smsATMPOSNotificationRealTime</NRequestType>
  <NAuth>
    <UserName>ATMSource</UserName>
    <UserPassword>MTIzNA==</UserPassword>
  </NAuth>
  <NType>ATM POS Transaction</NType>
  <DataStandard>
    <SMSModuleName>ATM01</SMSModuleName>
  </DataStandard>
  <DataCustom>
    <DParam>
      <ParamName>RequestID</ParamName>
      <ParamVal>A98265</ParamVal>
    </DParam>
    <DParam>
      <ParamName>CardNumber</ParamName>
      <ParamVal>9856728976AA</ParamVal>
    </DParam>
  </DataCustom>
</NData>
```

- 1. NData :: NRequestType should have exact text 'smsATMPOSNotificationRealTime'
- 2. NData:: NAuth :: UserName has user name in plain text format
- 3. NData:: NAuth :: UserPassword has base64 encoded user password
- 4. NData:: NType should have exact text 'ATM_POS Transaction'
- 5. NData:: DataStandard :: SMSModuleName indicates the module ID
- 6. NData :: DataCustom has multiple sub-nodes (DParam). One sub-node for every 'parameter'. The list of parameters is pre-defined during integration analysis phase of every integration.
- 7. NData :: DataCustom :: DParam has 2 sub-nodes –



- (a) ParamName this is a string pre-defined during integration analysis phase of every integration
- (b) ParamVal value associated with the parameter

Notes –

- 1. The list of parameters under 'NData :: DataCustom' needs to be defined, in the integration analysis phase
- 2. No software changes / customizations are required for every deployment, as the Video Management System software provides graphical user interface to specify these deployment specific parameters

Response Format

The response is in XML format, as follows -

```
<NResponse>

<NRequestType>smsATMPOSNotificationRealTime</NRequestType>

<ResponseStandard>

<RCode>1</RCode>

<RDescription>Success</RDescription>

</ResponseStandard>

</NResponse>
```

- 1. NResponse :: NRequestType indicates the type of request for which response is being sent back
- 2. NResponse :: ResponseStandard :: RCode indicates the response code. It is a number.
 - (a) 1 indicates success
 - (b) 0 indicates unknown error
 - (c) Negative values indicate specific errors
 - (d) Positive values indicate warnings
- 3. NResponse:: ResponseStandard :: RDescription indicates human readable string describing the success / failure of the notification processing



Integration Step 1 – Using Security Management System server software and Test Application

Introduction

(A) The Security Management System server software

- 1. The Security Management System server software and the Embedded VMS / NVR device use exactly same software core.
- 2. In normal situations, getting access to Security Management System server software is easier and faster, as it does not involve any hardware components to be shipped.
- 3. Hence it is recommended to use Security Management System server software for integration, instead of the Embedded VMS / NVR device.
- 4. Since the Security Management System server software and the Embedded VMS / NVR device use exactly same software core, it is guaranteed that same integration would work with Embedded VMS / NVR devices too.
- (B) Test application 'smsATMPOSRealTimeIntegrationTest.exe'
- 1. A pre-compiled test application 'smsATMPOSRealTimeIntegrationTest.exe' is available along with his document.
- 2. The test application 'smsATMPOSRealTimeIntegrationTest.exe' demonstrates 3rd party / external application which sends ATM/POS transaction record notifications to the Security Management System server software / Embedded VMS / NVR device.

(C) Integration

1. This integration step 1 involves using Security Management System server software and 'smsATMPOSRealTimeIntegrationTest.exe' test application; to understand the overall integration process and to see the integrated solution in effect.



 The test application 'smsATMPOSRealTimeIntegrationTest.exe' can also be used as reference application, to analyze and debug the issues if any are observed during next step which involves updates to 3rd party external application for sending real-time ATM/POS transaction messages to the Security Management System server software / Embedded VMS / NVR device

Security Management System server software configuration

Add Camera

- 1. Execute 'Security Management System Server' software.
- 2. Add any available camera to 'Security Management System Server' software for monitoring.

Configuring ATM/POS Mode

1. Navigate to the 'ATM/POS-> Mode' page, from the left hand side navigation menu.

192.168.1.244) ATM/POS → Mode
Location01	
Security devices	Mode: ATM/POS Local Mode
Keyboards and Joysticks	Connected to ATM/POS CMS
Users and Privileges	ATM/POS CMS Connection Details
Alarm management	
Data management	127.0.0.1
Remote backup	Username: ladmin
Tasks	Password:
Linked servers	
Server settings	Port forwarding enabled at server
Connect to CMS	TCP Port 1: 5500 RTSP Port(TCP): 1024
Video panorama	HTTP Port(TCP): 9900 RTP Port(UDP): 20000
Under Vehicle Surveillance	RTCP Port(UDP): 20001
External Alarms	
Face Recognition	ATM/POS CMS Connection Status: Not configured
License Plate Recognition	₩
ATM/POS	
Mode	
Modules	
Transaction Definition	
Communication Logs	
Hear interface eattinge	

2. Click on 'Edit' button to enable the graphical user interface for editing.

3. Set 'Mode' to 'ATM/POS Local Mode'



- 4. Ensure that 'Connected to ATM/POS CMS' checkbox is NOT selected.
- 5. Click on save button, to save the updated settings.

Configuring ATM/POS Modules

1. Navigate to the 'ATM/POS-> Modules' page from the left-hand side navigation menu.

192.168.1.244	2 🧕	TM/POS →	Modules			
Location01						0
Security devices	^		9 🧶			1
Keyboards and Joysticks		Sr No.	VMS Name	Module ID	Module Name	Module Type
Users and Privileges						
Alarm management						
Data management						
Remote backup						
Tasks						
Linked servers						
Server settings		_				
Connect to CMS						
Video panorama						
Under Vehicle Surveillance						
External Alarms	E	-				
Face Recognition						
License Plate Recognition						
ATM/POS						
Mode						
Modules						
Transaction Definition						
Communication Logs	-					

2. Click on the 'Add ATM/POS Module..' button. This will pop-up Add New ATM/POS Module dialog box.

Module Name:	ATM001	
Module ID:	ATM_ 001	
Video Channel:	Cam002	
Module Type:	Real Time	•



- 3. Type 'Module name' to match the ATM / POS device it is expected to be associated with Update 'Module ID' or keep default Select 'Video channel' associated with this ATM/POS module. This is the camera which needs to be linked in ATM/POS transactions. Select 'Module Type' as 'Real Time' Click on the 'OK' button to save the configuration and to finish adding the ATM/POS module to security management system server software
- 4. The newly added ATM/POS module will be then displayed in list of the ATM/POS Modules.

192.168.1.244		POS → N	Modules				
ocation01							
ecurity devices	<u></u>		9 😻				
Keyboards and Joysticks		Sr No.	VMS Name		Module ID	Module Name	Module Type
Isers and Privileges		1	Local		ATM_001	ATM001	Real Time
larm management							
)ata management							
emote backup							
asks							
inked servers							
erver settings							
onnect to CMS							
ideo panorama							
nder Vehicle Surveillance	=			N			
external Alarms	-			3			
ace Recognition							
icense Plate Recognition							
TM/POS							
Mode							
Modules							
ATM001							
Transaction Definition							

5. A separate link will be available for each of the added ATM/POS modules. Clicking on the link will show the information about the ATM/POS module, the video of the associated video channel. If required, the associated video channel can be changed.



192.168.1.244	ATM/POS → Modules -	→ ATM001		
Location01				
Security devices	VMS Name:	Local	Primary Video	
Keyboards and Joysticks	VMS ID:	Local		
Users and Privileges	Module ID:	ATM 001		\approx
Alarm management	Module 10.	TATM_001		B
Data management	Module Name:	ATM001		\odot
Remote backup	Module Type:	Real Time		\sim
Tasks	Primary Video:	Cam002	Cam002	-
Linked servers				
Server settings	Image Processing	Status		
Connect to CMS	Processed upto: 20	016/03/06 12:11:02		
Video panorama	Last processed at:	Unavailable		
Under Vehicle Surveillance	Due at: 2016/03/0	9 12:12:32		_
External Alarms				
Face Recognition				
License Plate Recognition				
ATM/POS				
Mode	N			
Modules	43			
ATM001				
Transaction Definition				

Transaction Definition

1. Please navigate to 'ATM/POS-> Transaction Definitions' page from the left-hand side navigation menu.

192.168.1.244	ATM/POS → Transaction Defini	tion	
Location01	Standard Fields in a Transa	ction Record	
Security devices	Data Tura Nama	Tupe	
Keyboards and Joysticks	Module Name	Type	
Users and Privileges	Piodule Name	Stillig	
Alarm management			
Data management			
Remote backup	Custom Fields in a Transact	ion Record	
Tasks			ſ
Linked servers			×
Server settings	Name	Туре	Default V
Connect to CMS			
Video panorama			
Under Vehicle Surveillance			
External Alarms			
Face Recognition			
License Plate Recognition			•
ATM/POS	Field checking in Transact	ion	
Mode	Transaction record field	te strict chock	
Modules	- manaactor record new	15 Strice Check	
ATM001			
Transaction Definition			

2. This page shows two lists – 'Standard Fields in a Transaction Record' and 'Custom Fields in a Transaction Record'



- 3. 'Standard Fields in a Transaction Record' are the fields which must be provided in transaction request. These are must-have fields and can-not be edited by the users.
- 4. 'Custom Fields in a Transaction Record' are the custom fields and can be edited by the user. These fields depend on the project requirements and the integration details. The 'Custom Fields in a Transaction Record' should be defined, as per the project requirement. These are the fields which will be included in every transaction record sent by the 'External application (ATM / POS device / software / system)' to the linked NVR / Infinova 2217 VMS server software, through TCP socket.

We are adding 2 custom fields, as an example for this document –

Field1 name – RequestID Field1 type – string Field1 default - RequestIDDefault

Field2 name – CardNumber Field2 type – string Field2 default - CardNumberDefault

During deployment, the custom fields would be different, depending on the integration details.

- 5. Click on 'Edit' button available under the 'Custom Fields in a Transaction Record' section to enable the graphical user interface for editing.
- 6. For adding a custom field to transaction record definition, click on the 'Add' button, which will pop-up the 'Add Custom Field in a Transaction' dialog box.

()	Add Cus	stom Fields in a Transaction	×
	Name:	RequestID	
	Type:	String	~
	Default Value:	RequestIDDefault	
		0	

7. Type 'Name' of the field. It is recommended not to use any special characters in the name string. Please use standard alphabets (a to z and A to Z) and digits (0 to 9).

Select the expected 'Type' of the field.



Type the suitable default value.

Click on the 'OK' button to finish adding the custom field to the transaction definition.

- 8. Similarly add more custom fields to the transaction definition, as per the integration requirements.
- 9. The 'Transaction Definition' page has 'Transaction fields strict check' check-box available at the bottom of the page. Though it is not mandatory, it is recommended to enable this check-box. When this check box is enabled, the NVR / Infinova 2217 VMS server software validates all transaction record messages received from the 'External application (ATM / POS device / software / system)'. The received transaction record is strictly validated for exact match with the transaction definition.
- 10. Strict check helps in ensuring integrity of the communication between the 'External application (ATM / POS device / software / system)' and the NVRs / Infinova 2217 VMS server softwares.
- 11. Click on save button, to save the updated settings.
- 12. All the configured custom transaction fields will be displayed in the 'Custom Fields in a Transaction Record' list.

92.168.1.244	ATM/POS → Transaction Definiti	ion	
ocation01		Non Decord	
Security devices	Standard Helds in a Transac	tion Record	
eyboards and Joysticks	Data Type Name	Type	
sers and Privileges	Module Name	Sung	
larm management			
ata management			
emote backup	Custom Fields in a Transacti	on Record	
asks			
nked servers			
erver settings	Name	Туре	Default V
onnect to CMS	RequestID	String	RequestI
deo panorama	Cardivaliber	String	Cardivulli
ider Vehicle Surveillance			
xternal Alarms			
ace Recognition			
cense Plate Recognition		III	
M/POS	Field checking in Transactio	on	
Mode	Transaction record field	s strict chock	
Modules			
ATM001			
Transaction Definition			
Communication to an			



Adding New User

1. Please navigate to the 'Users and Privileges->Privileges' page from left hand side navigation menu.

192.168.1.244	Users and	Privileges → Privileges			
Location01		$ \bigcirc \bigcirc$			
Status	- 0	U 😻			
Reports and Export					
Communication	Sr No.	Privilege Name	Type	Base Privilege	
Security devices	1	Administrator	In Built		
Keyboards and Joysticks	2	Operator	In Built		
Hann and Drivilance	3	Guest	In Built		
users and Privileges	4	Web Client	In Built		
Users	5	Smartphone Client	In Built		
admin	6	External Application	In Built		
ор					
Active directory users					
Privileges					
Administrator					
Operator					
Guest		N			
Web Client		45			
Smartphone Client					
External Application					_
PTZ priority					
Change password					
Alarm management					
Data management					

2. Click on the 'Add Privilege...' button, this will pop-up 'Add New Privilege' dialog box.

Θ	Add N	ew Privilege	×
	Privilege Name: A Base Privilege: E	TMSourcePrivilege xternal Application 🗸	
	Features allowed:	Features not allowed:	
	Privilege Name Send ATM/POS transaction recc < > Channel groups allowed:	Privilege Name Image: State of the stat	
	Channel Group CG_AllChannels	Channel Group	



- 3. Type 'Privilege Name'. This can be any text. We are using 'ATMSourcePrivilege' text in this example Select 'External Application' as 'Base Privilege' Add 'Send ATM/POS transaction records to server' to the list of 'Features allowed'.
 Add 'CG_AllChannels' to the list of 'Channel groups allowed' Click on the 'Add' button to finish adding the new privilege.
- 4. Please navigate to the 'Users and Privileges->Users' page from left hand side navigation menu.

192.168.1.244	Users and P	rivileges → Users				
ocation01		$\sim \circ$				
Status		J 🖌				
Reports and Export						
Communication	Sr No.	User Name	Privilege	Enabled	Туре	
Security devices	1	admin	Administrator	Enabled	In Built	
Ceyboards and Joysticks	2	ор	Operator	Enabled	Configured	
Jsers and Privileges						
Users						
admin						
ор						
Active directory users						
Privileges						
Administrator						
Operator						
Guest						
Web Client						
Smartphone Client						
External Application						
ATMSourcePrivilege						
PTZ priority						
Change password						

5. Click on the 'Add New User..' button, this will pop-up the 'Add New User' dialog box.



User Name:	Ext1
Password:	••••
Confirm Password:	••••
Privilege:	ATMSourcePrivilege -
	Z Enable user
Address Line 1:	
Address Line 2:	
Phone No:	
E-mail ID:	

6. Type 'User Name'. It can be any text. For this example we are using 'Ext1' as user name

Type 'Password'. It can be any text. For this example we are using Ext1 as password

Type the password again in 'Confirm password'

Select the privilege for the new user. This should be same privilege we have added in the previous step as described in this document. In this example, we are selecting 'ATMSourcePrivilege' privilege.

Ensure that 'Enable user' check box is checked

Click on the 'Add' button to finish adding new user.

Using Test Application smsATMPOSRealTimeIntegrationTest.exe

- 1. The test application 'smsATMPOSRealTimeIntegrationTest.exe' is available with this document
- 2. Copy smsATMPOSRealTimeIntegrationTest.exe test application to any computer which is on the same network as the computer hosting Security Management System server software.
- 3. Execute smsATMPOSRealTimeIntegrationTest.exe



9)	Security Manageme	ent System - ATM/POS	Real Time Integration Test Application 🛛 🚽 🗖
Connection Paramete	ers:		New Transaction Record XML
Server IP Address:	192 . 168 . 1 . 244 Username:	Ext1	A
Port Number:	5500 Password:	Ext1	
Standard Fields in a T	Transaction Record		
Alarm Type:	ATM_POS Transaction ∨		
Module Name:	ATM001		
Custom Fields in a Tra	ansaction Record		×
Field 1 Name:	RequestID Field 1 Value:	R01	Send XML to Server
Field 2 Name:	CardNumber Field 2 Value:	C01	Response Received From Server
Field 3 Name:	Field 3 Value:		^
Field 4 Name:	Field 4 Value:		
Field 5 Name:	Field 5 Value:		
			×
	0		
	Create XML		
			Close

4. Type 'Server IP Address'. This is the IP address of the Security Management System server software. In the server software GUI, this is displayed at the left-top corner.

192.168.1.244	Users
Location01	\bigcirc
Status	<u> </u>

- 5. Type username and password. These are related to the new user added to the Security Management System server software, as described above in this document.
- 6. Under 'Standard Fields in a Transaction Record', select 'Alarm Type' as 'ATM_POS_Transaction'.
- 7. Under 'Standard Fields in a Transaction Record', type 'Module Name'. This should match with the ATM/POS module added to the Security Management System server software, as described above in this document
- 8. Under 'Custom Fields in a Transaction Record', type field name and value pairs. The field names should match the 'Transaction definition' configured in the Security Management System server software, as described above in this document
- 9. Click on the 'Create XML' button available below the list of 'Custom Fields in a Transaction Record'.



(3)	Security Manageme	ent System - ATM/POS	Real Time Integration Test Application 🛛 – 🗆 🗙
Connection Parame	ters:		New Transaction Record XML
Server IP Address:	192 . 168 . 1 . 244 Username:	Ext1	<ndata><nrequesttype>smsATMPOSNotificationRealTime</nrequesttype><n< td=""></n<></ndata>
Port Number:	5500 Password:	Ext1	Auth> <username>Ext1</username> <userpassword>RXh0MQ==</userpassword> RXh0MQ==rd> <ntype>ATM_POS Transaction</ntype> <datastandard><smsmodulename>ATM001</smsmodulename></datastandard>
Standard Fields in a	Transaction Record		ame> <datacustom><dparam><paramname>RequestIDamName><paramval>R01</paramval></paramname></dparam><dparam><paramname>Card</paramname></dparam></datacustom>
Alarm Type: ATM_POS Transaction V			Number <paramval>C01</paramval>
Module Name:	ATM001		
Custom Fields in a T	ransaction Record		
Field 1 Names	Descuel ^{TD}	Dot	Send XML to Server
Field I Name:	Requestio Field 1 Value:	RUI	
Field 2 Name:	CardNumber Field 2 Value:	C01	Response Received From Server
Field 3 Name:	Field 3 Value:		^
Field 4 Name:	Field 4 Value:		
Field 5 Name:	Field 5 Value:		
			v
	Create XML		
			Close

- 10. The XML will be created and displayed in the 'New Transaction Record XML' box
- 11. Click on the 'Send XML to Server' button. The test application will connect to the Security Management System server application and will send the new ATM/POS transaction record.

Connection Parame	eters:			New Transaction Record XML			
Server IP Address Port Number:	192 . 168 . 1 . 5500	1 . 244 Username: Ext1 Password: Ext1		<ndata><nrequesttype>smsATMPOSNotificationRealTime</nrequesttype><1 Auth><username>Ext1</username><userpassword>RXh0MQ==rd><utype>ATM_POS Transaction20ataStandard><smsmodulename>ATM001</smsmodulename></utype></userpassword></ndata>			
Standard Fields in a	a Transaction Record			ame> <datacustom><dparam><paramname>RequestIDamName><paramval>R01</paramval></paramname></dparam><dparam><paramname>Card</paramname></dparam></datacustom>			
Alarm Type: ATM_POS Transaction V				Number <paramval>C01</paramval>			
Module Name:	ATM001	Respor	nse From Server ×				
Custom Fields in a	Transaction Record						
Field 1 Name:	RequestID	Respons Return (Fiel Descript	se from server Code: 1 tion: Success	Send XML to Server			
Field 2 Name:	CardNumber	Fill		Response Received From Server			
Field 3 Name:		Fiel	ОК	<nresponse><nrequesttype>smsATMPOSNotificationRealTime><responsestandard><rcode>12/RCode><rdescription>Success></rdescription></rcode>=NDescription>Success</responsestandard></nrequesttype></nresponse>			
Field 4 Name:		Fil		n>			
Field 5 Name:		Field 5 Value:					
		0					

12. Response will be received from the server and will be displayed in the 'Response Received From Server'. The response will be parsed and pop up message with response details will be displayed.



Note – The 'smsATMPOSRealTimeIntegrationTest.exe' test application can also be used for debugging and detailed test purpose.

The 'New Transaction Record XML' can be edited manually or can be fully typed manually

Transaction Search

- 1. Please navigate to the 'ATM/POS->Modules' page
- 2. Click on the 'ATM/POS Transactions Search' button.

2.168.1.244	ATM/POS -	Modules				
ation01		\bigcirc				
eyboards and Joysticks		🥑 😸				
Jsers and Privileges	Sr No	VMS Name		Module ID	Module Name	Module Type
arm management	1	Local		ATM_001	ATM001	Real Time
ata management						
mote backup						
sks						
ked servers						
ver settings						
nect to CMS						
eo panorama						
ler Vehicle Surveillance						
ernal Alarms			3			
ce Recognition =						
ense Plate Recognition						
M/POS						
Mode						
Modules						
ATM001						
Transaction Definition						
communication Logs						
an interaforme anthings						

3. This will pop up the 'ATM/POS Transactions Search' dialog box



Search Parameters	Search Results	
From: 3/ 9/2016 🐨 11:34:19 AM 🛬 To: 3/ 9/2016 🐨 12:34:19 PM 🔄	No Image	
Advanced Search: Site Name Parameter Name	2016/03/09 ATM001 12:32:22 Local	
ATM/POS Modules (Selected):		
VMS Name Module Name		
Local ATM001		
ATM/POS Modules (Unselected):		
VMS Name Module Name		
	Total found: 1 Showing: 1 to 1	

- 4. Specify the search time 'From' and 'To' Select the 'ATM/POS modules' to be searched Click on the 'Search' button
- The search results will be displayed in form of image list.
 Note the images for recent alarms may not be available. It takes up to 10 minutes to create the images, after the transaction record is received.
- 6. Clicking on the result image starts video playback for the selected result. The video playback control (play, pause, fast forward, rewind) are available.



Integration Step 2 – Using Security Management System server software and 3rd party External Application

 Before moving to step 2; it is important to confirm that the step 1 as described in above section is successful. The transactions logs report in server software should display the ATM/POS transaction records sent from the test application smsATMPOSRealTimeIntegrationTest.exe. This ensures that Security Management System server software is configured properly, and there are no issues in the definitions of various parameters.

If any problem is observed in step, please resolve the problem first before moving to step 2.

- 2. Please update the source code of the 3rd party external application, to communicate with the Security Management System server software and to send the ATM/POS transaction records one by one.
- 3. For sending one ATM/POS transaction record to the Security Management System server software; the 3rd party external application should follow these steps–
 - (a) Open a TCP client socket.
 - (b) Connect to TCP server socket in the Security Management System server software. The IP address and port number should be same as those used in the 'smsATMPOSRealTimeIntegrationTest.exe' test application, during the Step 1 described above
 - (c) Create XML string. Please refer to the 'New Transaction Record XML' string for comparison.
 - (d) Send the XML string to the server socket
 - (e) Receive response from the server socket.
 - (f) Confirm that the response indicates 'success'. If the response indicates failure, please check the response description to understand the exact problem and improve the transaction record XML string sent from 3rd party external application
 - (g) Close the connection with the server socket. For every new ATM/POS transaction record to be sent to the server socket, a new socket connection should be used.
- 4. Check the 'Transaction logs' in the Security Management System server software to confirm that server software has added all transaction records to its database.



Integration Step 3 – Using Embedded VMS / NVR device and 3rd party External Application

- 1. Start the Embedded VMS / NVR device.
- 2. The 'Settings' page on Embedded VMS / NVR device can be accessed from the taskbar available at the bottom of the main screen.
- 3. Add new privilege and user to the Embedded VMS / NVR device. The steps are same as those described for the Security Management System server software, in this document (in 'Integration Step 1' section)
- 4. Add new ATM/POS module and configure transaction definition in the Embedded VMS / NVR device. The steps are same as those described for the Security Management System server software, in this document (in 'Integration Step 1' section)
- 5. Try sending ATM/POS transaction records from 3rd party external application to the Embedded VMS / NVR device.

If any problems are observed, please use the 'smsATMPOSRealTimeIntegrationTest.exe' test application and try sending transaction records to the Embedded VMS / NVR device