VOICECOM
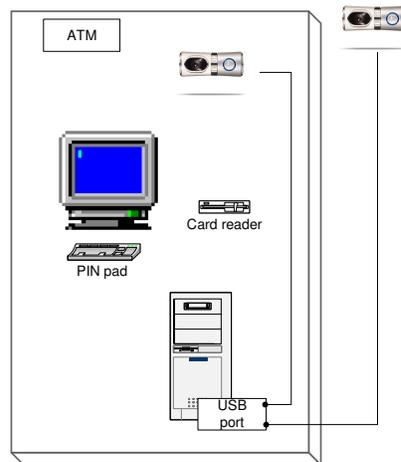
Direc™ATM

Image Recording and Management Solution for ATM

Introduction

Direc™ATM is an ATM-integrated software solution to provide interactive image recording and management. It has been designed with flexibility, compatibility, implementation simplicity and security in mind.

- Direc™ATM was originally designed and integrated for NCR's APTRA Edge environment.
- Up to two USB cameras can be simultaneously used to take pictures at certain customer's actions.
- Direc™ATM stores encrypted images and added metadata on the ATM's hard disk drive.
- Created pictures are stored in JPEG encrypted format using 3DES and RSA algorithms.
- There are different ways to export encrypted images and metadata from ATM to the data processing site, but data can be decrypted and processed by DirecATM Viewer only.

Direc™ATM software components:

1. DirecATM Recorder – main image recording software module.
2. DirecATM Viewer – end user software for decrypting, browsing and processing images exported from ATM.
3. DirecATM Capture – integration module for APTRA Edge, used in Customer Flow.
4. DirecATM Copy – integration module for Branch Aid, makes possible to get encrypted images and metadata from the ATM to removable USB device.[1]
5. DirecATM Key – software for private key generation and public key export.

1. DirecATM Recorder (aka VoicecomCameraManager)

Recorder is Direc™ATM main component which communicates with webcams and records the images. It is windows application with simple graphical interface for showing information about camera status and providing camera testing features. The Recorder is configured using INI file (VoicecomCameraManager.ini) which has separate settings for each camera. Currently it

---

[1] Encrypted images are normally exported using network connection, USB device is optional feature.

supports up to two web cameras. In development and test environment we have used Logitech QuickCam Ultra Vision web cam (True 1.3 MP Images, RightLight2, Ultra-Wide Angle Lens, http://www.logitech.com/index.cfm/webcam_communications/webcams/devices/238&cl=us,en), but other web cameras should be OK as well.

Created pictures are in encrypted JPEG format. Files have extension .dei (Direc Encrypted Image). The image file name contains basic information about image: date, time, camera number, shot sequence number, event type and terminal ID where the picture was taken.

2. DirecATM Viewer

End user software for decrypting and browsing images exported from ATM (file extension .dei).

Installation and initial setup should be carried out as described in 'DirecATM Viewer Guide'.

3. DirecATM Capture

DirecATM Capture is event and data source module integrated into the EDGE application.

Module is activated only when ATM application INI file Global section contains line "DirecATM=1".

4. DirecATM Copy

DirecATM Copy object is for picture export. It is integrated to the Branch Aid as a separate task. Authorized user can select pictures by entering a time interval and copy selected pictures to the removable media. The pictures destination path is configured using Branch Aid configuration file (C:\Program Files\NCR APTRA\Branch Aid Runtime\dd.dat). The destination path parameter is "SUPERVISOR. DATMCOPYPAT". The task is hidden if DirecATM Recorder is not working. Current object is developed and tested using USB memory stick.

5. DirecATM Key

This is helper program for Private and Public Key generation. The program uses standardized file formats so administrator can use any OpenSSL compatible application for key generation. Application is provided for convenience only. The created public key (2048bit RSA in PKCS#8 format file) can be optionally protected with password. Exported public key is in binary format (raw RSA public key only). DirecATM Recorder uses public key. DirecATM Viewer uses corresponding private key.

Direc™ATM integration

DirecATM Recorder requires certain events to take the shots and save the images. These events are sent by ATM application using DirecATM Capture library. For HTML based applications we provide an ActiveX Wrapper class to call the C library. For any other application, integration can be done using C calls directly.

Requirements

An average size of a 640x480 pixel .jpg image is 40 KB (1 GB for 25 000 images).

80 GB hard drive would hold approximately 2 million images. If the system stores one image after every 30 seconds in average, the drive space would have to be reused only after more than 6 month.

Hardware must be compatible with PC equipment used by NCR.

Hardware requirements:
- at least one USB port available
- dedicated disk partition or hard drive for storing images is needed