Large Scale
RFID Access Control Solution







AddPac Technology

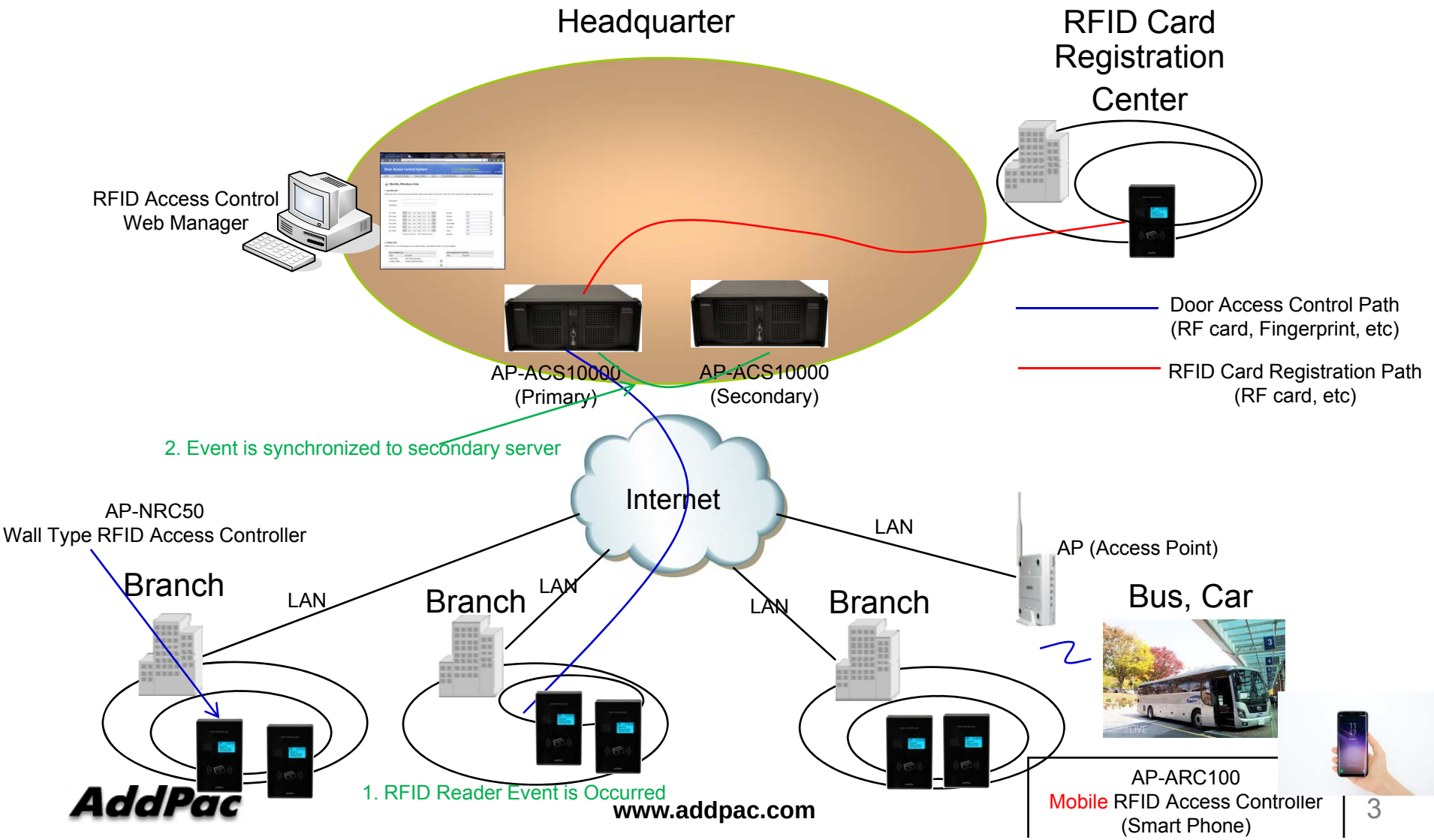
Sales and Marketing

www.addpac.com

Contents

- RFID Access Control Network Diagram
- System Redundancy Diagram for Fault Tolerant Service
- Wall Type Network RFID Access Controller
  - AP-NRC70
  - AP-NRC50
- Mobile Soft RFID Access Controller (Smart Phone Appl.)
  - AP-ARC100 (Android RFID Access Controller)
- Centralized RFID Access Control Server
  - AP-ACS10000

RFID Access Control Network Diagram



Network RFID Access Controller

AP-NCR70 Wall Type Network RFID Controller

Product Overview

AP-NRC70 Network RFID Controller

- High Performance Network RFID Controller Solution : Standalone Mode
- RS232/RS485 Interface Support for AddPac IP Video Door Phone Interworking : Clone Mode
- Interworking with AddPac ACS(Access Control Server) for RFID Registration
- Internal Speaker
- High Quality 5inch LCD, 800x480 LCD Display Resolution
- One(1) 10/100Mbps Fast Ethernet
- PoE(Power over Ethernet) Support (Option)
- Powerful Network Protocols (PPPoE, DHCP, Static Routing, etc)
- Firmware Upgradeable Architecture
- Advanced Voice QoS Mechanism

Hardware Specification

AP-NRC70 Network RFID Controller



- RISC Microprocessor Computing Power
- Audio and Voice Interface
  - Internal Speaker
- TFT Color LCD Interface
  - 5inch LCD, 800 x 480 Video Resolution
- Network Interface
  - One(1) 10/100Mbps Fast Ethernet
- RF Card Interface
- Alarm & Relay Out Interface (door open, etc)
- RS232/RS485 Interface
- Power Supply
  - Power over Ethernet (Option)
  - External Power Supply

Hardware Specification

AP-NRC70 Network RFID Controller

RISC CPU

- LCD Controller
  - One-Chip Solution for TFT-LCD
  - Hardware On-Screen Display (OSD)
  - Support resolution up to 240xRGBx320
  - Up to 24-bit RGB888 Digital Interface
  - Resize Function (x 1/16, x8)
  - BT.60/BT.66 Digital YCbCr 4:2:2(8-/16-bit) Interface
- Speaker
  - Impedance : 8 +-15%ohm at 1kHz, 1.0 Vrms
  - Sound Pressure : 90 +- 3dB at 0.1W/10 CM
    at 800Hz, 1.0kHz, 1.2kHz, 1.5kHz
  - Resonance Level : 550Hz +- 20%Hz at Fo Hz, 1.0Vrms
  - Frequency Range : Fo Hz ~20kHz
  - Input Power : Normal : 1.0 W, Max : 2.0W
- PoE(Power over Ethernet)
  - IEEE802.3af compliant
  - Input voltage range 36V to 57V
  - Short-circuit Protection

Hardware Specification

AP-NRC70 Network RFID Controller

RISC CPU

- RF Card Sensor
  - Protocol Supported
    - ISO14443A/B all bit rates
    - > 106,212,424 and 848 kbps
    - Compatible to MiFare Classic
    - ISO15693 all modes
    - > 1.65/6.6 & 26.5 kbps
    - > Uplink 1 & 2 sub-carrier
  - Receiver
    - Rx Sensitivity down to 1mVrms
    - Rx Automatic Gain Control
    - Accept external baseband signal from external circuitry for frame level processing
    - Integrated signal strength indicator (SSI)
    - On-Chip Framing handler for supported standard
  - Transmitter
    - Typical proximity operating distance up to 100mm.
    - Software configurable modulation index
    - Maximum driving current up to 200 mA/PIN @ 5V
    - Accept external baseband signal for RF modulation
    - Wide Transmitter driver supply range from 2.7~7.0V



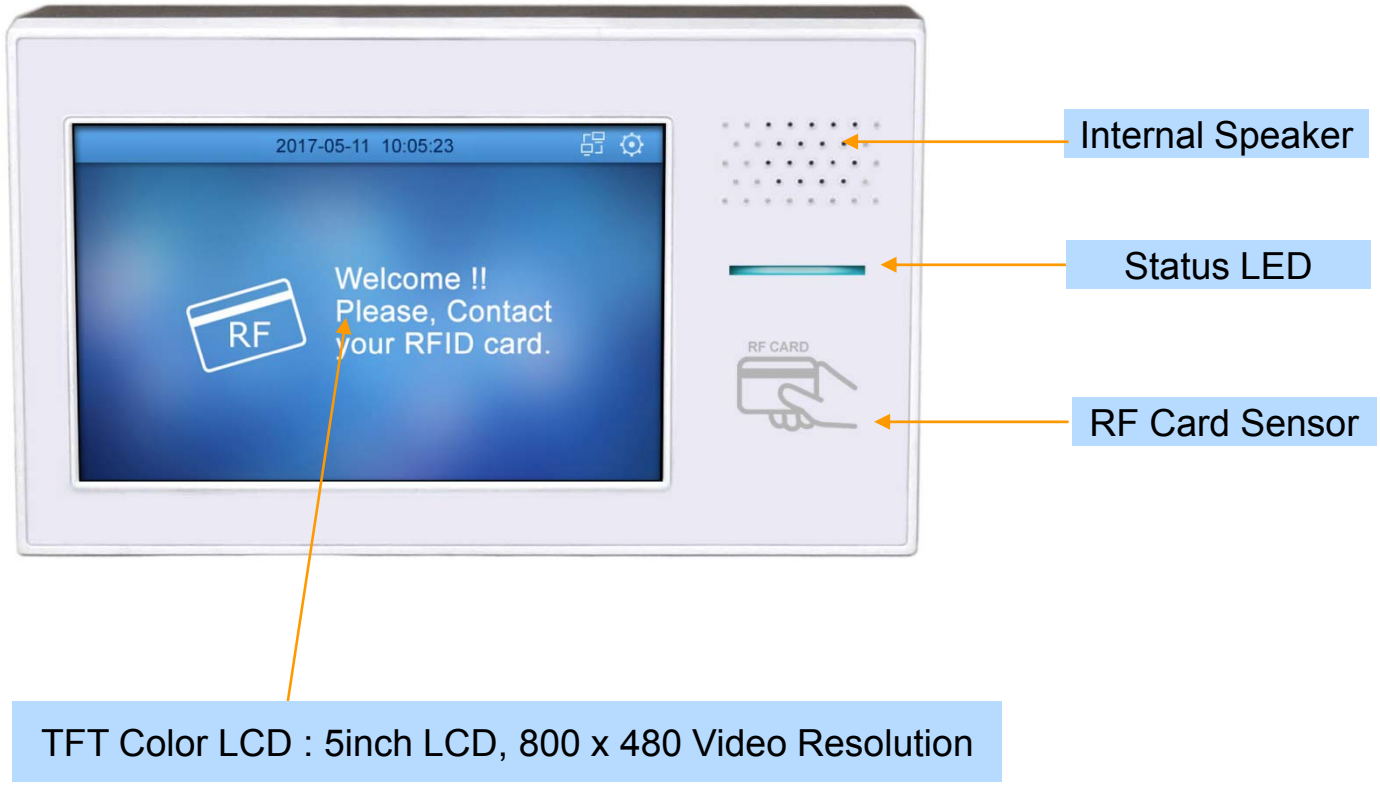
RF Card Sensor

Hardware Specification

AP-NRC70 Network RFID Controller

RISC CPU

Front Side

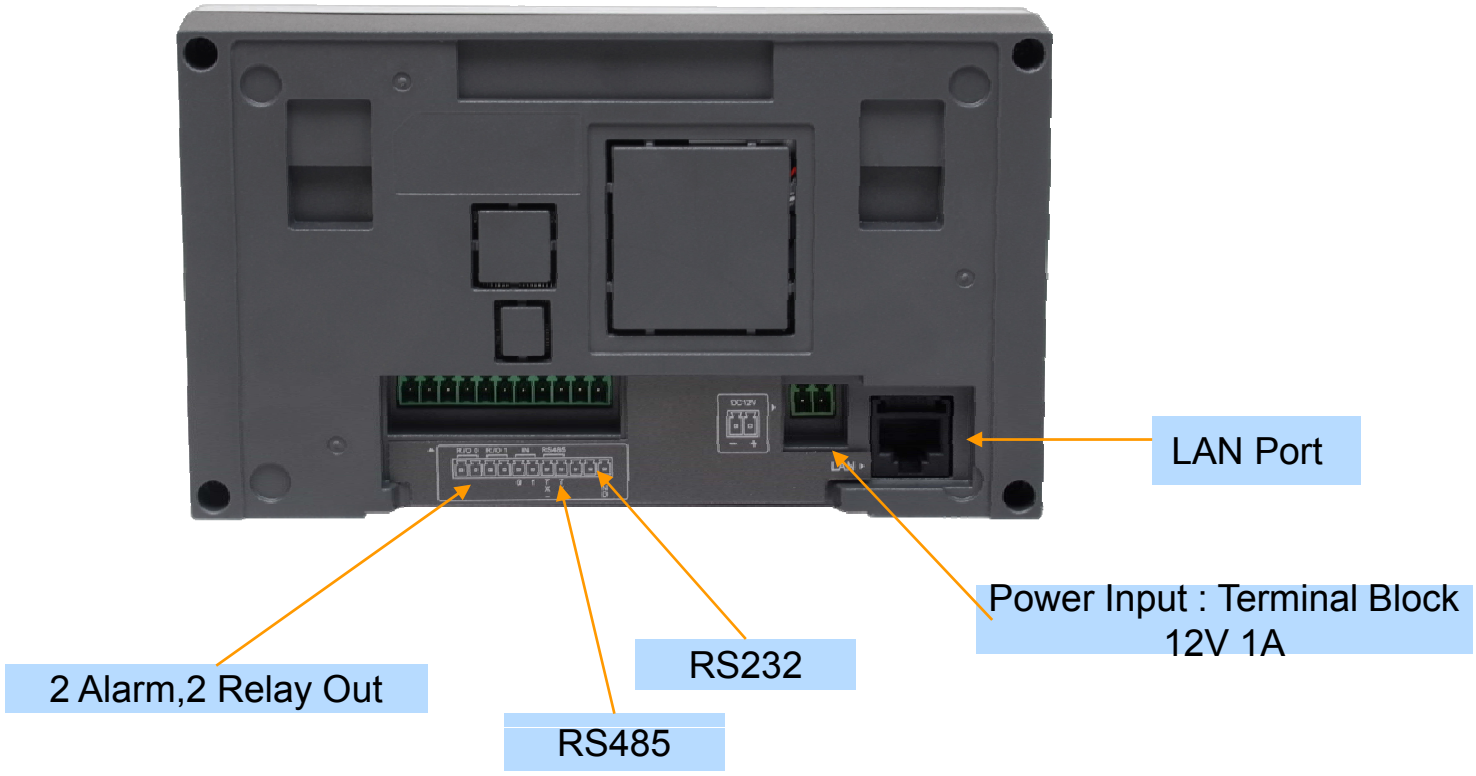


Hardware Specification

AP-NRC70 Network RFID Controller

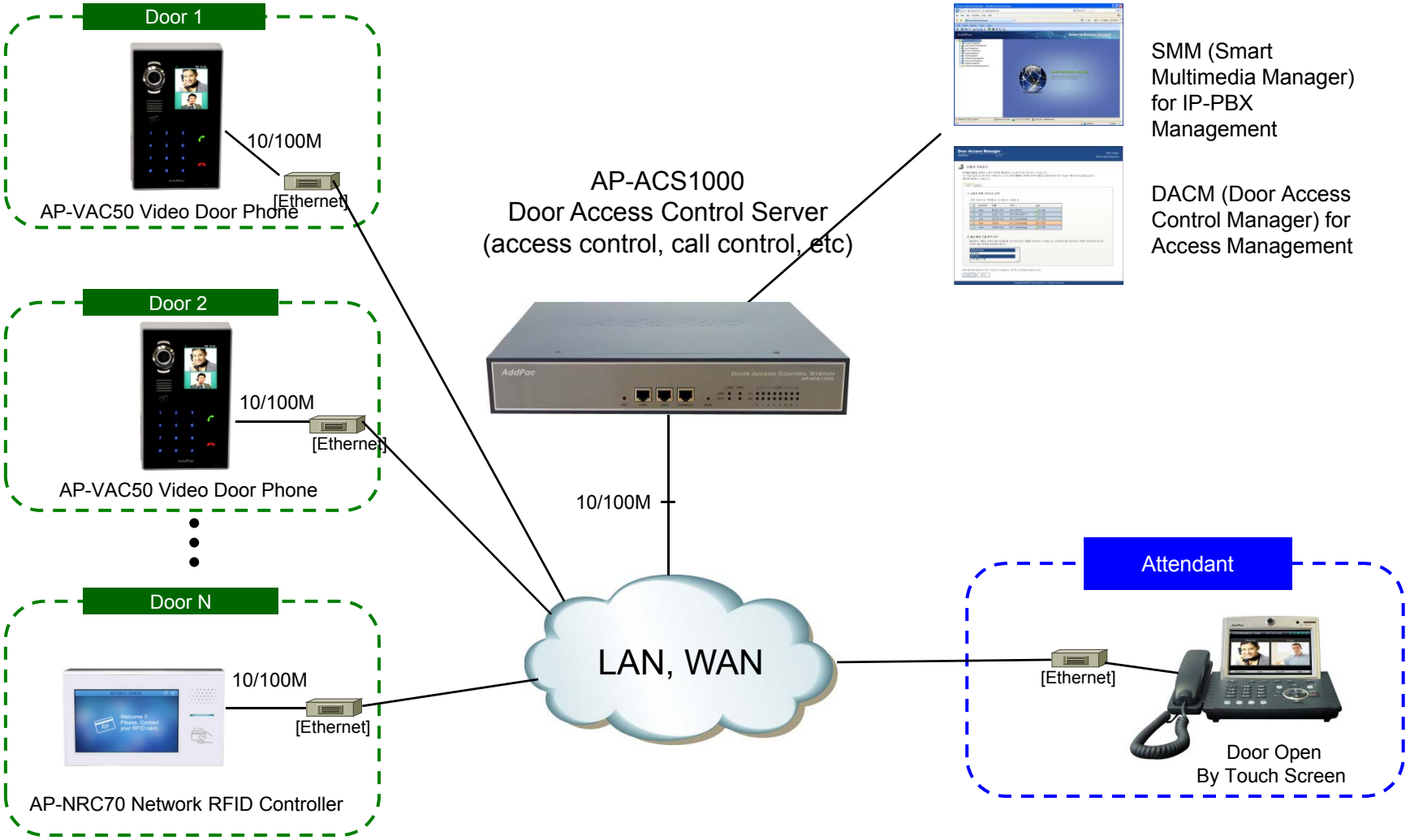
RISC CPU

Back Side



Network Diagram

AP-NRC70 Network RFID Controller



AP-NCR50 Wall Type Network RFID Controller

Product Overview

AP-NRC50 Network RFID Controller

- High Performance Network RFID Controller Solution : Standalone Mode
- RS232/RS485 Interface Support for AddPac IP Video Door Phone Interworking : Clone Mode
- Interworking with AddPac ACS(Access Control Server) for RFID Registration
- Internal Speaker
- Blue LED Backlight LCD, 128 x 64 Display Resolution
- One(1) 10/100Mbps Fast Ethernet
- PoE(Power over Ethernet) Support
- Powerful Network Protocols (PPPoE, DHCP, Static Routing, etc)
- Firmware Upgradeable Architecture
- Advanced Voice QoS Mechanism
- Die-casting Frame Chassis : Option*

Hardware Specification

AP-NRC50 Network RFID Controller



- RISC Microprocessor Computing Power
- Audio and Voice Interface
  - Internal Speaker
- Blue LED Backlight LCD Interface
  - 128 x 64 Video Resolution
- Network Interface
  - One(1) 10/100Mbps Fast Ethernet
- RF Card Interface
- Alarm & Relay Out Interface (door open, etc)
- RS232/RS485 Interface
- Power Supply
  - Power over Ethernet (Option)
  - External Power Supply

Hardware Specification

AP-NRC50 Network RFID Controller

RISC CPU

- LCD Controller
  - Display Type : FSTN, Positive
  - Built-in Controller : ST7567
  - Blue LED Backlight
  - Active Area : 35.48(W) x 22.38(H)
  - Number of Dots : 128 x 64
- Speaker
  - Impedance : 8 +-15%ohm at 1kHz, 1.0 Vrms
  - Sound Pressure : 90 +- 3dB at 0.1W/10 CM
    at 800Hz, 1.0kHz, 1.2kHz, 1.5kHz
  - Resonance Level : 550Hz +- 20%Hz at Fo Hz, 1.0Vrms
  - Frequency Range : Fo Hz ~20kHz
  - Input Power : Normal : 1.0 W, Max : 2.0W
- PoE(Power over Ethernet)
  - IEEE802.3af compliant
  - Input voltage range 36V to 57V
  - Short-circuit Protection

Hardware Specification

AP-NRC50 Network RFID Controller

RISC CPU

- RF Card Sensor
  - Protocol Supported
    - ISO14443A/B all bit rates
    - > 106,212,424 and 848 kbps
    - Compatible to MiFare Classic
    - ISO15693 all modes
    - > 1.65/6.6 & 26.5 kbps
    - > Uplink 1 & 2 sub-carrier
  - Receiver
    - Rx Sensitivity down to 1mVrms
    - Rx Automatic Gain Control
    - Accept external baseband signal from external circuitry for frame level processing
    - Integrated signal strength indicator (SSI)
    - On-Chip Framing handler for supported standard
  - Transmitter
    - Typical proximity operating distance up to 100mm.
    - Software configurable modulation index
    - Maximum driving current up to 200 mA/PIN @ 5V
    - Accept external baseband signal for RF modulation
    - Wide Transmitter driver supply range from 2.7~7.0V



Hardware Specification

AP-NRC50 Network RFID Controller

RISC CPU

Front Side



Die-casting Frame Chassis : Option

Internal Speaker

Blue Back Light LCD : 128 x 64

RF Card Sensor

Hardware Specification

AP-NRC50 Network RFID Controller

RISC CPU

Back Side



RS485

RS232

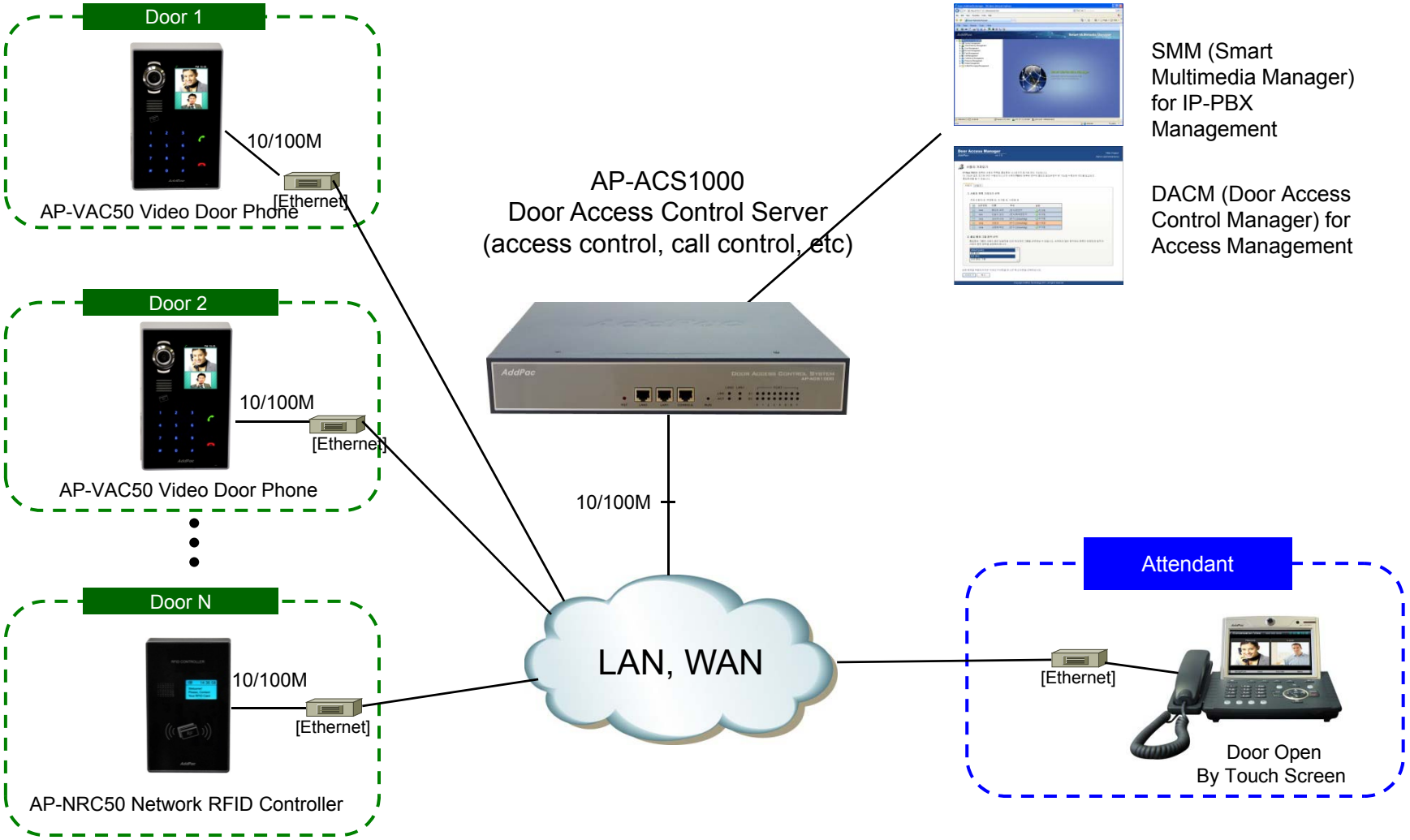
2 Alarm,2 Relay Out

LAN Port

Power Input : Terminal Block
12V 1A

Network Diagram

AP-NRC50 Network RFID Controller



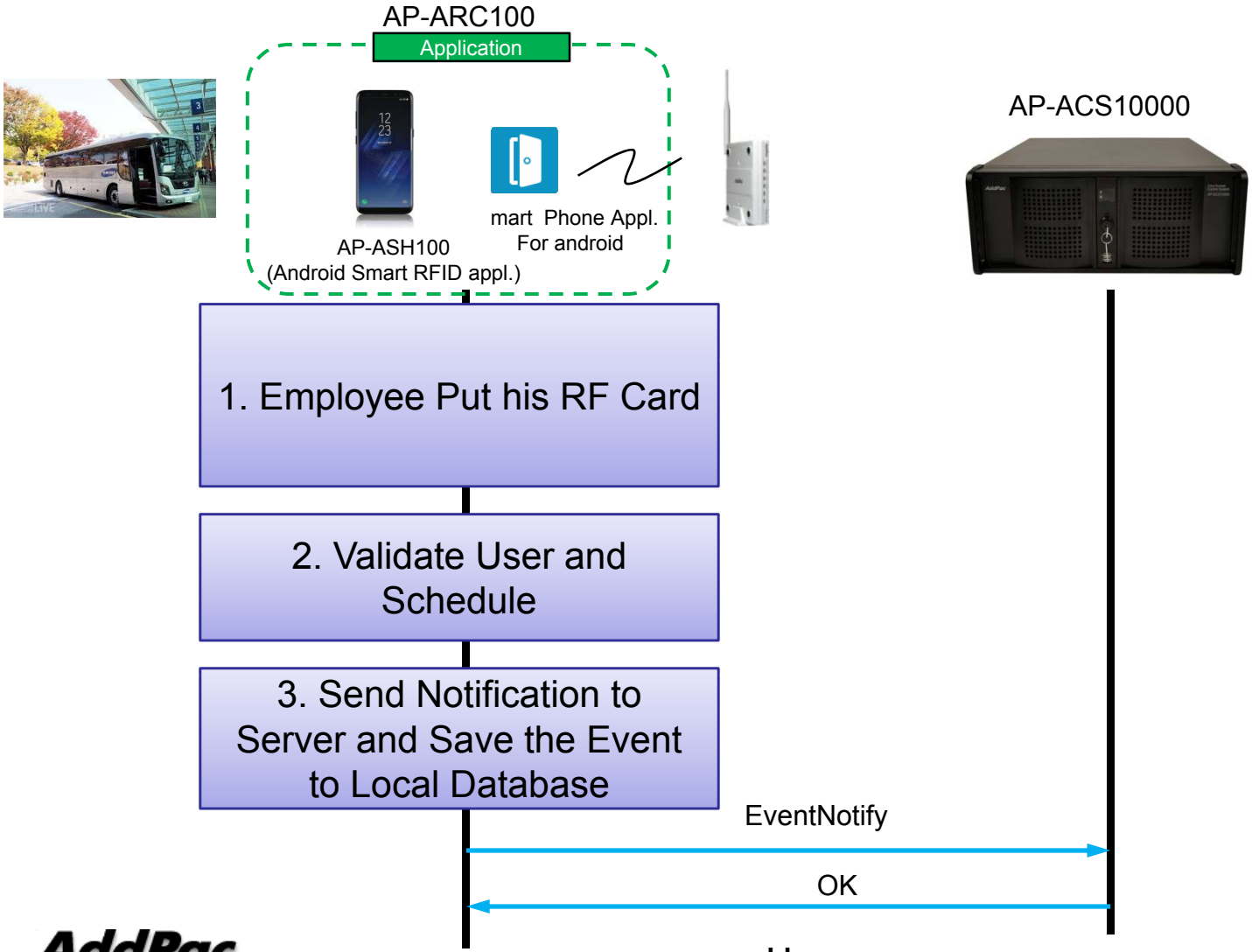
AP-ARC100 Mobile Android Network RFID Controller

Android RFID Access Controller Software
(Android App.)



DACS System Message Flow

RF Card Recognition



AP-ACS10000
Network RFID Access Control Server

Main Features

AP-ACS10000 DACS (Door Access Control System)

- Large Scale Door Access Control Service Features
- Linux Operating System
- Time & Attendance Control System
- Server & Client Architecture
- System Duplication Support for Fault Tolerant Service
- RF Card, Fingerprint Video Door Phone Interworking Service
- Smart Time & Attendance Manager Support (Web based)
- Excel File Import Function for Large User Registration
- Powerful Management and User Friendly Features
- Open API Support for Third Party
- Firmware Upgradeable Architecture
- Up to 4 x 3.5Inch Hard Disk (SATA Type, 2Tera Byte Support)
- One(1) 10/100/1000Mbps Gigabit Ethernet Interface
- USB Interface Support (Front Side, Back Side)

Hardware Specification

AP-ACS10000 DACS (Door Access Control System)

High End Processor

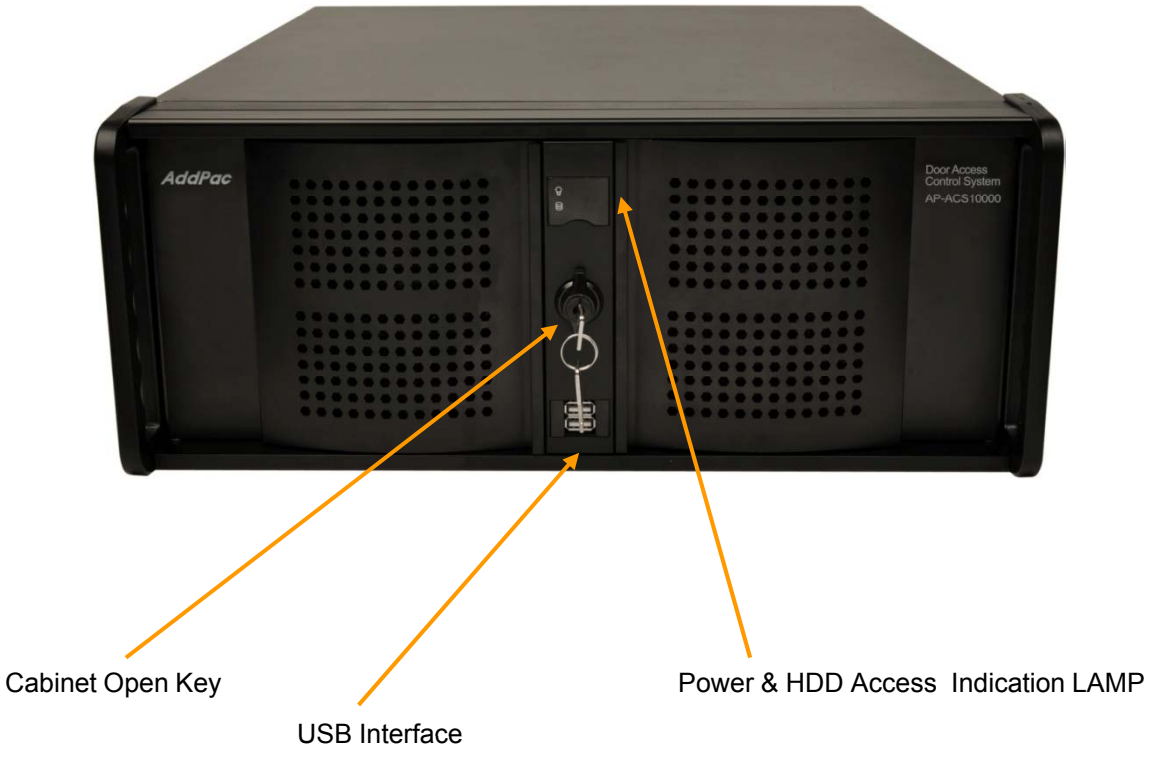
- High Performance Computing Power
- Main Chassis
  - Network Interface
    - One(1) 10/100/1000Mbps Fast Ethernet
  - Video Output Interface
    - HDMI, DVI,RGB Video Output
  - USB 2.0 Interfaces for Mouse, Keyboard, etc
  - One(1) DVD Writer for Video File Backup
  - Up to Four(4) Hard Disk

Hardware Specification

AP-ACS10000 DACS (Door Access Control System)

High End Processor

Front Side

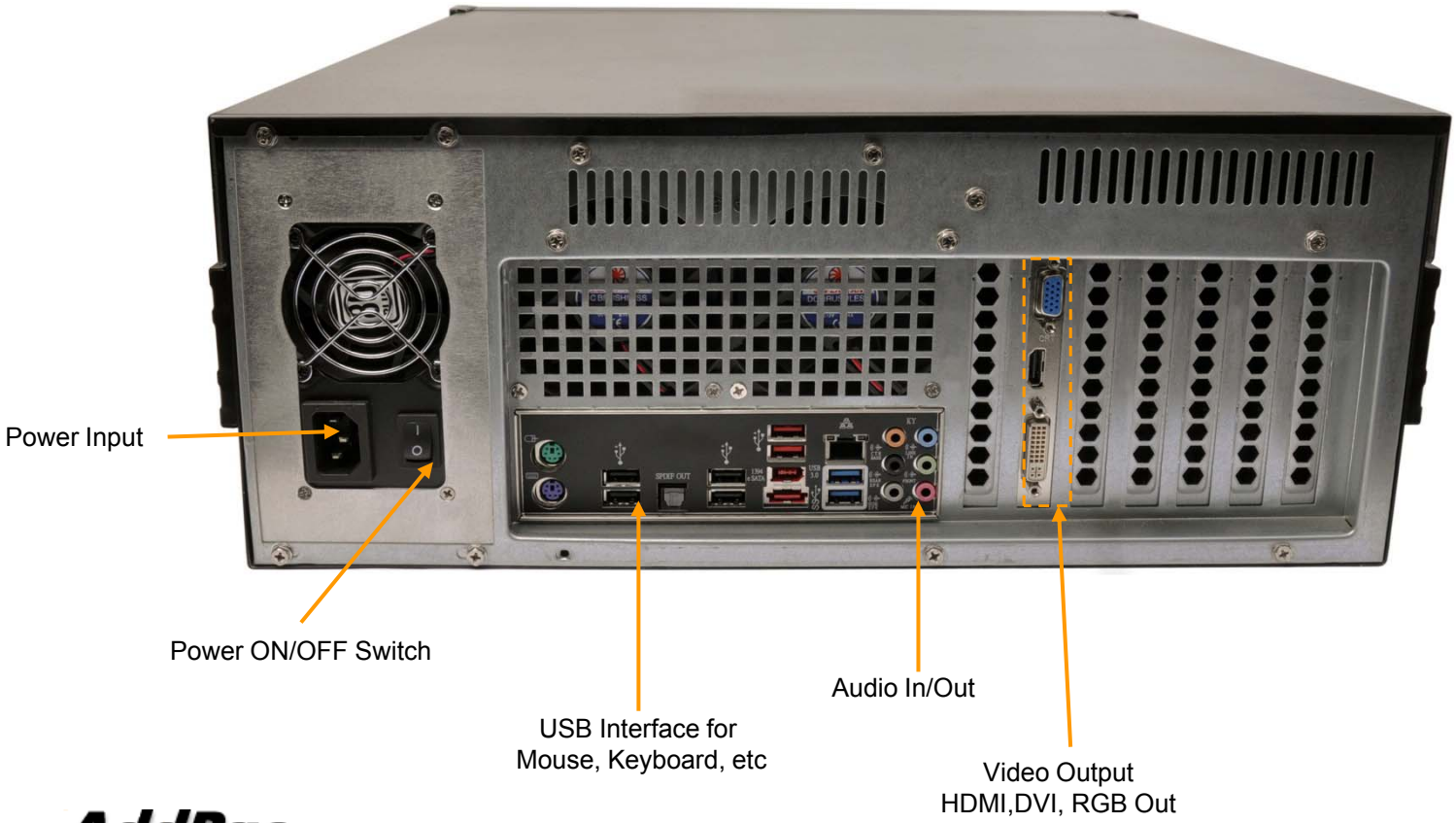


Hardware Specification

AP-ACS10000 DACS (Door Access Control System)

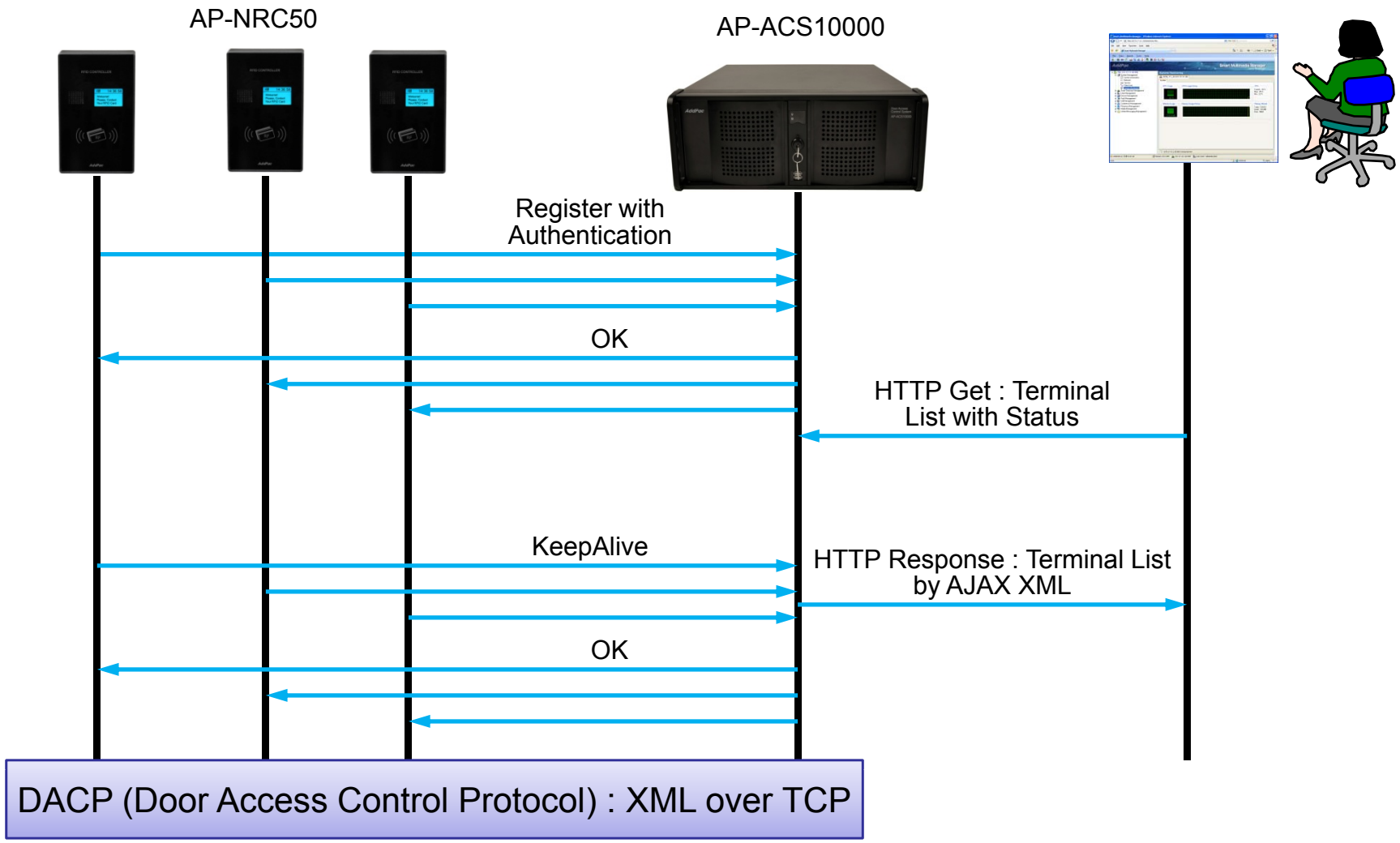
High End Processor

Front Side



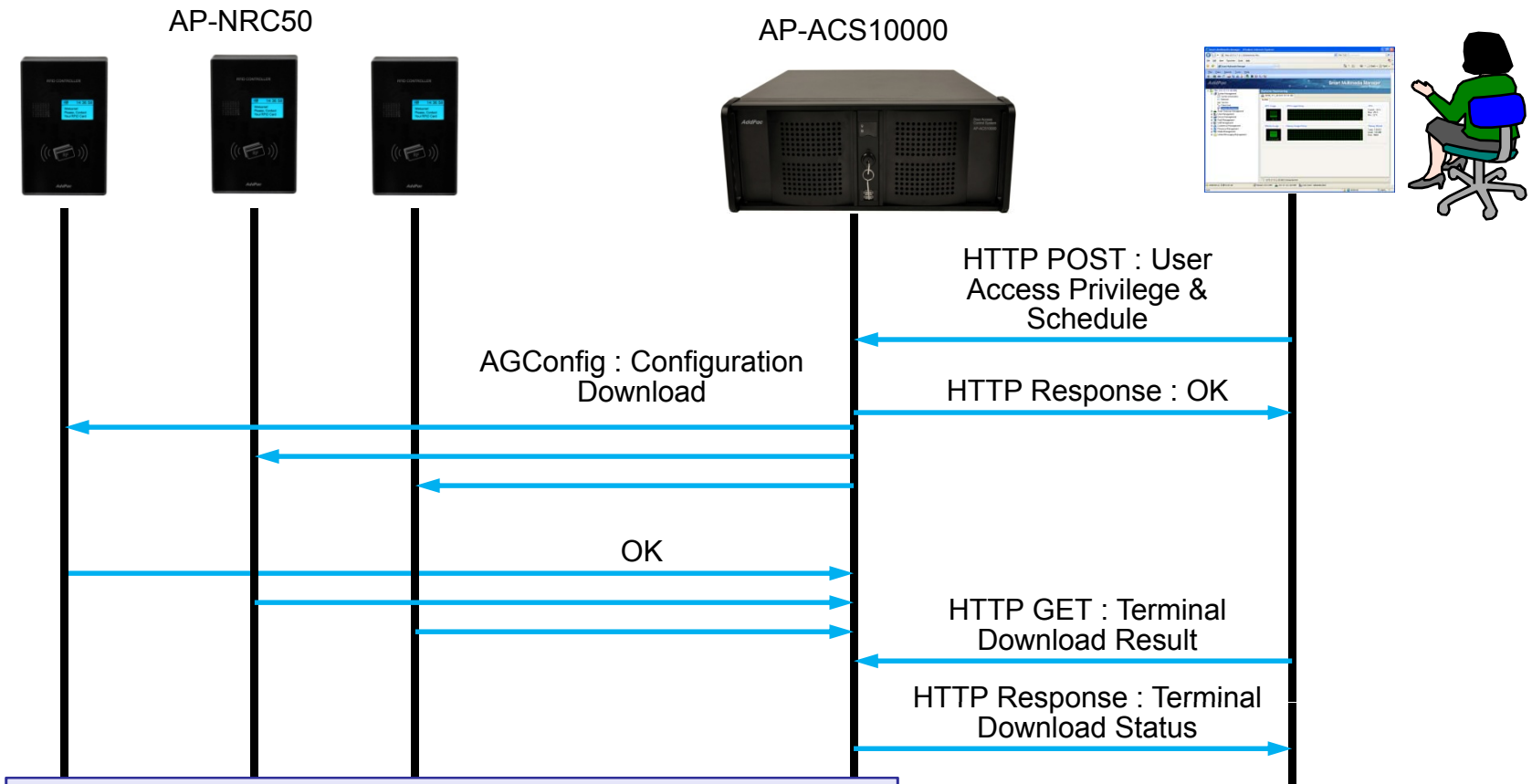
DACS
System Message Flow

DACS System Message Flow
Registration and KeepAlive



DACS System Message Flow

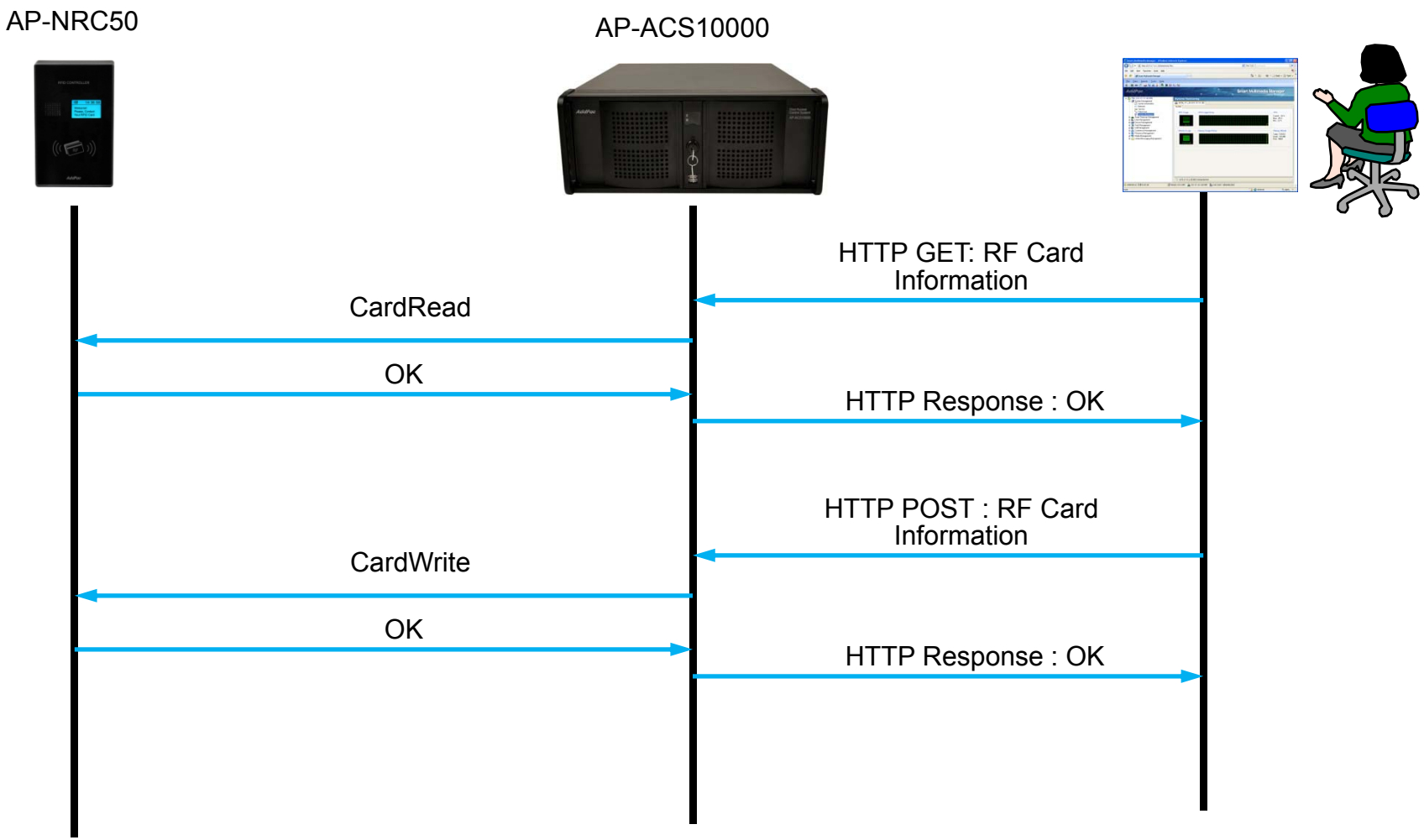
Access Privilege and Schedule Download



DACP Handle Full or Partial Configuration Download for Supporting Efficient and Large Scale Network

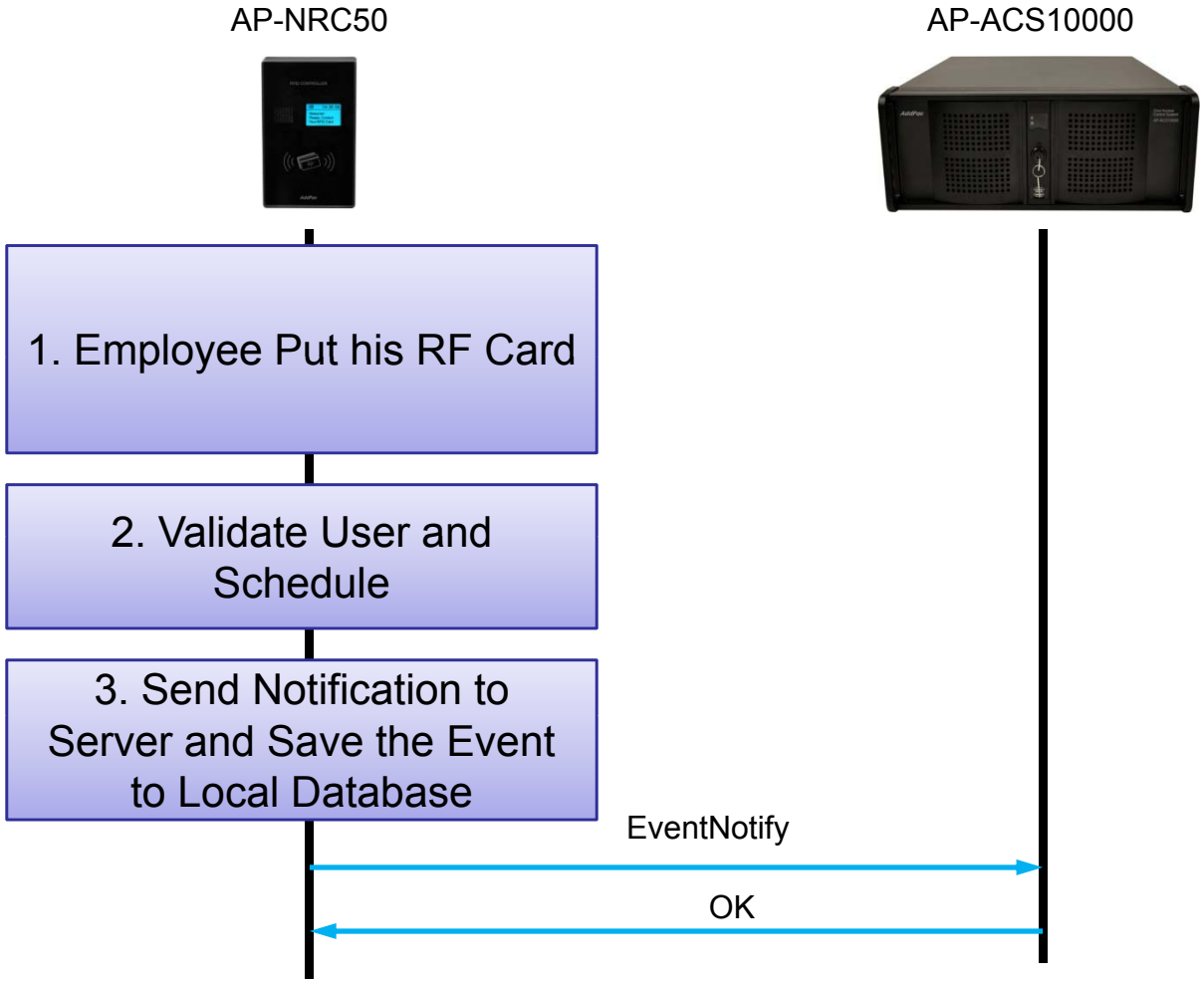
DACS System Message Flow

RF Card Read/Write and Registration



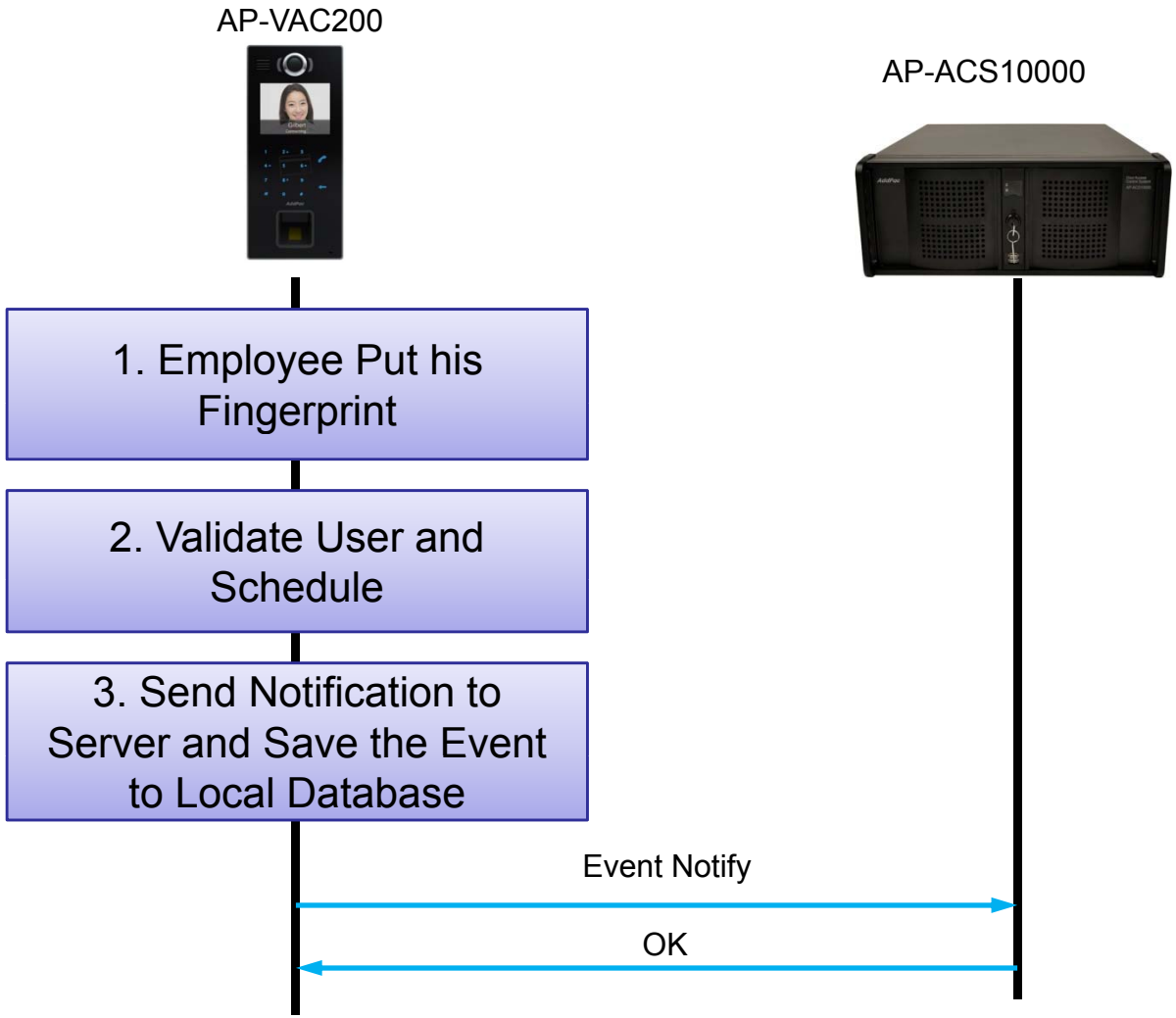
DACS System Message Flow

Door Open by RF Card



DACS System Message Flow

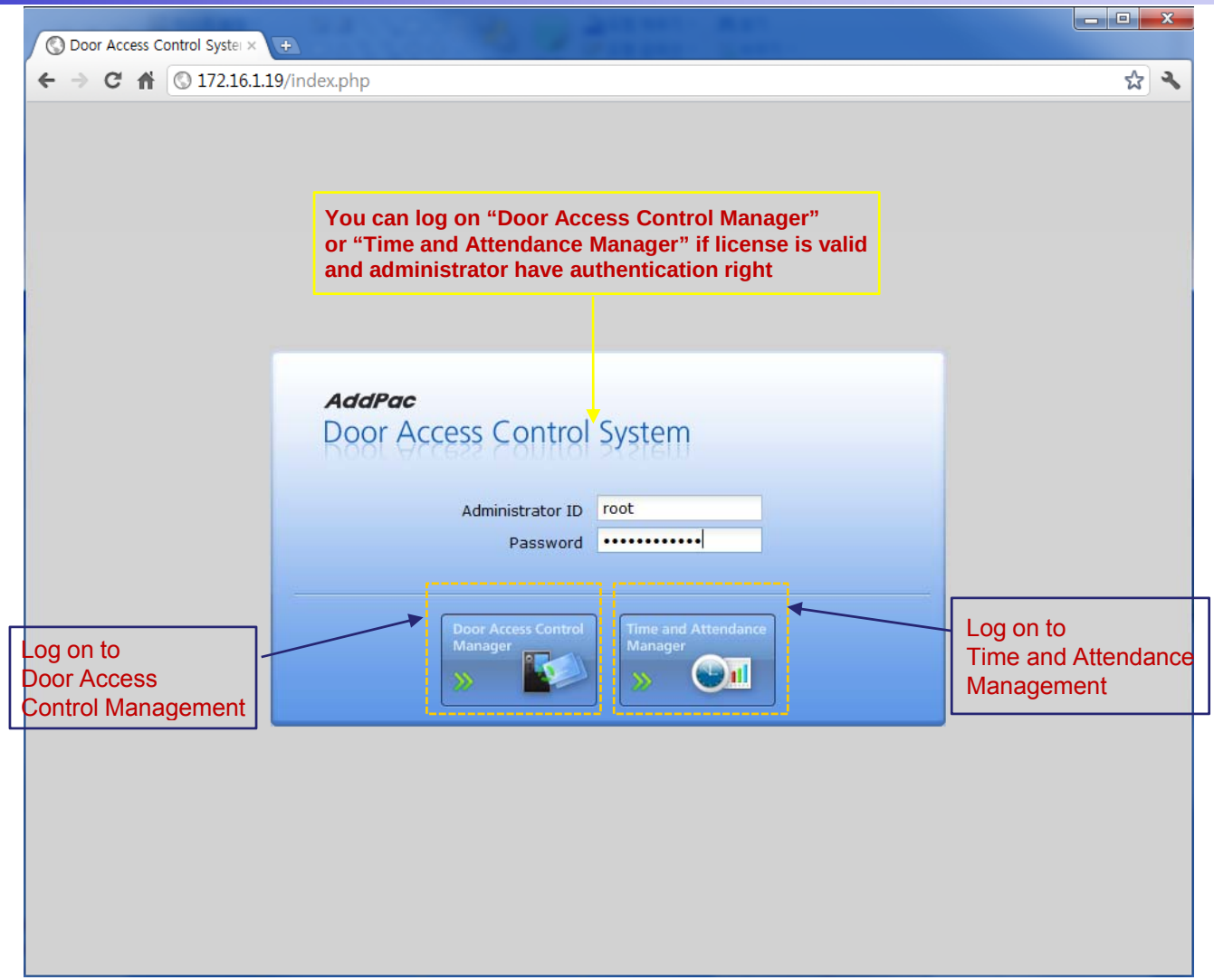
Door Open by Fingerprint



Door Access Control System
Web Manager
Software
(DACM, TAAM)

DACS (Door Access Control System)

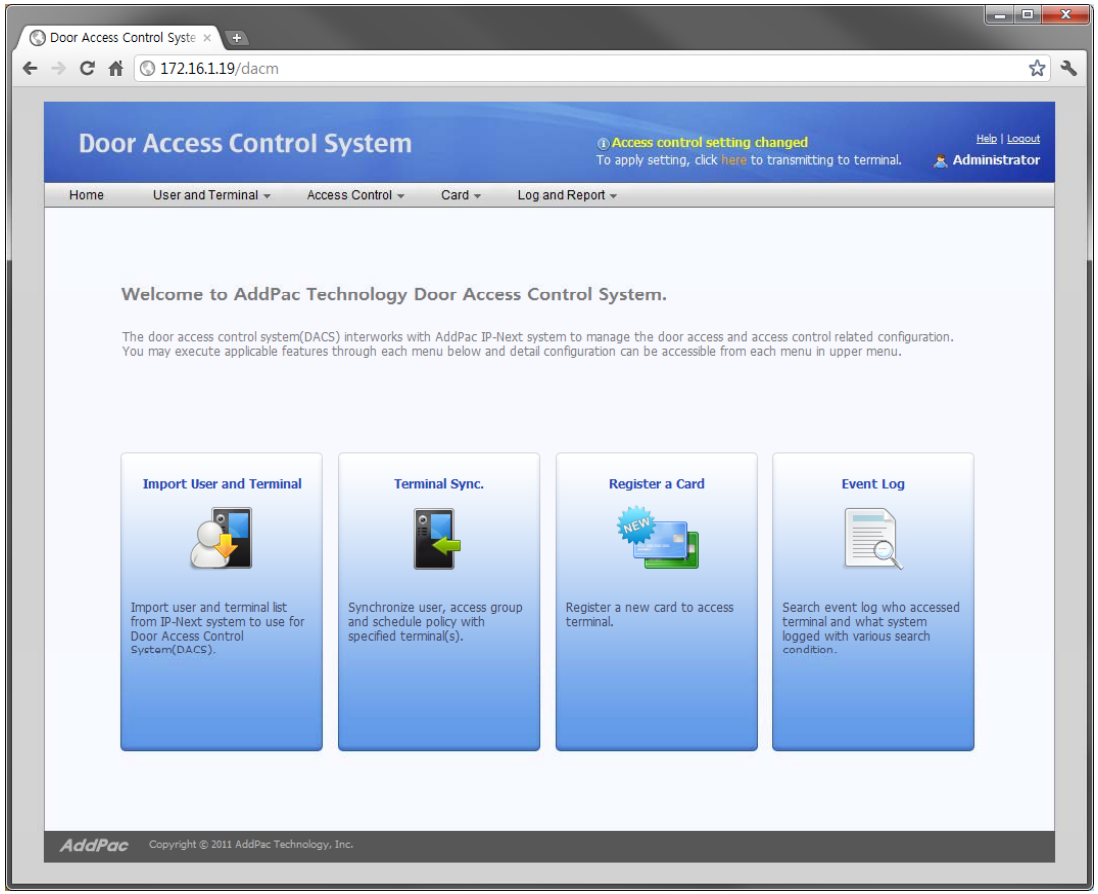
Login page



Door Access Control Web Manager Software (DACM)

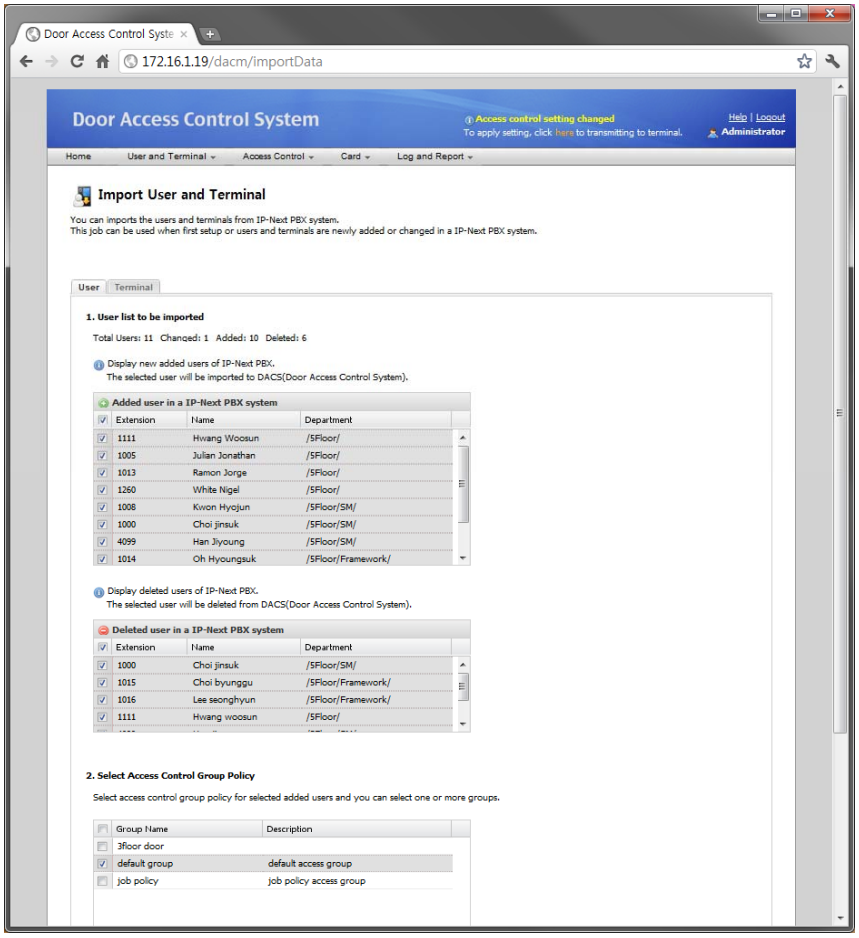
DACM (Door Access Control Manager)

Main Web Page



DACM (Door Access Control Manager)

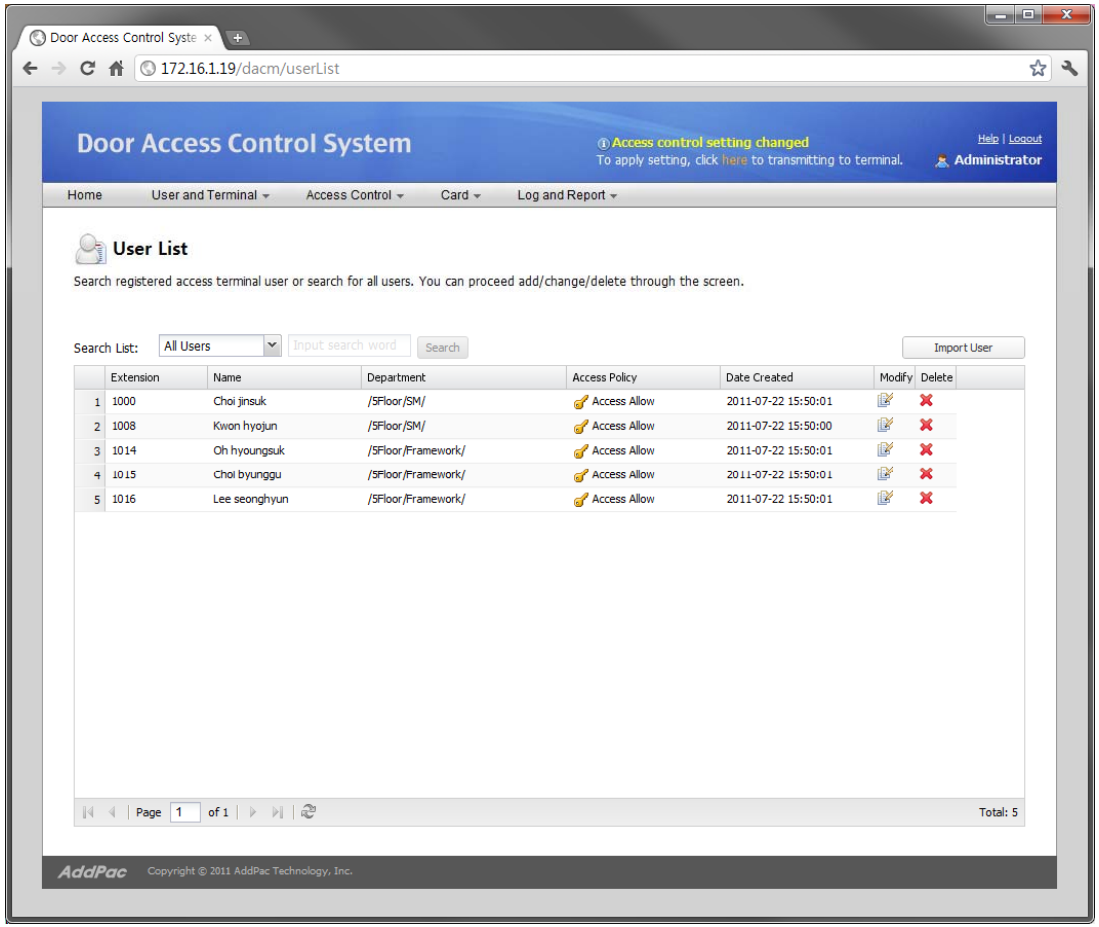
Import User and Terminal



DACM (Door Access Control Manager)

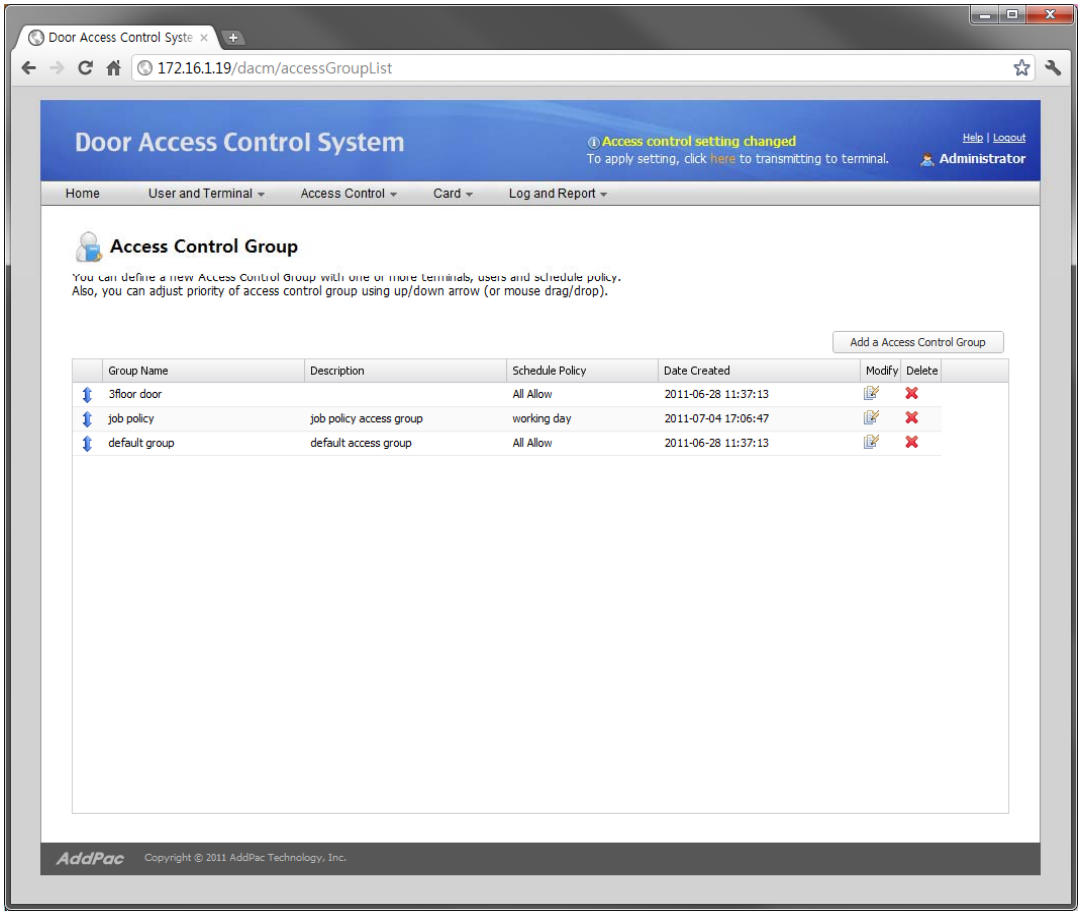
User List

User List



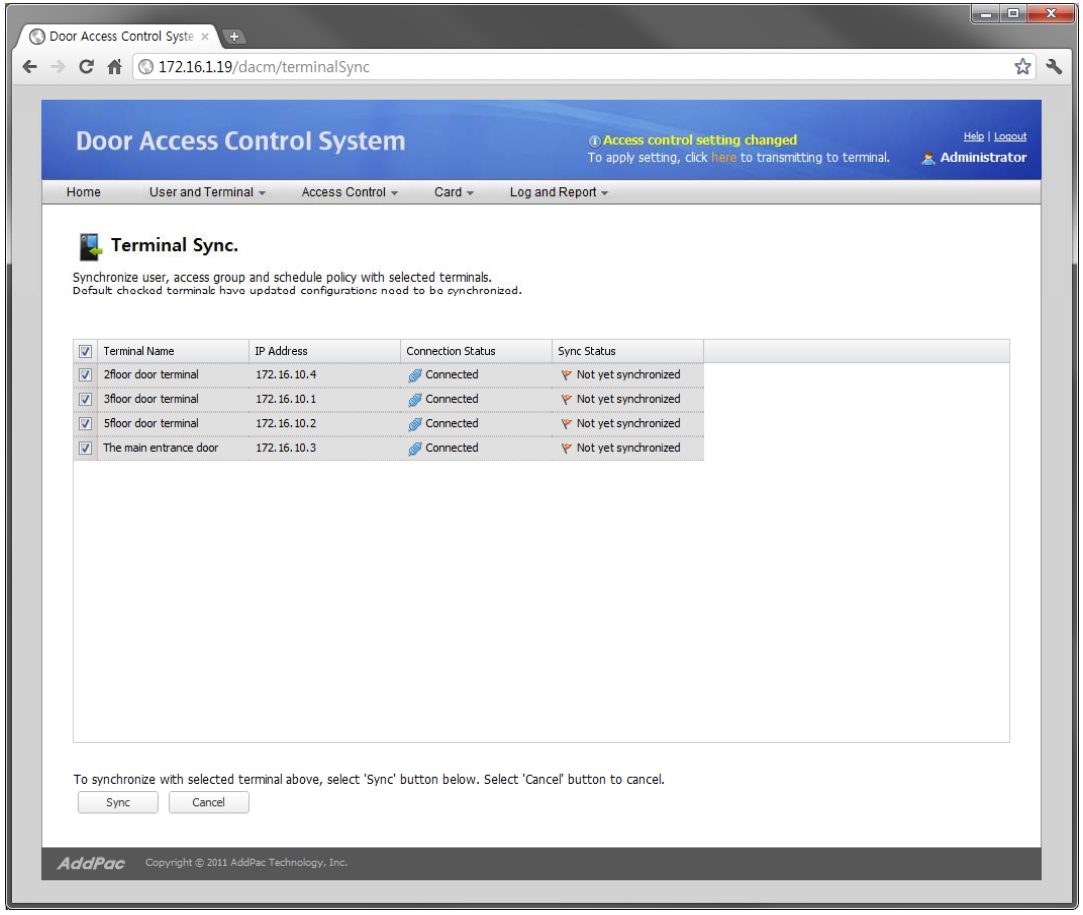
DACM (Door Access Control Manager)

Access Control Group Management



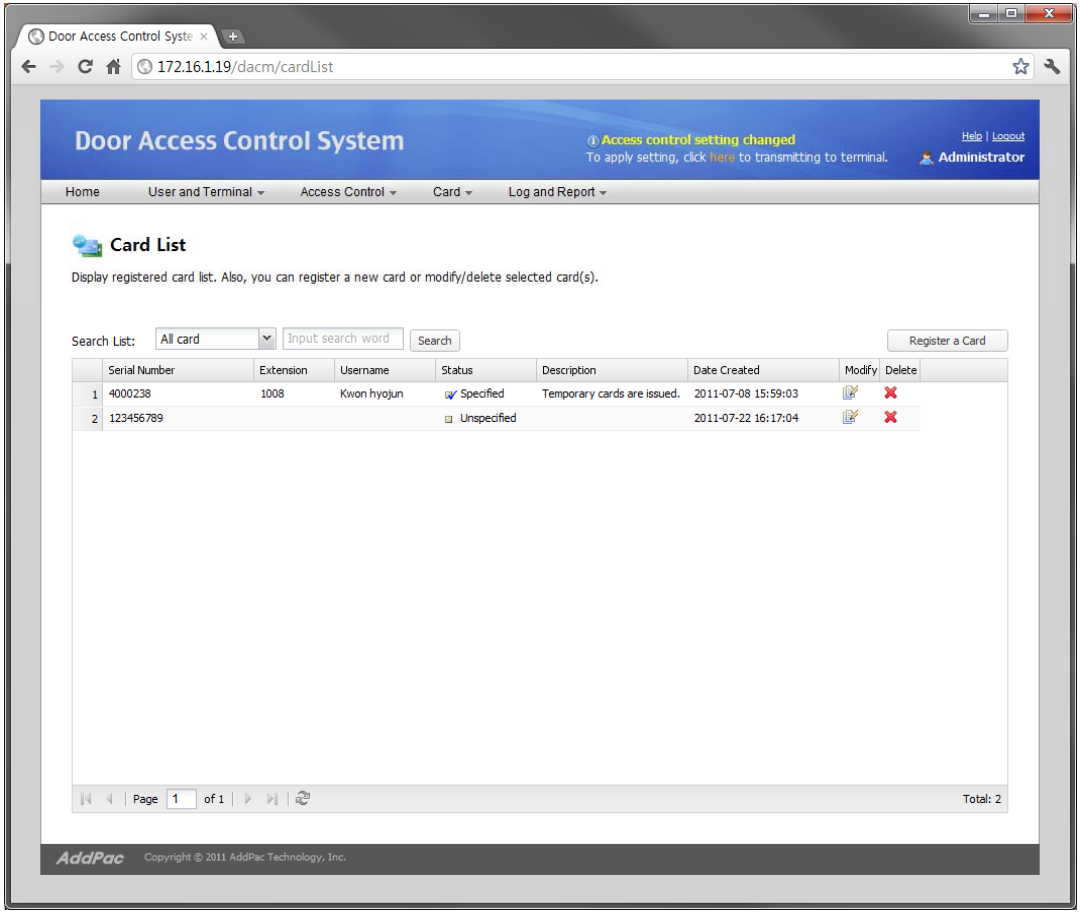
DACM (Door Access Control Manager)

Configuration Download to Terminal



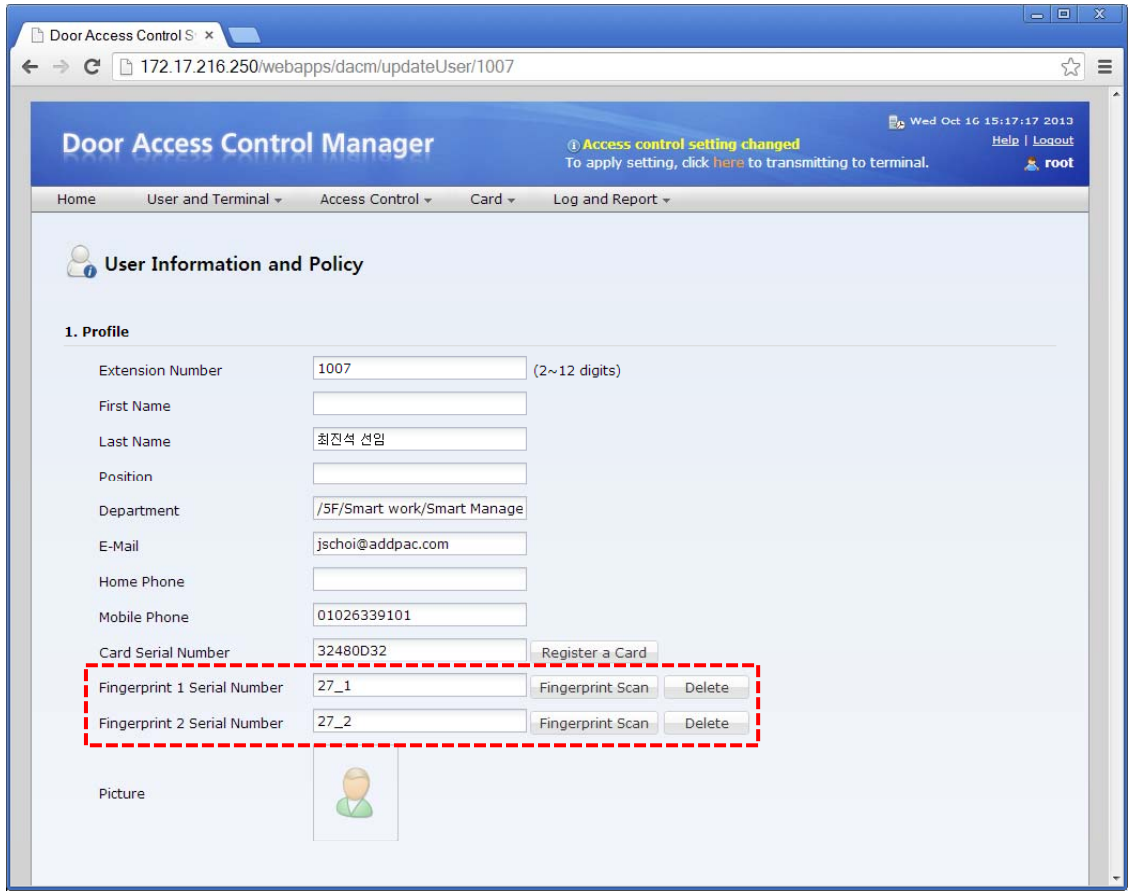
DACM (Door Access Control Manager)

RF Card Management



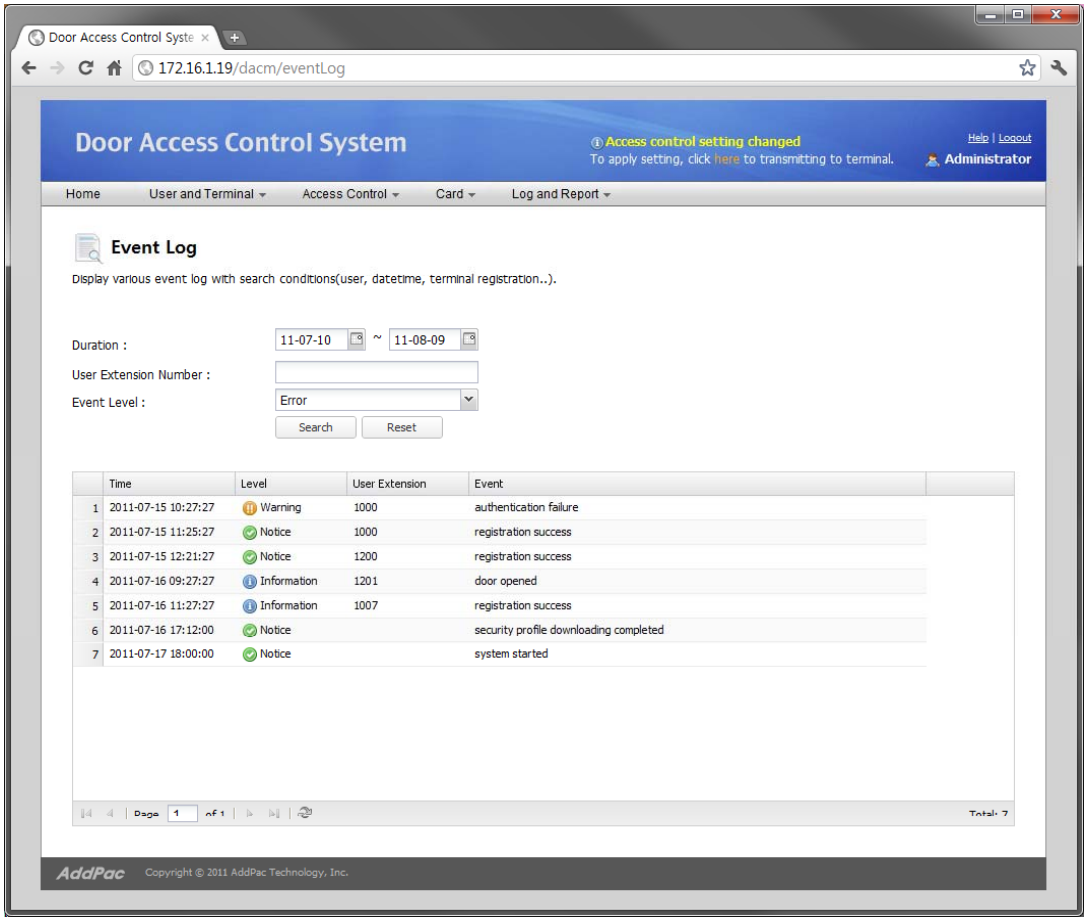
DACM (Door Access Control Manager)

Fingerprint Management



DACM (Door Access Control Manager)

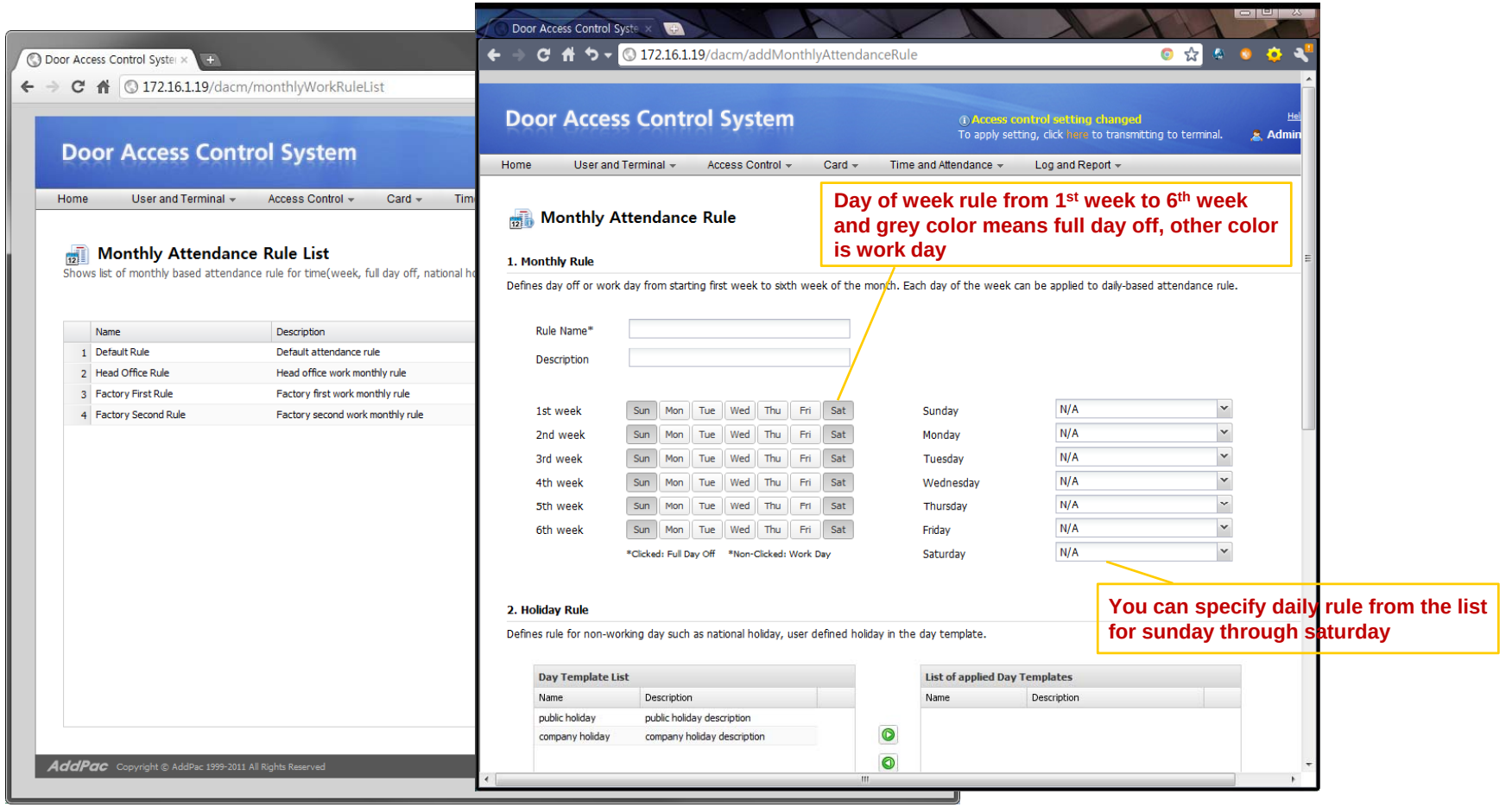
Access Log Management



Time Attendance Web Manager Software (TAAM)

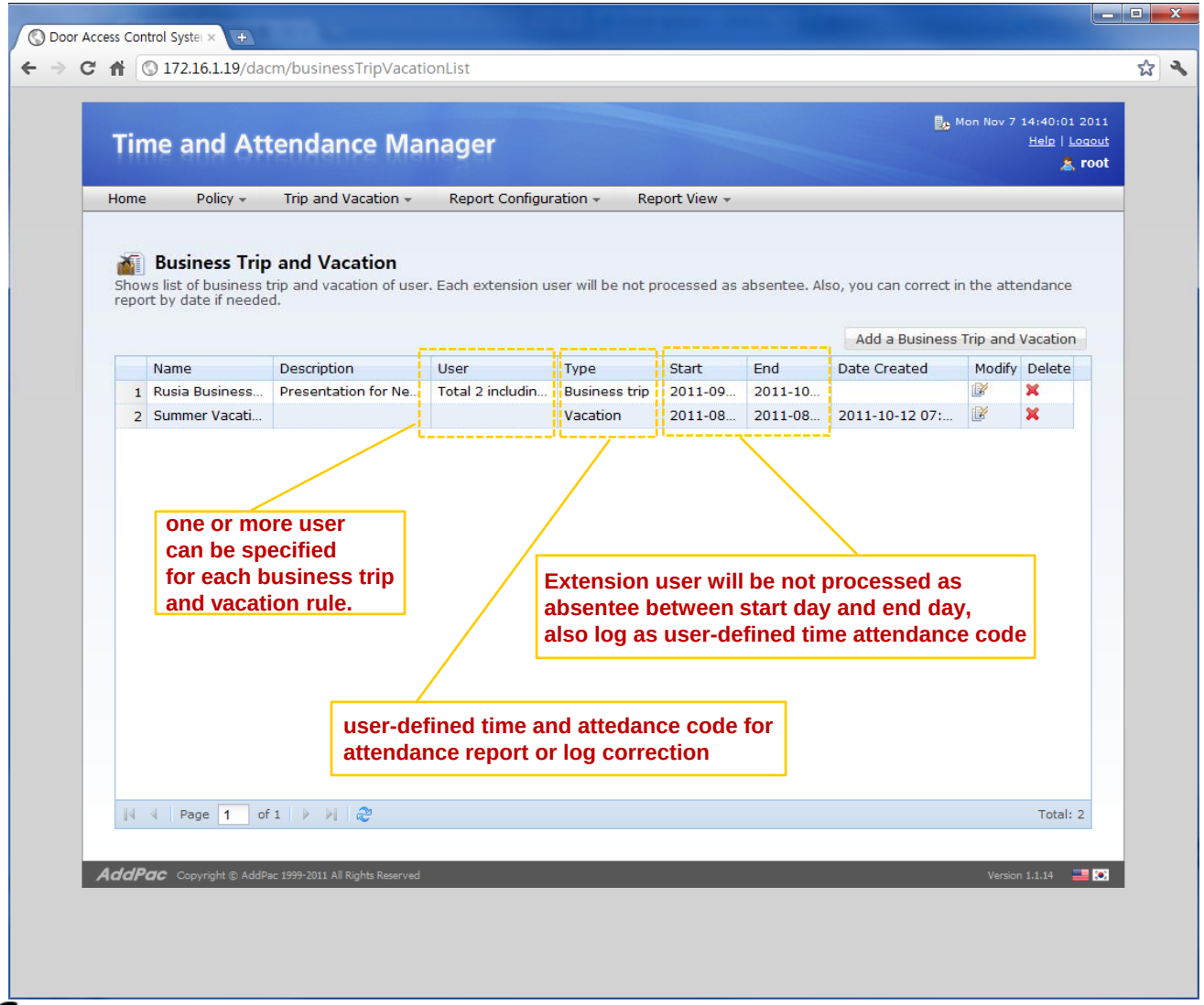
TAAM (Time and Attendance Manager)

Monthly Attendance Rules



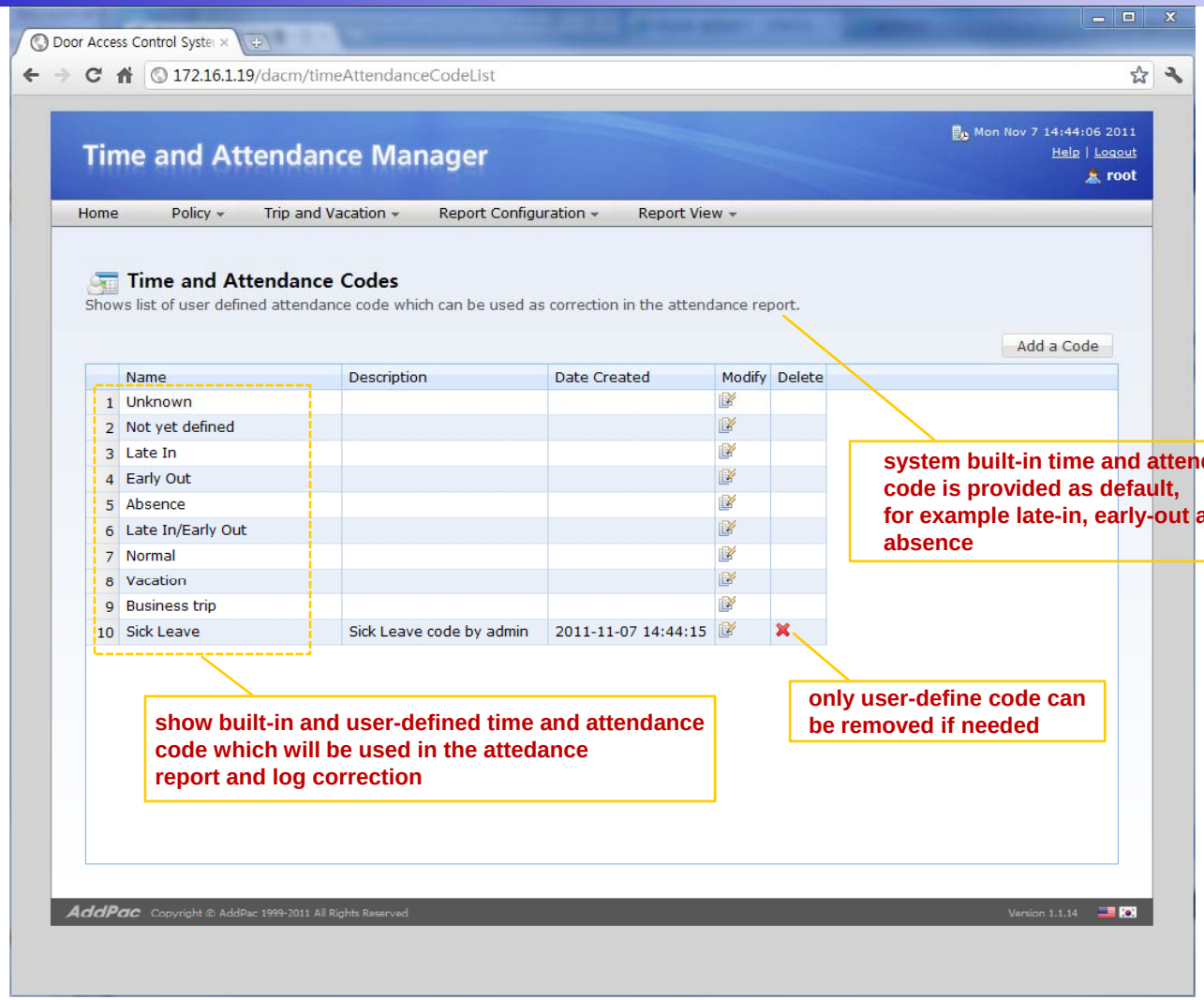
TAAM (Time and Attendance Manager)

Business Trip and Vacation



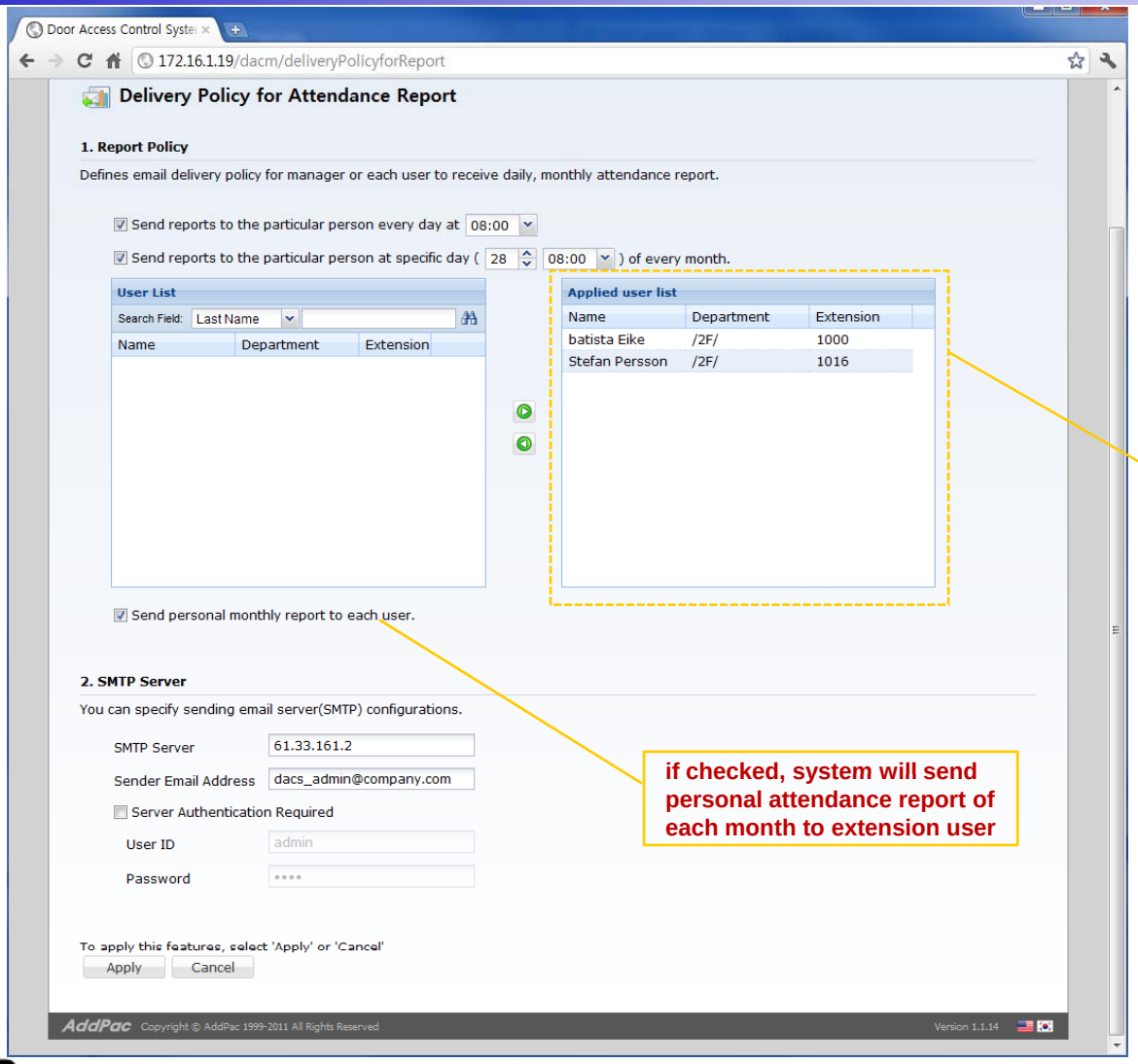
TAAM (Time and Attendance Manager)

Time and Attendance Codes



TAAM (Time and Attendance Manager)

Delivery Policy for Attendance Report

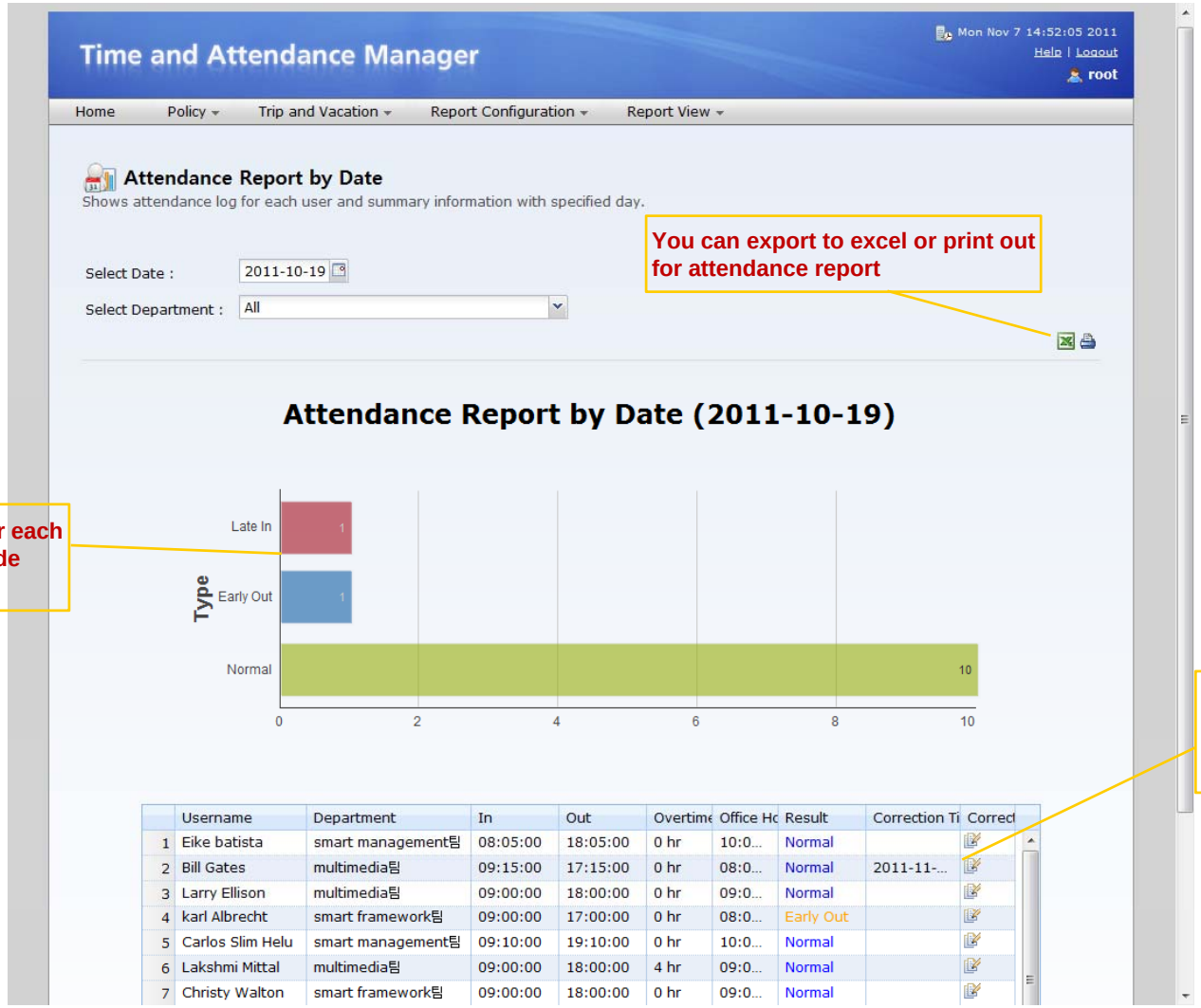


manager level users (extension) list who want to receive daily and monthly attendance report

if checked, system will send personal attendance report of each month to extension user

TAAM (Time and Attendance Manager)

Attendance Report by Date



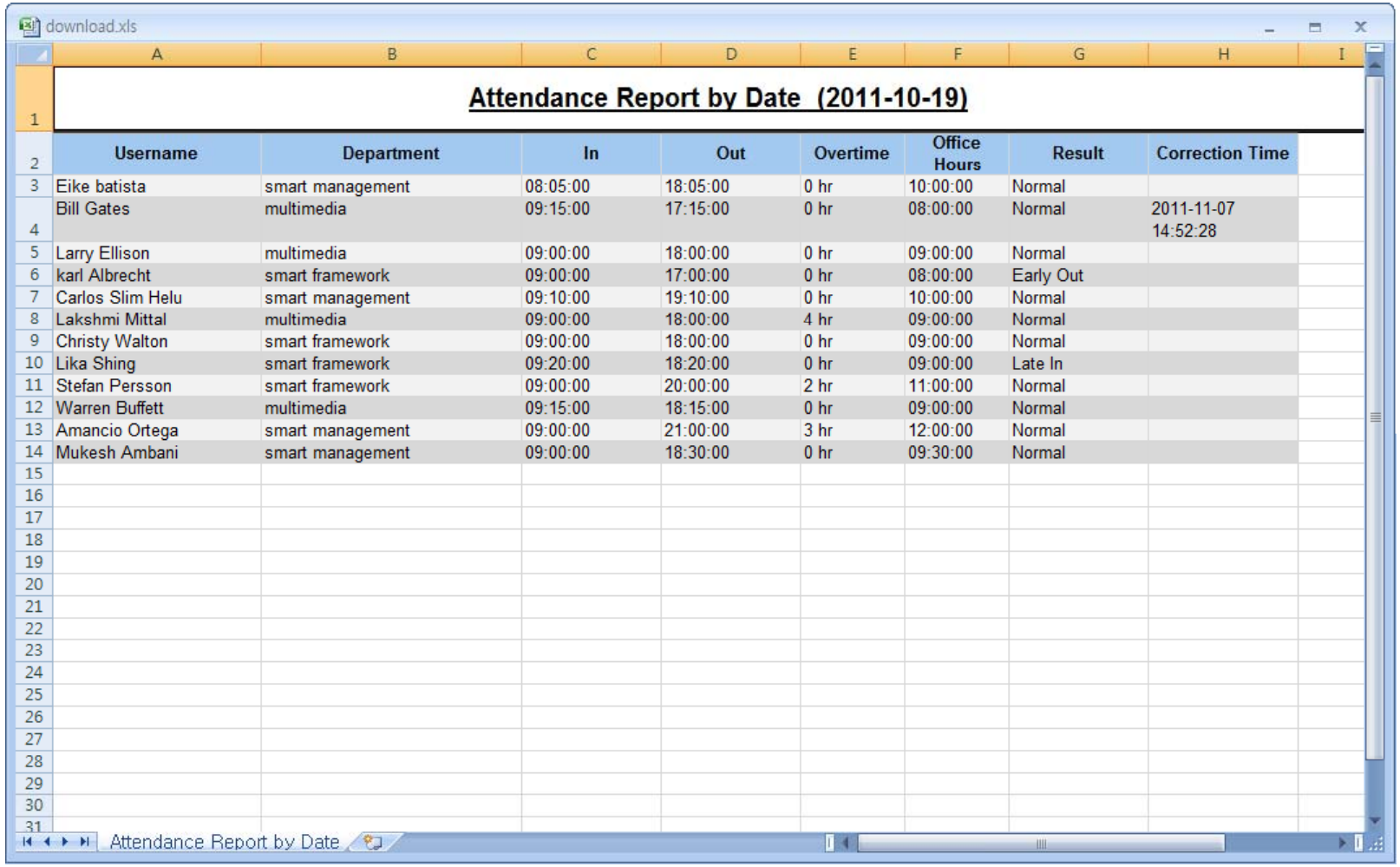
You can export to excel or print out for attendance report

attendance summary for each time and attendance code with specified date

administrator may adjust or correct attendance log which system have processed if necessary

TAAM (Time and Attendance Manager)

Attendance Report Excel Export



download.xls

Attendance Report by Date (2011-10-19)

Username	Department	In	Out	Overtime	Office Hours	Result	Correction Time
Eike batista	smart management	08:05:00	18:05:00	0 hr	10:00:00	Normal	
Bill Gates	multimedia	09:15:00	17:15:00	0 hr	08:00:00	Normal	2011-11-07 14:52:28
Larry Ellison	multimedia	09:00:00	18:00:00	0 hr	09:00:00	Normal	
karl Albrecht	smart framework	09:00:00	17:00:00	0 hr	08:00:00	Early Out	
Carlos Slim Helu	smart management	09:10:00	19:10:00	0 hr	10:00:00	Normal	
Lakshmi Mittal	multimedia	09:00:00	18:00:00	4 hr	09:00:00	Normal	
Christy Walton	smart framework	09:00:00	18:00:00	0 hr	09:00:00	Normal	
Lika Shing	smart framework	09:20:00	18:20:00	0 hr	09:00:00	Late In	
Stefan Persson	smart framework	09:00:00	20:00:00	2 hr	11:00:00	Normal	
Warren Buffett	multimedia	09:15:00	18:15:00	0 hr	09:00:00	Normal	
Amancio Ortega	smart management	09:00:00	21:00:00	3 hr	12:00:00	Normal	
Mukesh Ambani	smart management	09:00:00	18:30:00	0 hr	09:30:00	Normal	

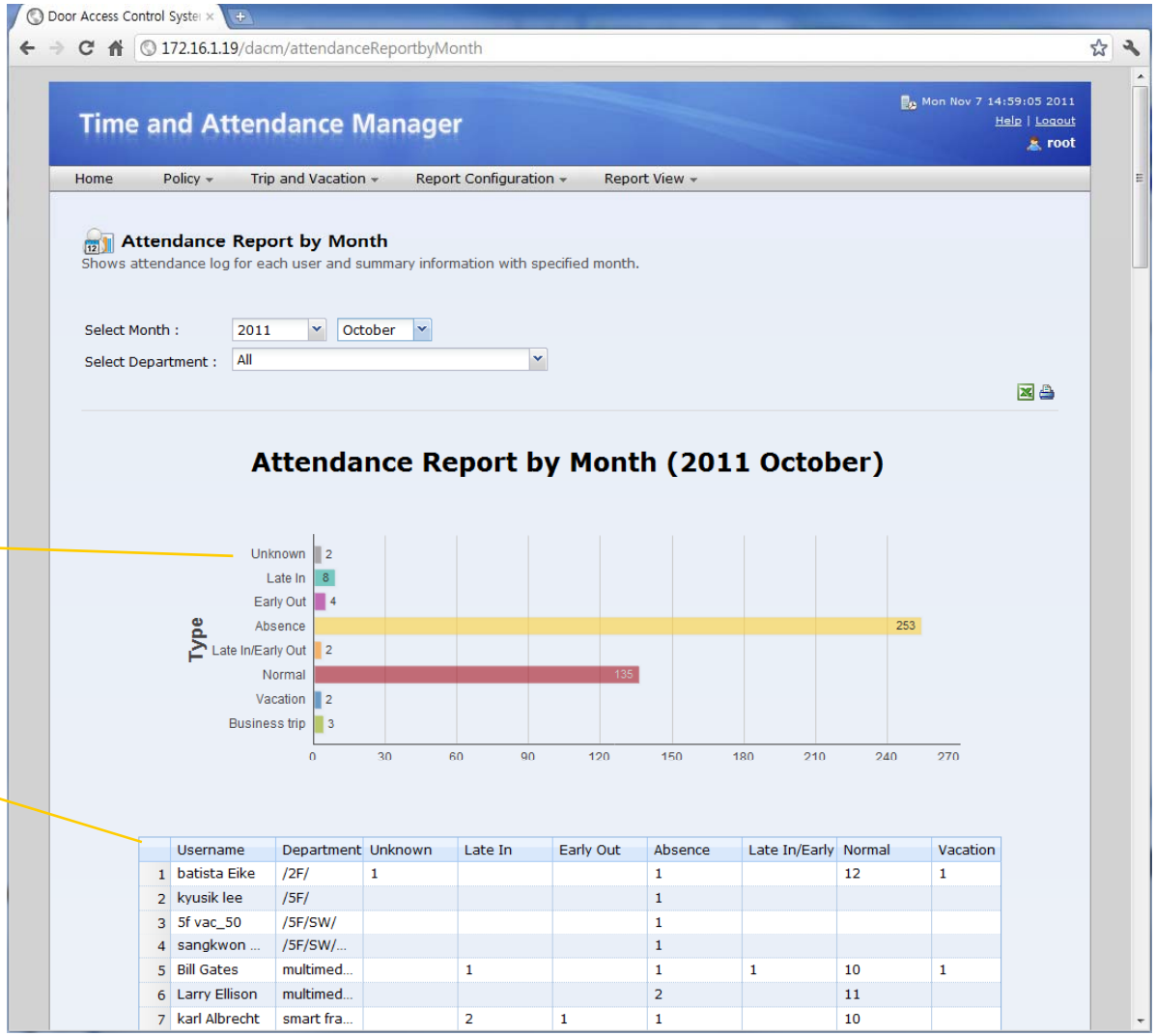
Attendance Report by Date

TAAM (Time and Attendance Manager)

Attendance Report by Month

attendance summary for each time and attendance code with specified month

attendance summary for each extension user

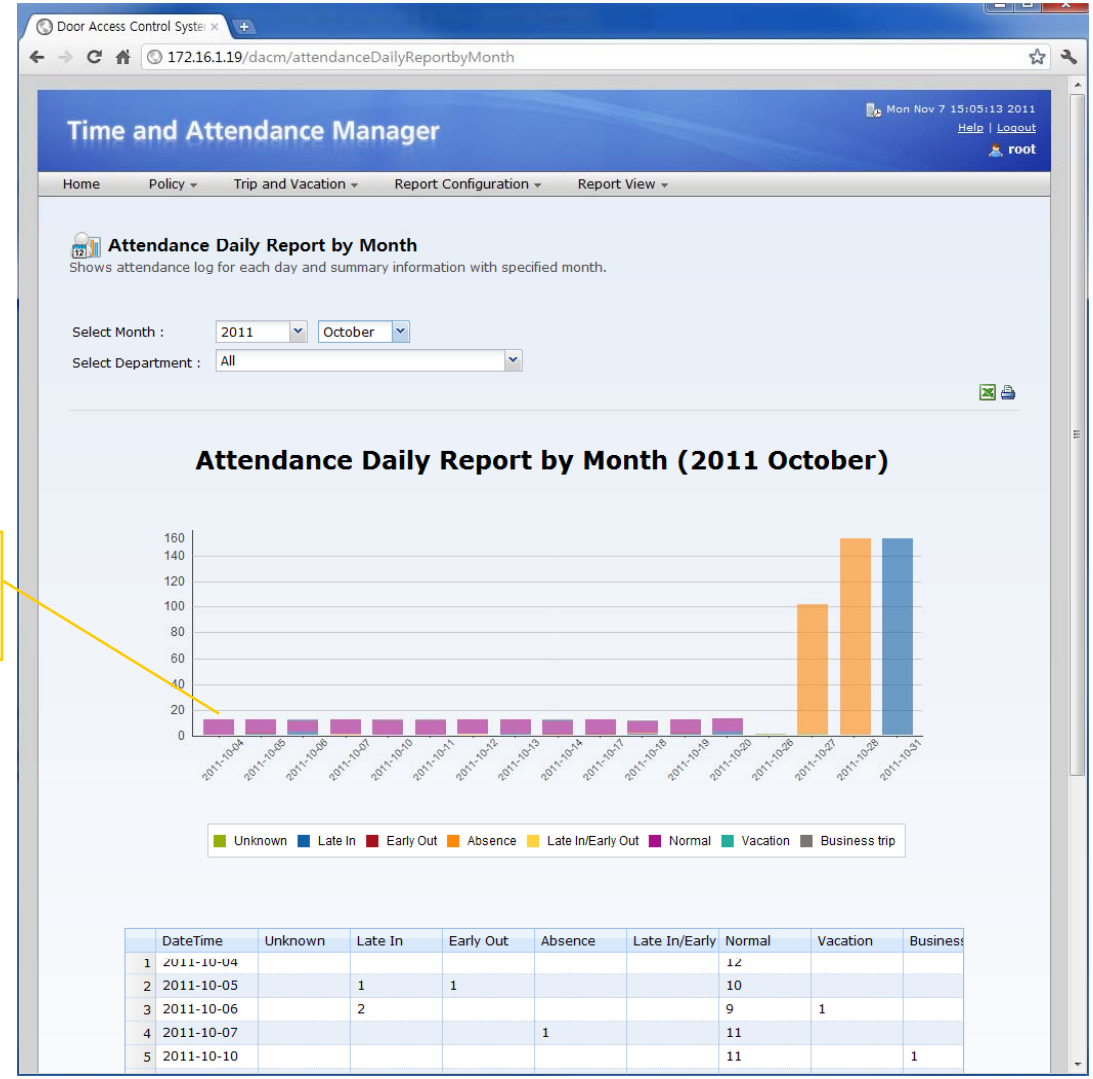


	Username	Department	Unknown	Late In	Early Out	Absence	Late In/Early	Normal	Vacation
1	batista Eike	/2F/	1			1		12	1
2	kyusik lee	/5F/				1			
3	5f vac_50	/5F/SW/				1			
4	sangkwon ...	/5F/SW/...				1			
5	Bill Gates	multimed...		1		1	1	10	1
6	Larry Ellison	multimed...				2		11	
7	karl Albrecht	smart fra...		2	1	1		10	

TAAM (Time and Attendance Manager)

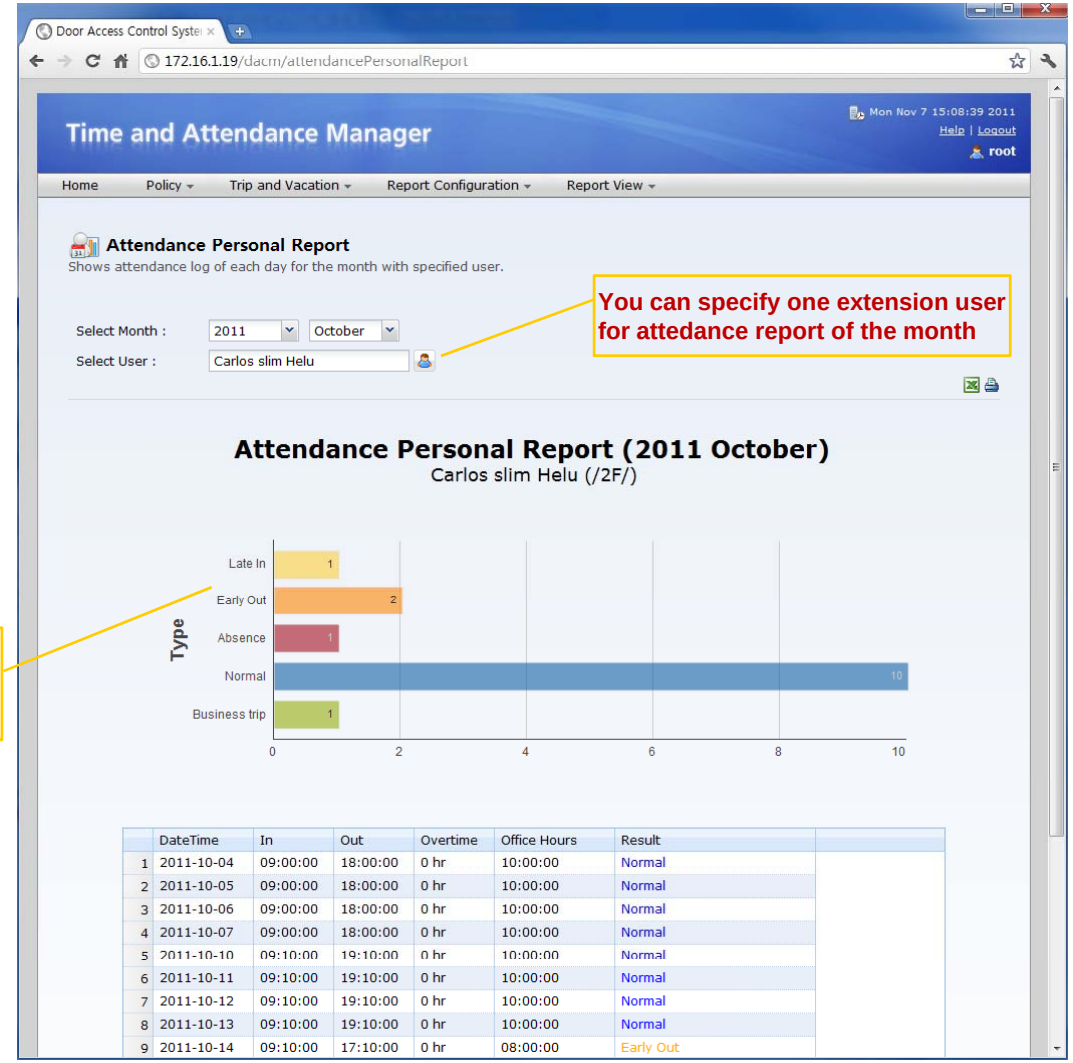
Attendance Daily Report by Month

clustered column of attendance summary with time span from first to end of the month



TAAM (Time and Attendance Manager)

Attendance Personal Report



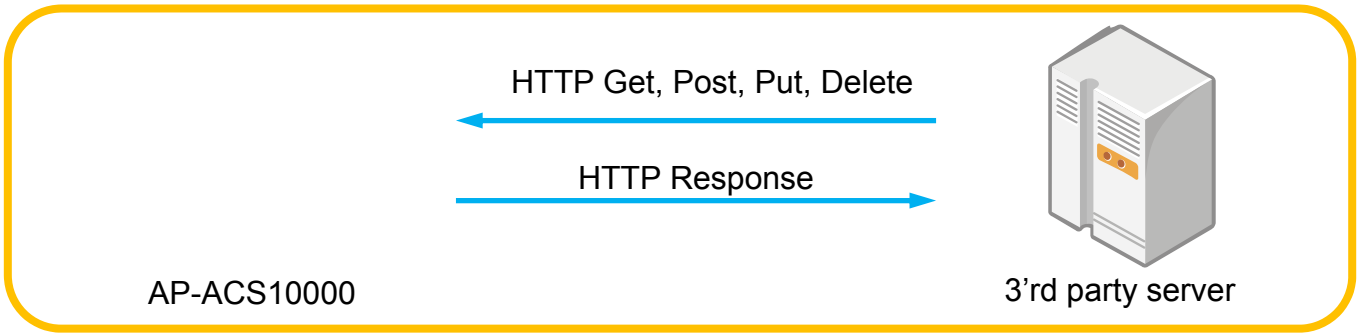
You can specify one extension user for attedance report of the month

attendance summary for time and attendance code of a extension user

AP-ACS10000 Open API

Open API

Open API for 3’rd Party Management System



- HTTP based RESTful Open API for Door Access Management
- XML based Flexible and Expandable Message Contents
- Provides More than 40 APIs as Bellow
  - user_list(GET), user(GET, POST, PUT, DELETE), …
  - terminal_list(GET), terminal(GET, POST, PUT, DELETE), …
  - access_group(GET, POST, PUT, DELETE), priority (PUT), …
  - card_list(GET), card(POST, PUT, DELETE), …
  - schedule_template(GET, POST, PUT, DELETE), rule(GET, POST, PUT, DELETE) ,…

Thank you!

AddPac Technology Co., Ltd.
Sales and Marketing

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E-mail : sales@addpac.com