

# ACOS Version 2.0 Overview

## (AddPac Door Access Control System Operating System)



AP-ACS1000 Door Access Control Server  
(Call Manager + Door Access Controller)

**AddPac**

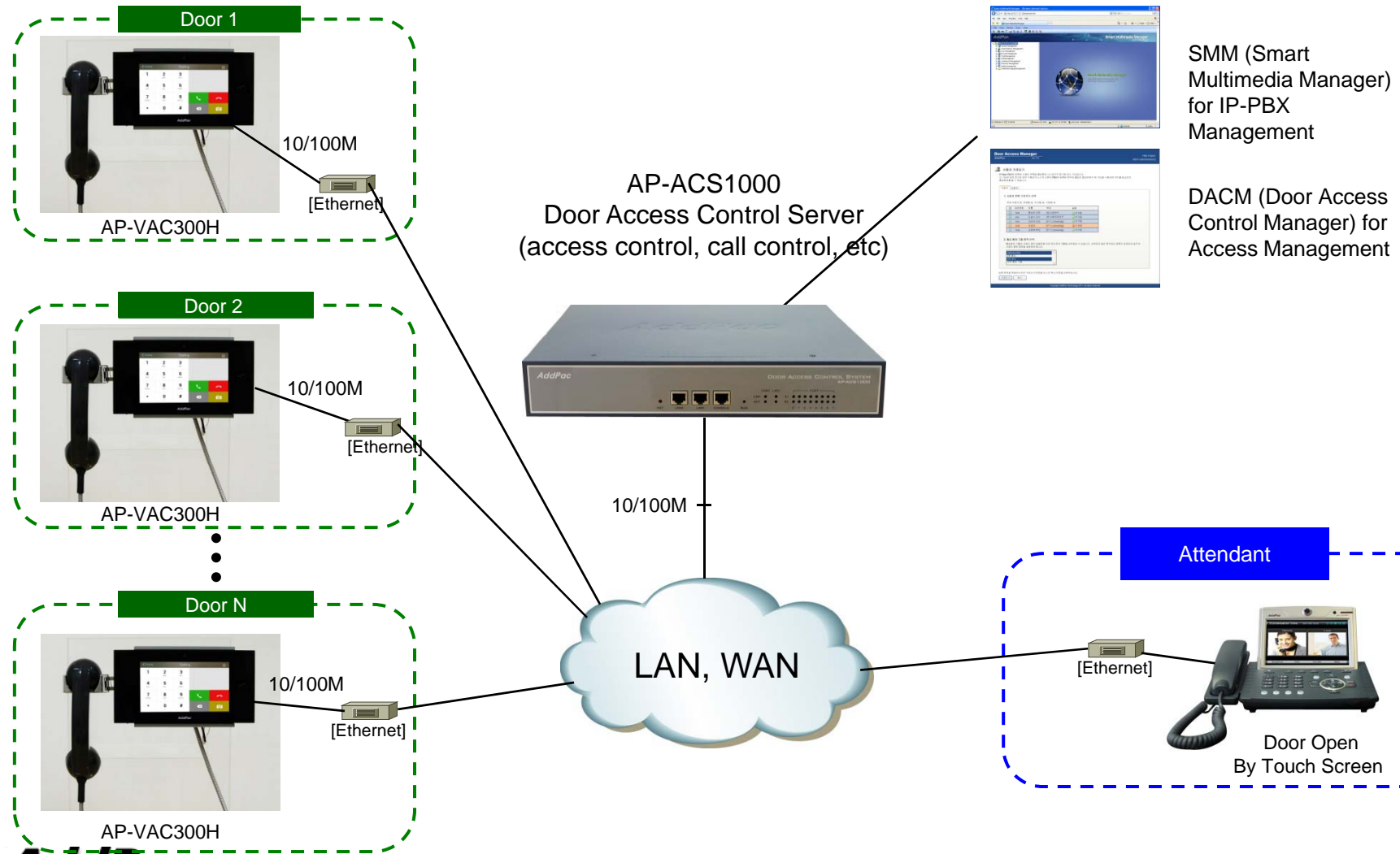
**AddPac Technology**

2016, Sales and Marketing

# Contents

- Network Service Diagram
- ACOS Ver2.0 Enhanced Features
- Improve the Database Stability
- Improve the DB Sync Speed between DACS and Terminal
- Door Access Control Server
  - AP-ACS1000, AP-ACS1500

# Network Environment (All IP, SIP Mode)

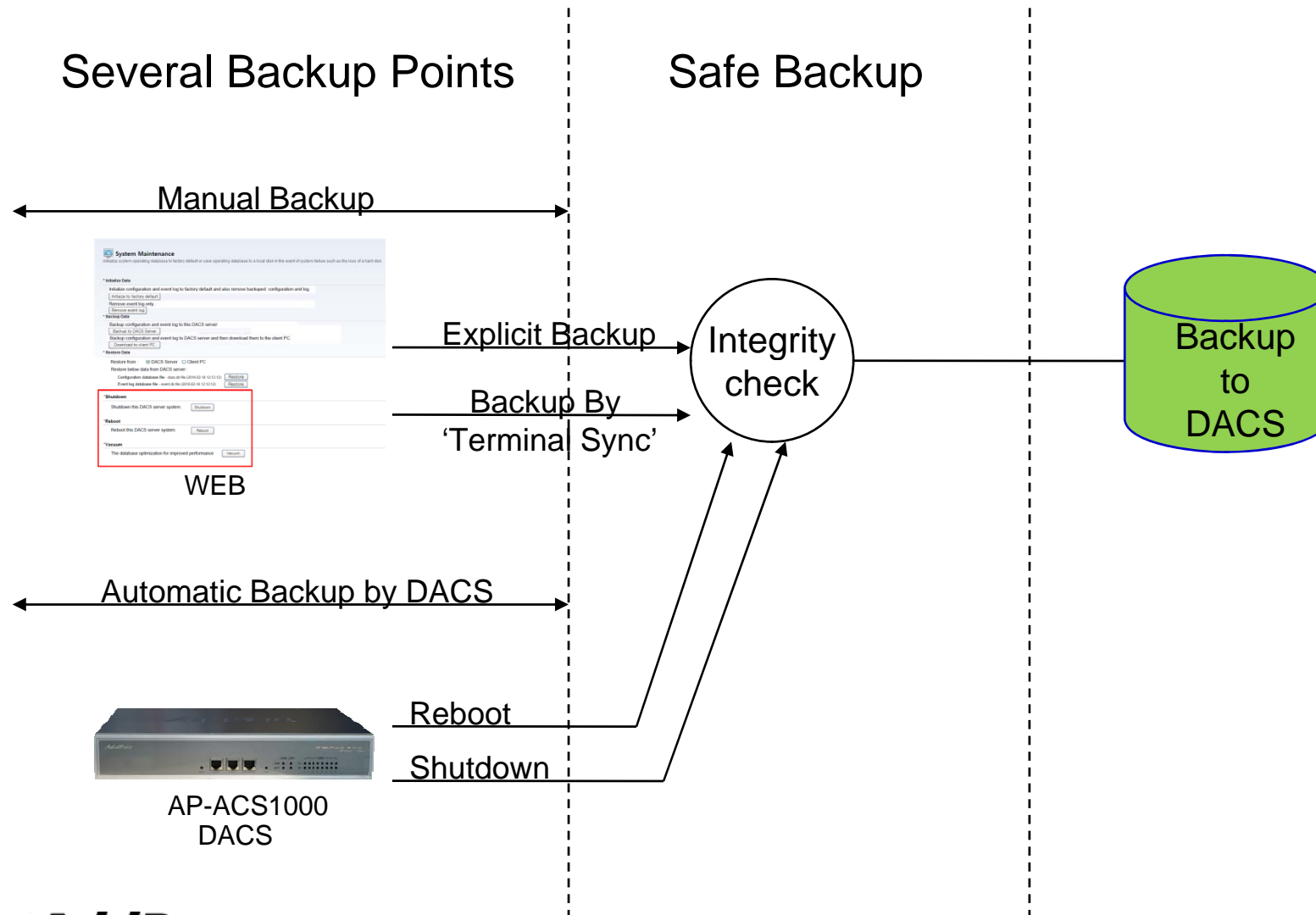


# ACOS Ver2.0 Enhanced Features

- Improve system database stability
  - Separate Configuration and Event DB.
  - Support automated corruption detection.
  - Support automated recovery method.
- Support various database management tool
  - Support factory-default, shutdown, reboot, vacuum menu.
  - Support multi backup location(PC and DACS).
  - Support automatic and manual database backup.
  - Support event log option(category and level).
- Improve 'terminal DB sync' speed
  - Improve 'terminal DB sync' procedure.
  - Support backward compatibility (ver1 and ver2)

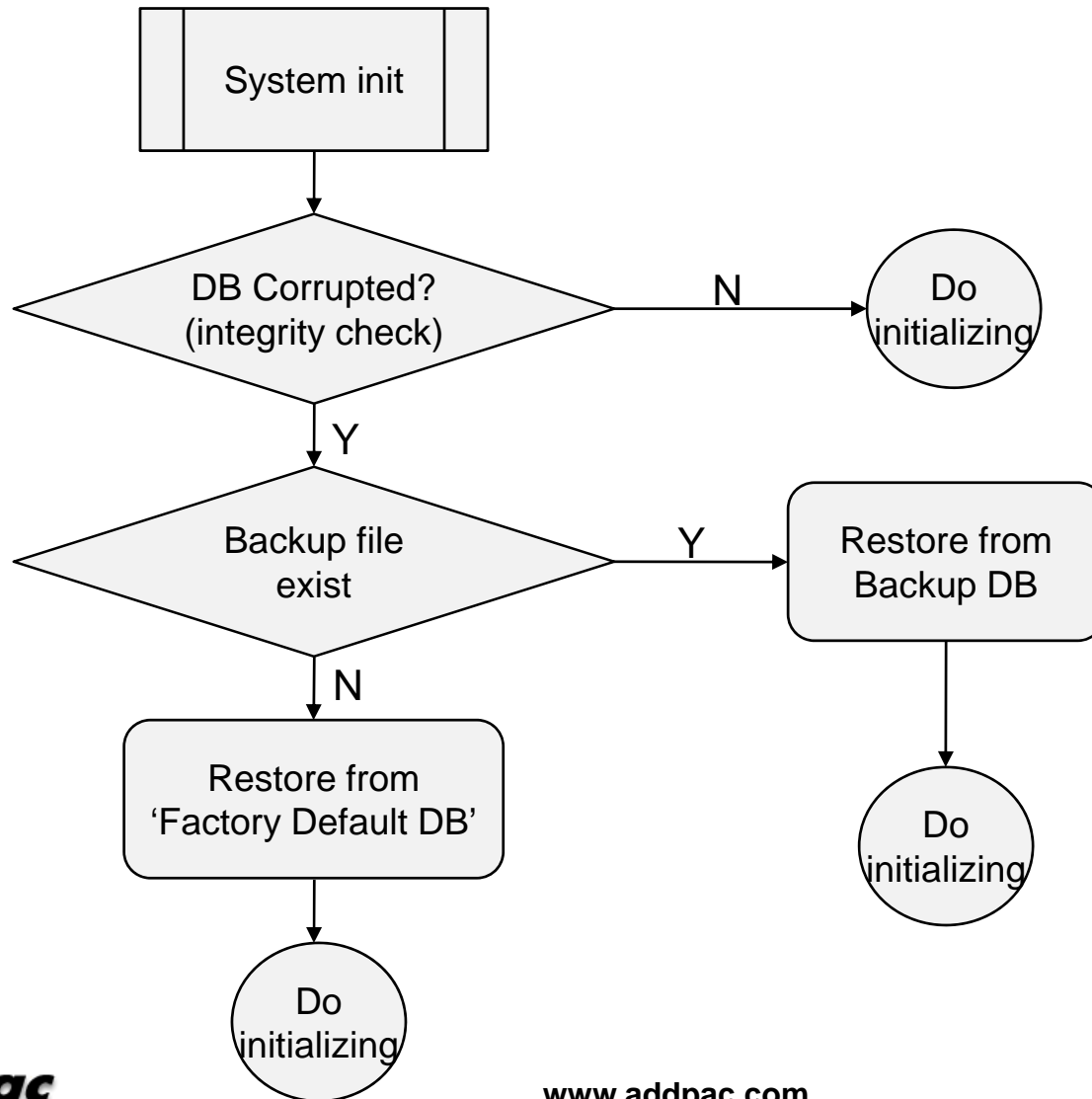
# Database Stability(1/2)

- Improve Backup point and procedure



# Database Stability(2/2)

- Support automated recovery method



# Database Management (1/3)

- Initialize, Backup, Restore

**Door Access Control Manager**

Access control setting changed  
To apply setting, click [here](#) to apply to terminal.

Fri Mar 11 14:06:25 2016  
root logout

Home User and Terminal Access Control Card Alarm and Event System [Go to Time and Attendance Manager](#)

### System Maintenance

Initialize system operating database to factory default or save operating database to a local disk in the event of system failure such as the loss of a hard disk.

**\* Initialize Data**

Initialize configuration and event log to factory default and also remove backed up configuration and log.

Remove event log only.

**Database Factory Default**

- All (configuration, event log)
- Event log only0

**\* Backup Data**

Backup configuration and event log to this DACS server.

Backup configuration and event log to DACS server and then download them to the PC.

**Database Backup**

- to DACS
- to PC

**\* Restore Data**

Restore from:  DACS  PC

Restore below data from DACS server :

Configuration database file - dacs.db (2016-03-10 15:33:02)

Event log database file - event.db (2016-03-10 15:07:20)

**Restore Database**

- from PC, DACS
- Configuration, Event log

# Database Management (2/3)

- Shutdown, Reboot, Vacuum

Door Access Control Manager

Access control setting changed  
To apply setting, click [here](#) to apply to terminal.

Fri Mar 11 14:06:25 2016  
root logout

Home User and Terminal Access Control Card Alarm and Event **System** Go to Time and Attendance Manager

**System Maintenance**  
Initialize system operating database to factory default or save operating database to a local disk in the event of system failure such as the loss of a hard disk.

**Shutdown**  
Shutdown this DACS server.  
Shutdown

**Reboot**  
Reboot this DACS server.  
Reboot

**Vacuum**  
The database optimization for improved performance.

Configuration database file - dacs.db (146 kbytes) Vacuum

Event log database file - event.db (2,693 kbytes) Vacuum

**System Management**  
- shutdown  
- Reboot  
- Vacuum ( Configuration, event log DB)

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Version 1.3.160310



# Database Management (3/3)

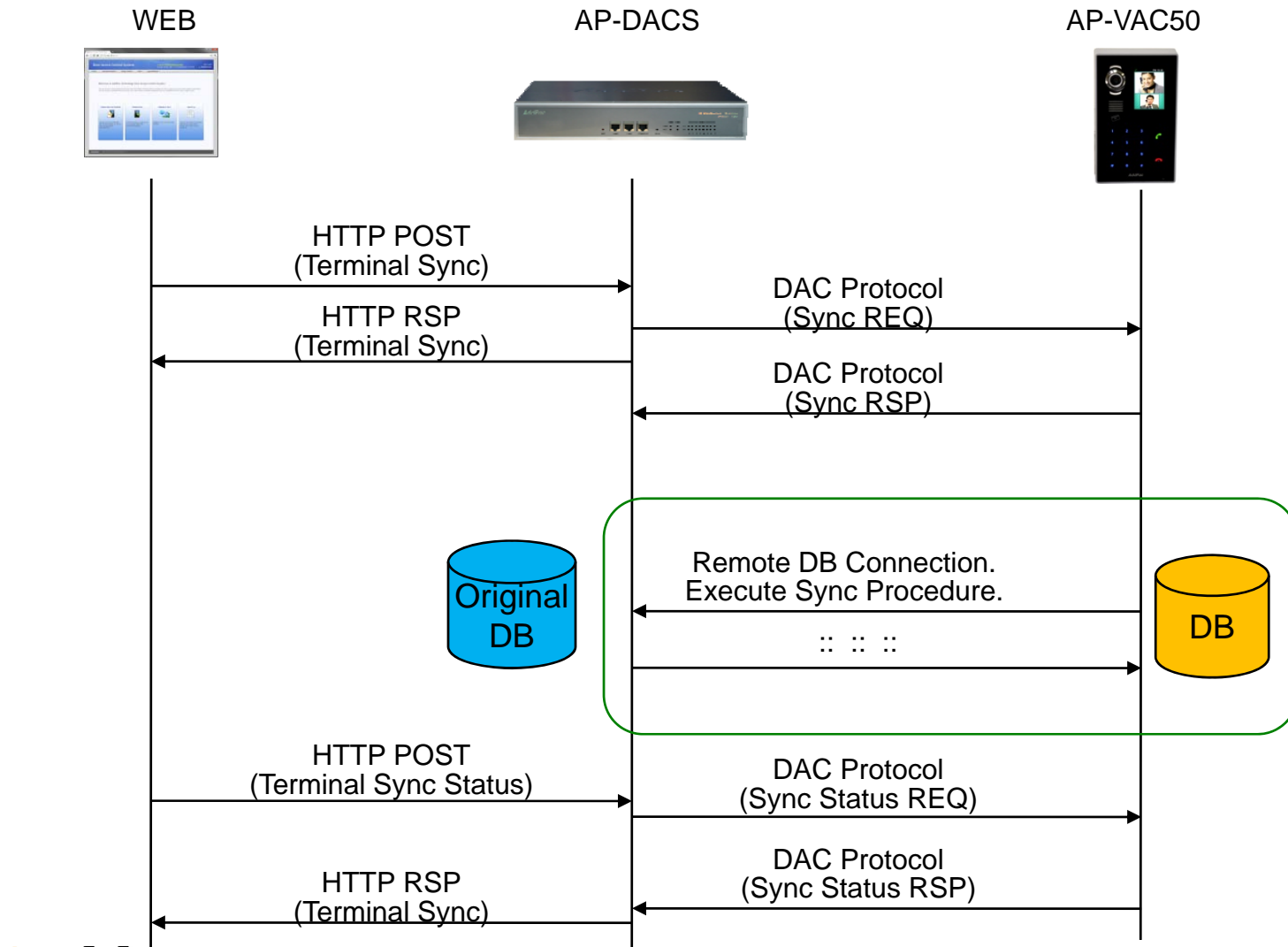
## - Event Log Filter

The screenshot displays the 'Door Access Control Manager' web interface. At the top, a blue header contains the title and a notification: 'Access control setting changed. To apply setting, click here to apply to terminal.' The date and time are 'Fri Mar 11 14:21:36 2016', and the user is 'root' with a 'logout' link. A navigation menu includes 'Home', 'User and Terminal', 'Access Control', 'Card', 'Alarm and Event', and 'System'. The 'Alarm and Event' menu item is highlighted with an orange box, and a blue arrow points from it to the 'Event Log Filter' configuration page below.

The 'Event Settings' section is titled 'Event Settings' and includes the instruction: 'Configure the event filter and alarm configuration.' Below this, the '3. Event Log Filter' section is shown, with the instruction: 'Configure the event log level.' It contains three dropdown menus: 'DACS server system events' (Warning), 'Terminal system events' (Error), and 'Door access events' (Fatal). Below these are 'Apply' and 'Cancel' buttons. A yellow callout box on the right side of the configuration area is titled 'Event Log Filter' and lists '- Category' and '- Level'. At the bottom of the page, the 'AddPac' logo and copyright information are visible on the left, and the version 'Version 1.3.160310' and flags are on the right.

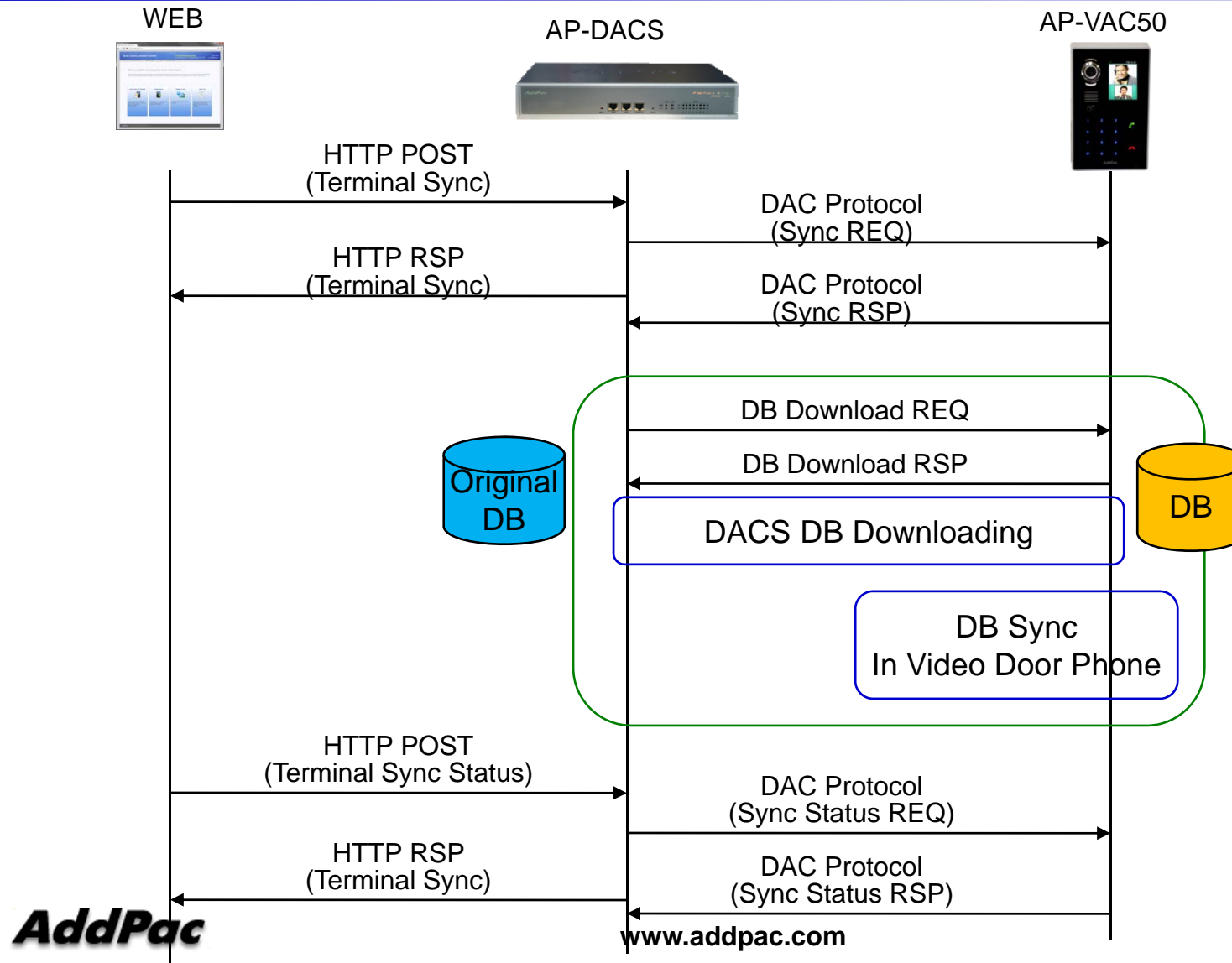
# Improve Terminal Sync(1/2)

- ACOS Ver.1 Procedure (with direct remote connection)



# Improve Terminal Sync(2/2)



- ACOS Ver.2 Procedure (without remote DB connection)





# Door Access Control Server

# Door Access Control Server Comparison Table

Model		AP-ACS1500	AP-ACS1000
Service Features			
Registration User Number		200	100
Concurrent Call User Number		60	30
VoIP Signaling	Internal	SIP	SIP
	External	H.323/SIP	H.323/SIP
Powerful IVR, UMS, Media Service, User Presence Service		Support	Support
RTP Proxy Service (IPv6, Private IP)		Support	Support
Dual System Architecture for Redundancy		Support	Single System
Dual Power Supply		Support	Single Power
LAN Port		2	2
VoIP Module Slots for PSTN		N/A	2 Slots (8 Port Module)
VoIP Interface		N/A	FXS,FXO,E1/T1
Video Door Phone Control (RF card, etc)		Support	Support
Time & Attendance Management		Support(option)	Support(option)



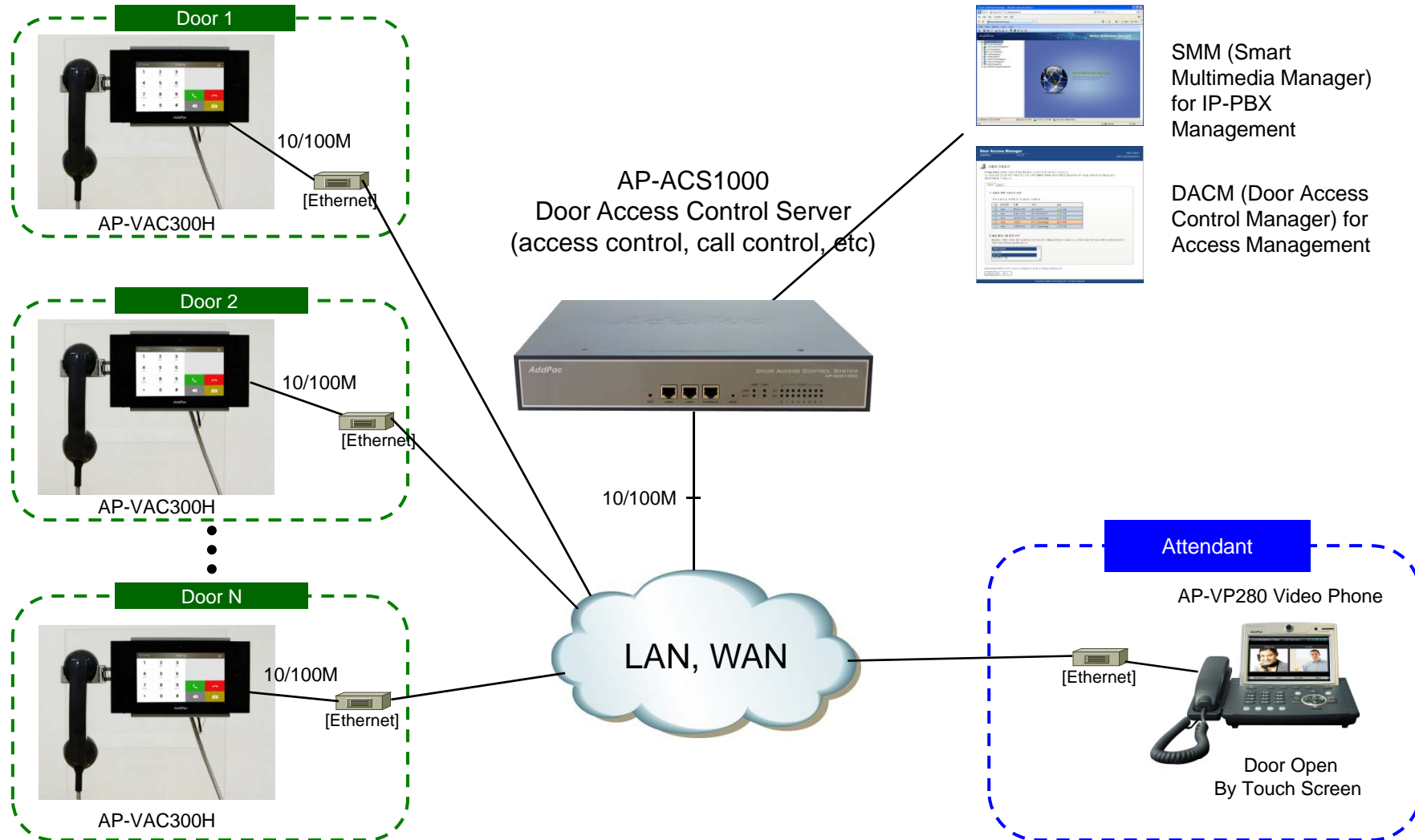
# AP-ACS1000 Door Access Control Server

# Contents

- DACS(Door Access Control Server) Network Diagram
- AP-ACS1000 DACS Main Features
- AP-ACS1000 DACS Hardware Specification
- DACS System Message Flow (Examples)
- DACM (Door Access Control Manager)
- Open API for Third Party Controller

# Integrated Door Access Control and Call Control

## AP-ACS1000 DACS (Door Access Control Server)





# Main Features

## AP-ACS1000 DACS (Door Access Control Server)

- Door Access Control Application System
- SIP Application Server, Proxy, Registrar and Location Server
- Multiple ITSP Trunk with SIP & H.323 Accounts Support
- Legacy PBX Interworking Service
- High Performance RISC & Programmable DSP Architecture
- Two(2) 10/100Mbps Fast Ethernet (IP Share ,etc)
- High Performance LAN-to-LAN Routing Capability
- Powerful Network Protocols (PPPoE, DHCP, Static Routing, etc)
- IPv4/IPv6 Dual Stack
- Firmware Upgradeable Architecture
- Smart Multimedia Manager for IP-PBX Management
- DACM(Door Access Control Manager)
- Advanced Voice QoS Mechanism
- Small, Light and Compact Design
- Two(2) VoIP Module Slots for Analog, Digital Interface

# Hardware Specification

## AP-ACS1000 DACS (Door Access Control Server)

- RISC Microprocessor Computing Power
- Main Chassis
  - Network Interface
    - Two(2) 10/100Mbps Fast Ethernet
    - One(1) RS-232C Console (RJ45)
  - Two(2) VoIP Module Slots for FXS, FXO etc



# Hardware Specification

AP-ACS1000 DACS (Door Access Control Server)

AP-ACS1000 Front Side



LAN1 (10/100Mbps)

LAN0(10/100Mbps)

Console Port

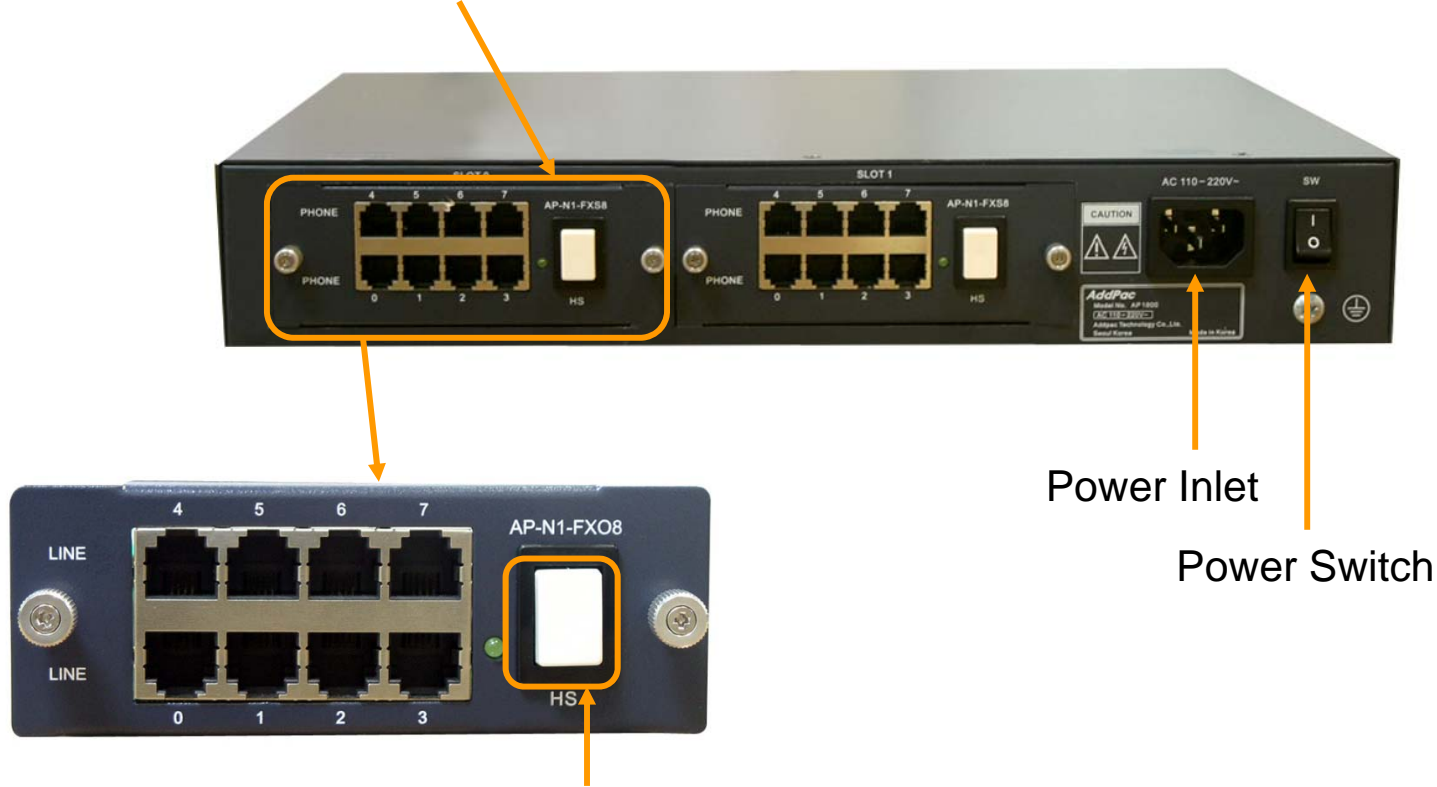
[www.addpac.com](http://www.addpac.com)

# Hardware Specification

## AP-ACS1000 DACS (Door Access Control Server)

### AP-ACS1000 Back Side

PSTN Interface Module







Hot-Swap Switch & LAMP Indication

# Hardware Specification

AP-ACS1000 DACS (Door Access Control Server)

## PSTN Interface Module

AP-N1-FXS8	 A black 8-port FXS voice processing module with RJ11 ports numbered 0-7 and a central HS switch.	8-Port FXS Voice Processing Module (8 x RJ11)
AP-N1-FXO8	 A black 8-port FXO voice processing module with RJ11 ports numbered 0-7 and a central HS switch.	8-Port FXO Voice Processing Module (8 x RJ11)
AP-N1-FXO4S4	 A black 8-port voice processing module with 4 FXO and 4 FXS ports, numbered 0-7, and a central HS switch.	4-Port FXO and 4-Port FXS Voice Processing Module (8 x RJ11)
AP-N1-E1T1	 A black 1-port VoIP digital E1/T1 interface module with an RJ45 port and a central HS switch.	1-Port VoIP Digital E1/T1 Interface Module(1xRJ45)



# AP-ACS1500 Door Access Control Server

# Main Features

## AP-ACS1500 DACS (Door Access Control System)

- Door Access Control Application System + Call Manager
- SIP Application Server, Proxy, Registrar and Location Server
- Multiple ITSP Trunk with SIP & H.323 Accounts Support
- High Performance RISC Architecture
- Smart Multimedia Manager for Call Manager
- DACM(Door Access Control Manager) for IP Door Phone Control (RF Card, Fingerprint Module, etc)
- IPv4/IPv6 based Dual Network Protocol Support
- Fault Tolerant and Scalability Architecture
- Firmware Upgradeable Architecture
- Dual System Redundancy Architecture
  - Two(2) Fast Ethernet Interface / System
- Dual Redundancy Power

# Hardware Features

## AP-ACS1500 DACS (Door Access Control System)

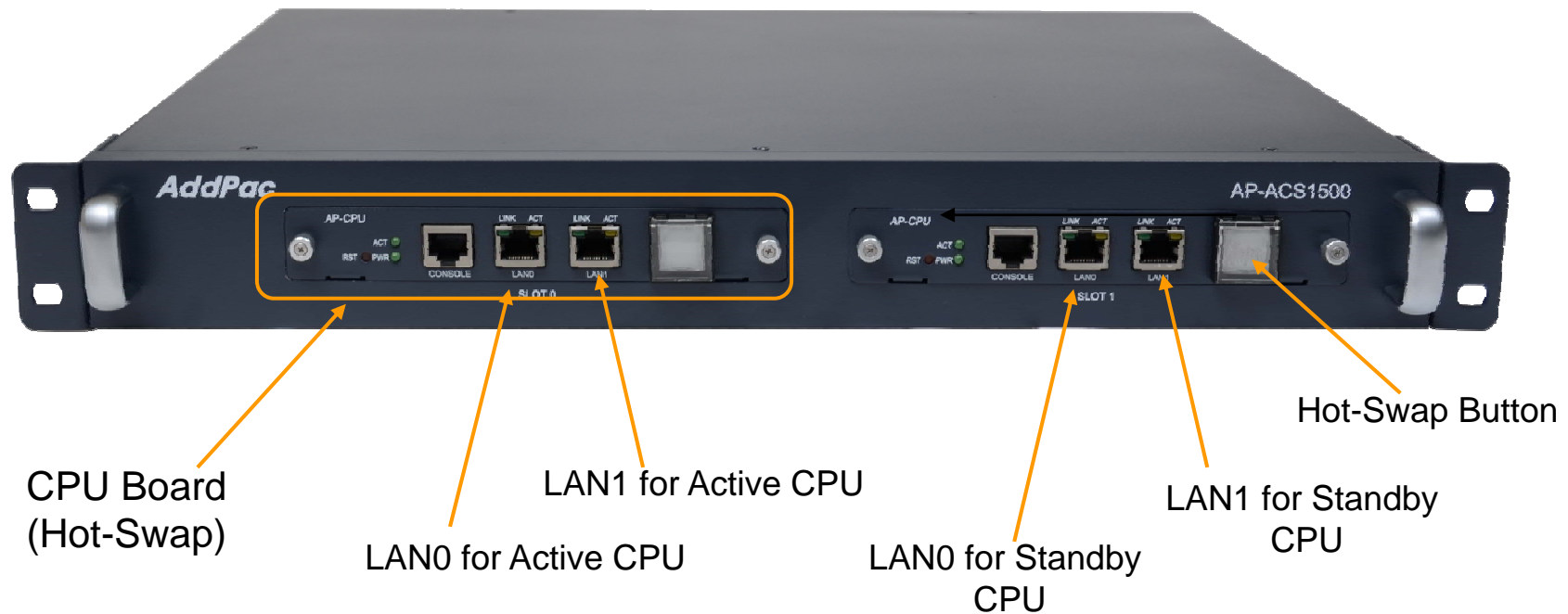
- High-End Microprocessor Computing Power
- Main Chassis
  - Dual Redundancy CPU Boards for System Fault Tolerant
    - Two(2) 10/100Mbps Fast Ethernet
    - One(1) RS-232C Console (RJ45)
  - Dual Redundancy Power Supply
  - Hot-Swap Features



# Hardware Specification

## AP-ACS1500 DACS (Door Access Control System)

### AP-ACS1500 Front Side



# Hardware Specification

AP-ACS1500 DACS (Door Access Control System)

## AP-ACS1500 Back Side



Plug for PSU B

Plug for PSU A

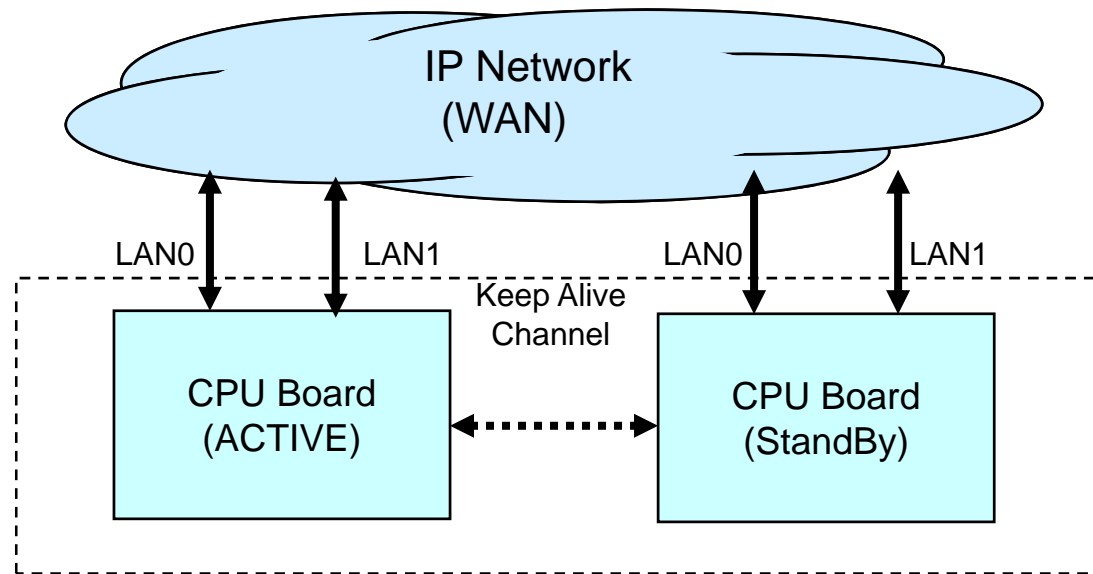


# Access Control Server Redundancy Scheme

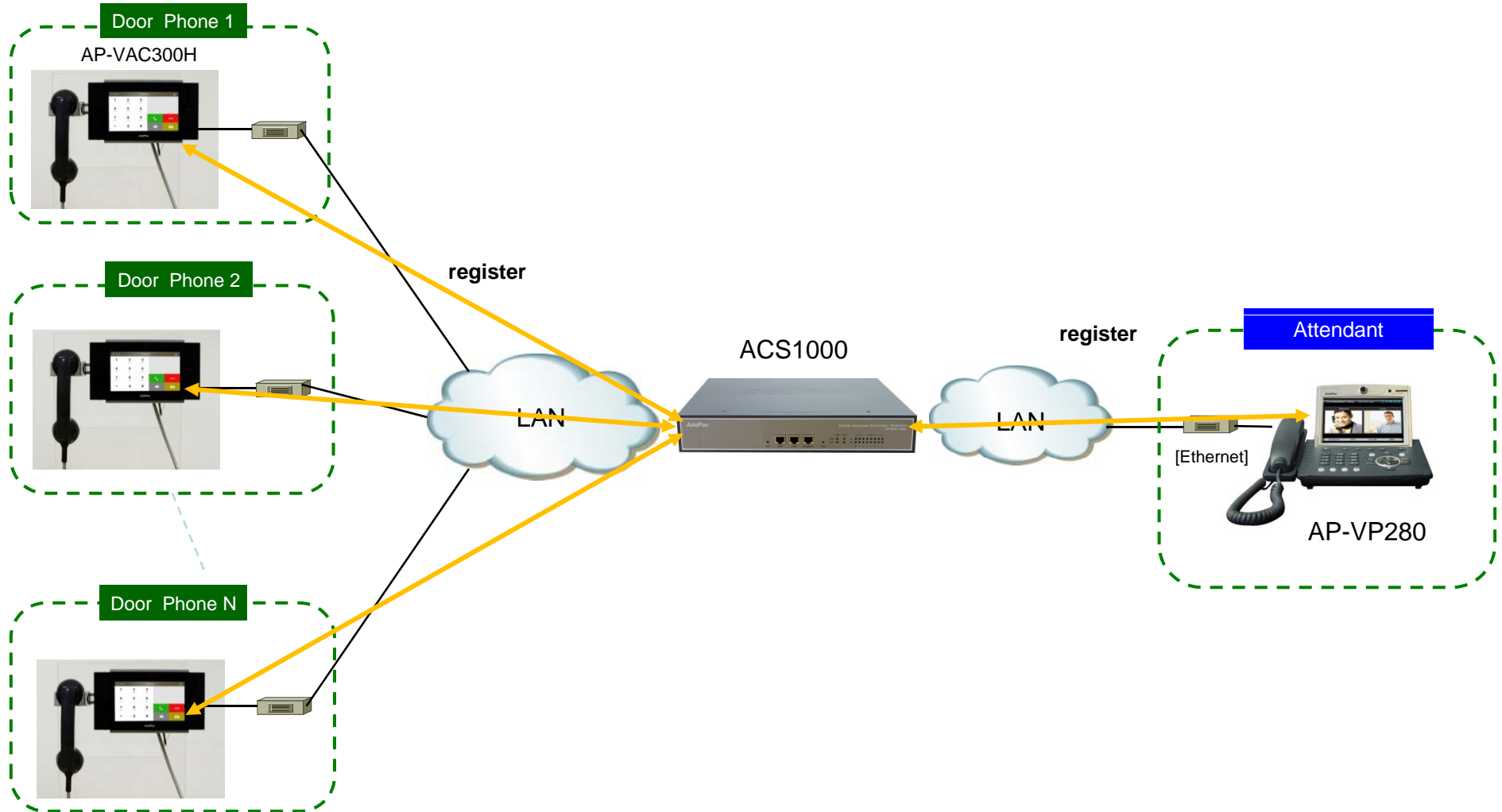
# System Redundancy Features

AP-ACS1500 DACS (Door Access Control System)

System Block Diagram

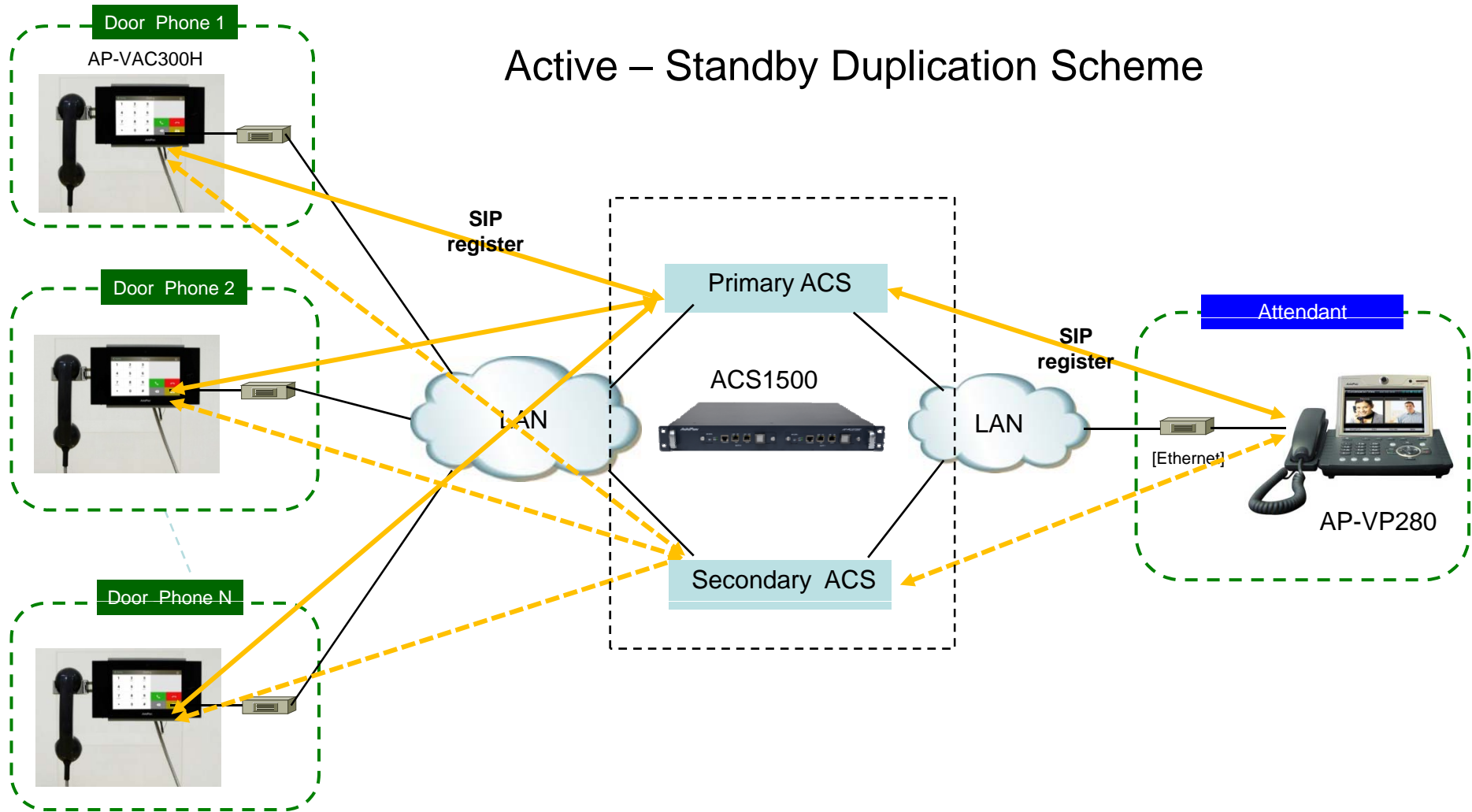


# ACS Network Diagram



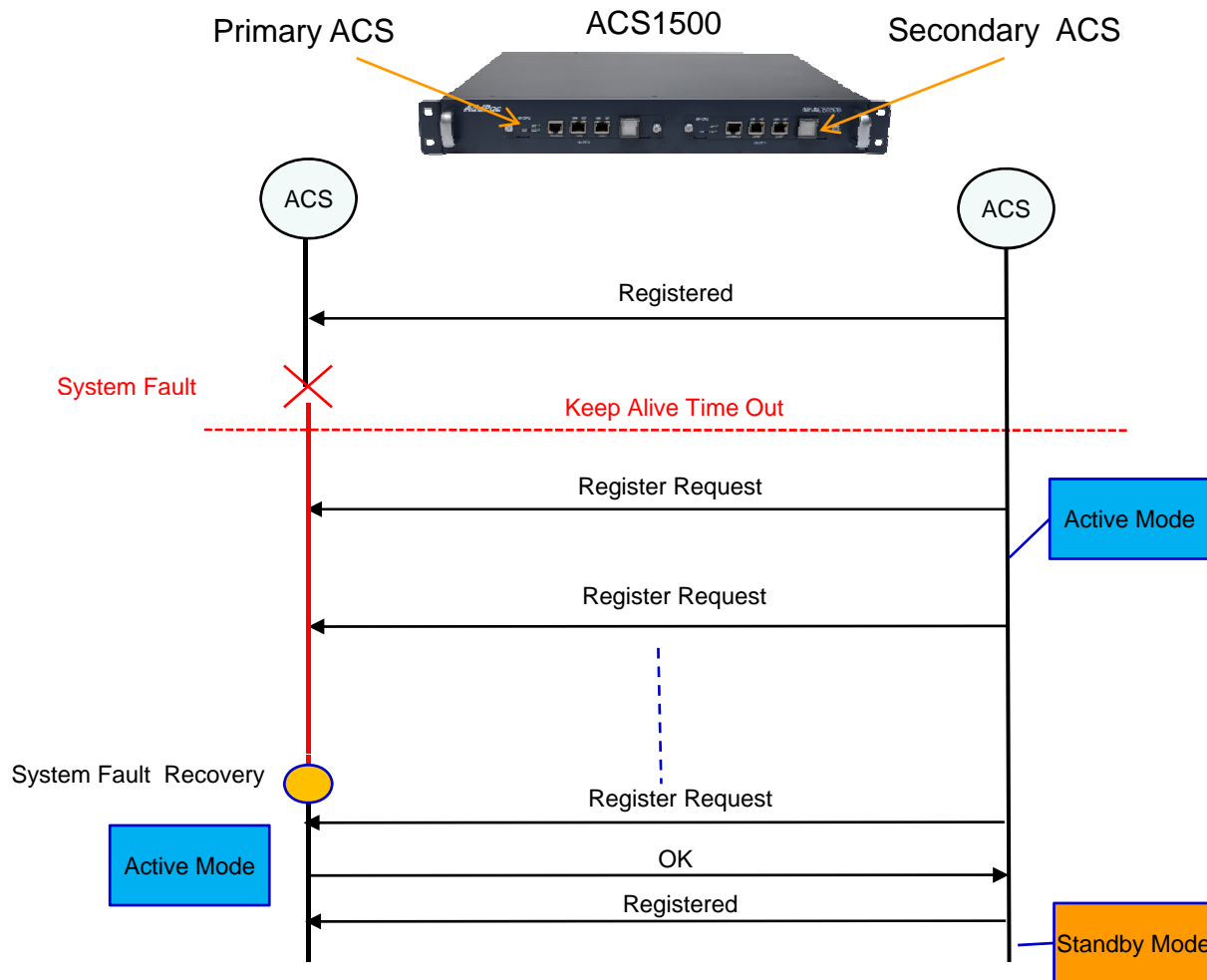
# ACS Redundancy Scheme Network Diagram

## - Call Manager Function



# ACS Redundancy Scheme Network Diagram

## - Door Access Control Function



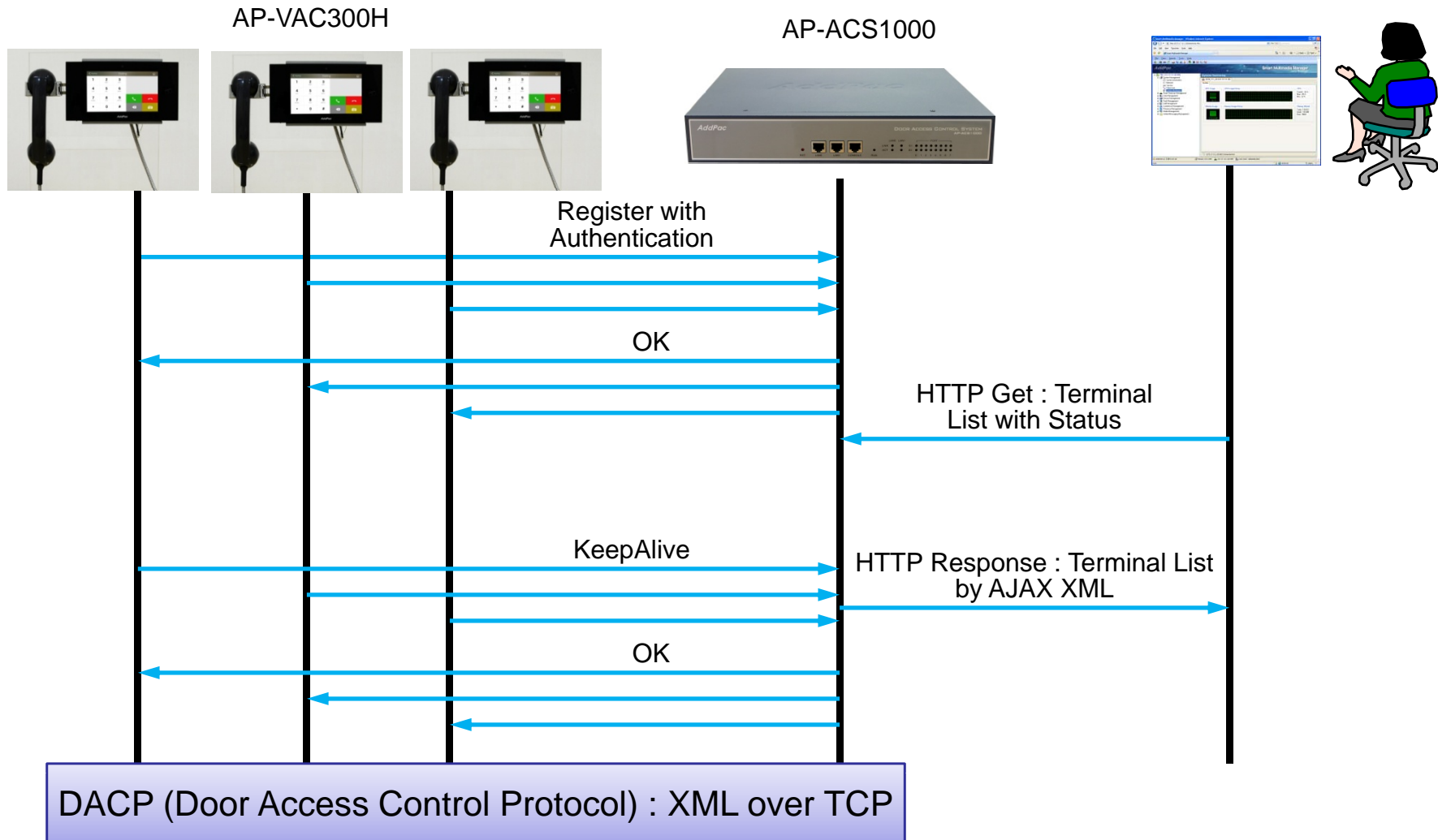


# DACS System Message Flow



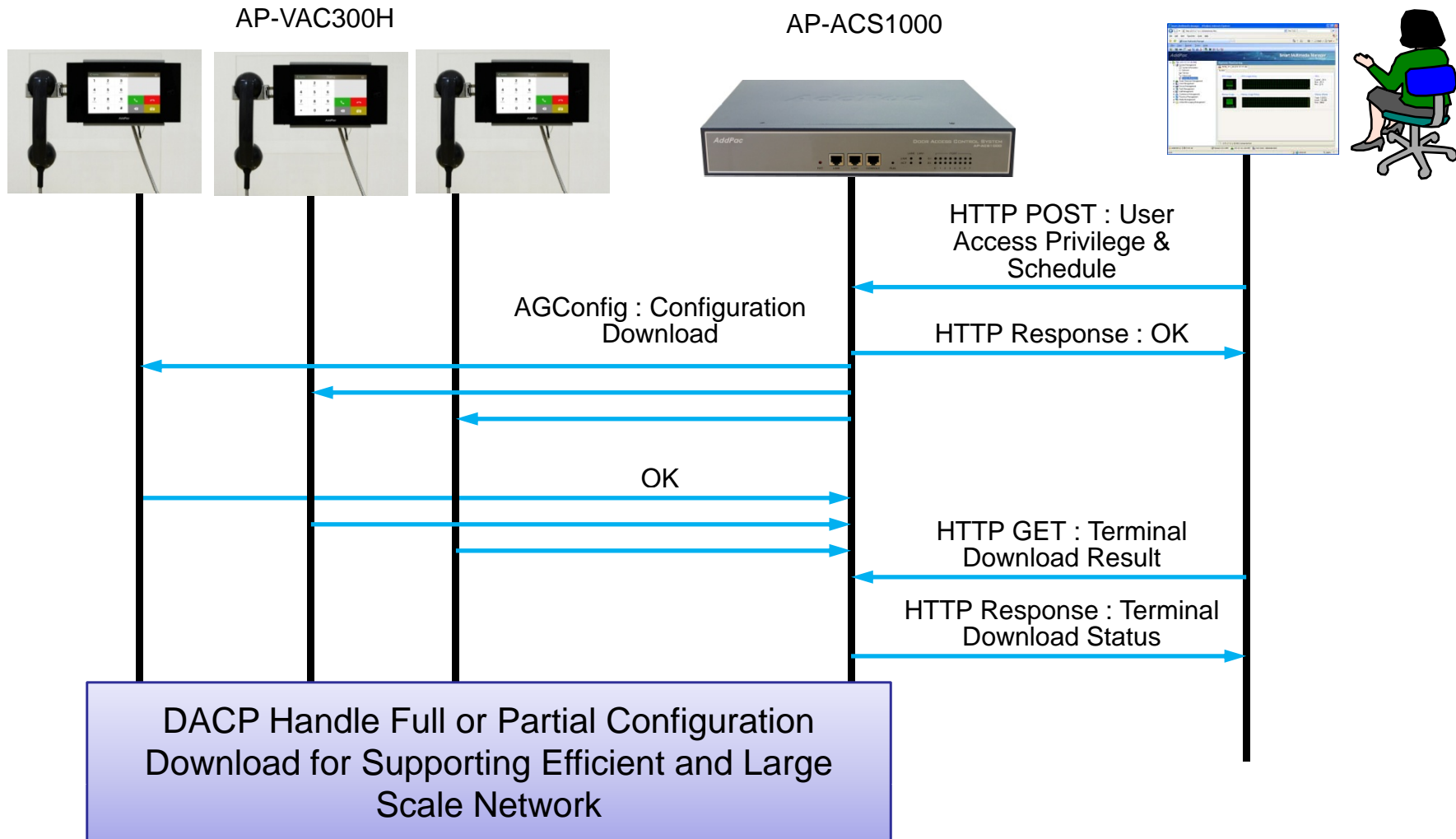
# DACS System Message Flow

## Registration and KeepAlive



# DACS System Message Flow

## Access Privilege and Schedule Download



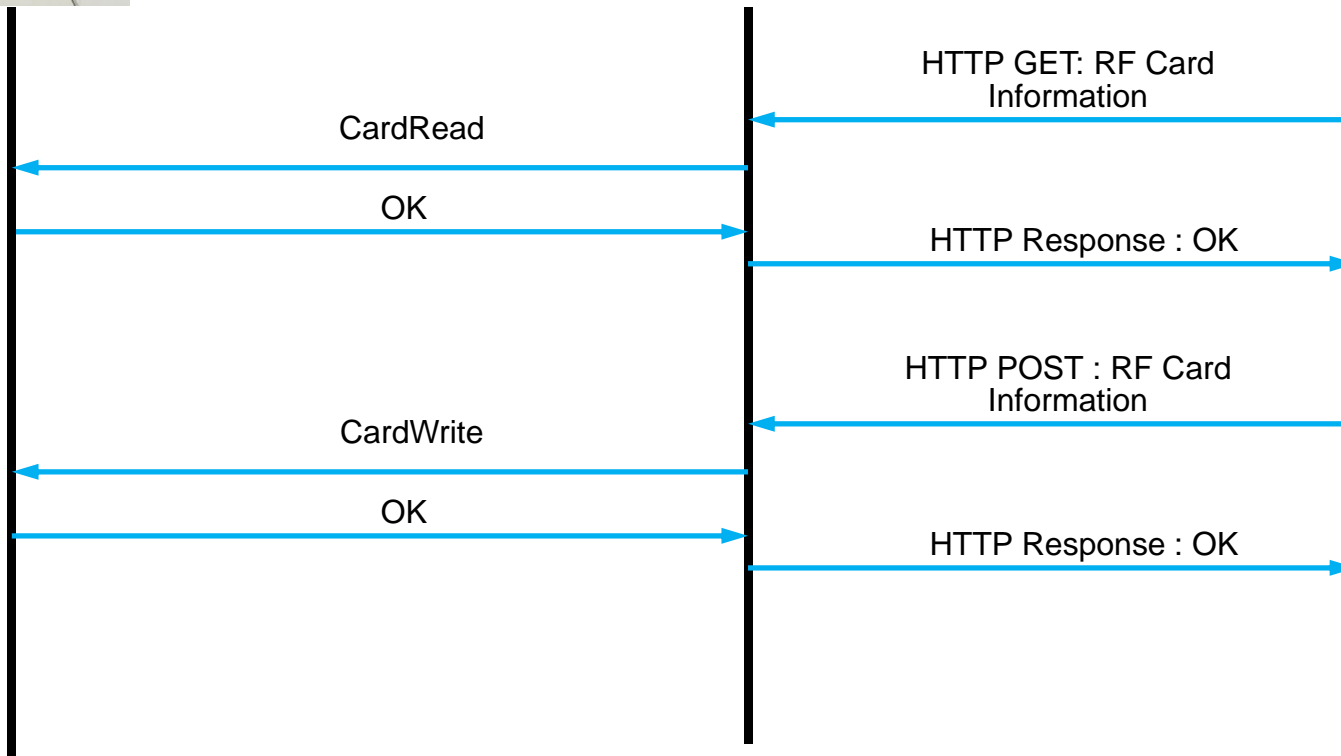
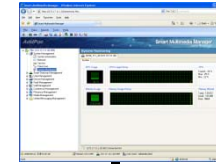
# DACS System Message Flow

## RF Card Read/Write and Registration

AP-VAC300H

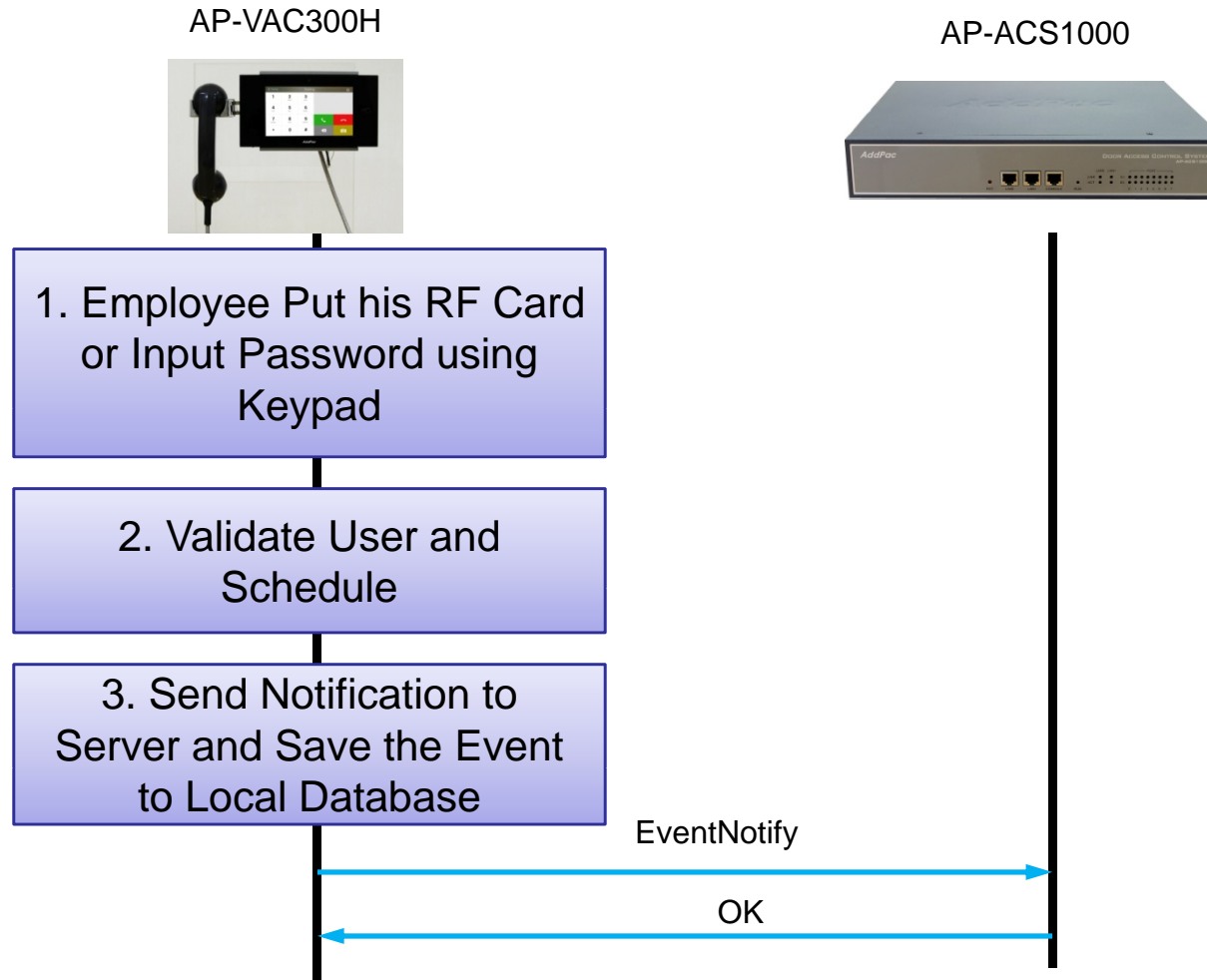


AP-ACS1000



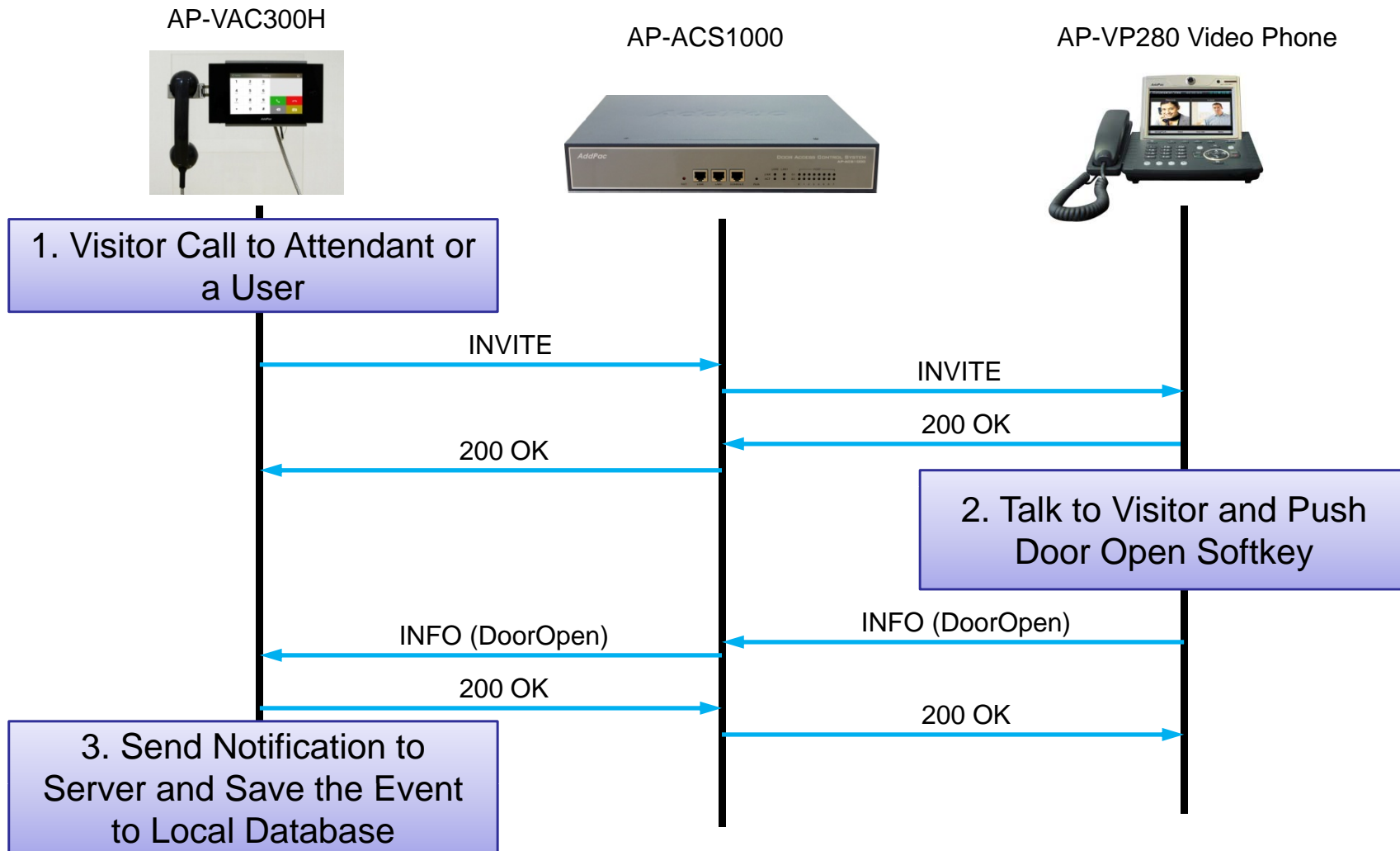
# DACS System Message Flow

## Door Open by RF Card or Password



# DACS System Message Flow

## Door Open by Other Terminal





# Door Access Control Manager for AP-ACS1000

# DACM (Door Access Control Manager)

## Main Web Page

Door Access Control Manager  
AddPac ver 1.0

Help | logout  
Admin (administrators)

사용자 및 단말 관리 | 카드 관리 | 출입 통제 관리 | 로그 및 보고서

설정이 변경되었습니다.  
설정을 반영하시려면 '여기'를 클릭하여 단말기 전송을 하십시오

화면이 갱신될 때마다 데이터 변경 여부를 판단하여 상단에 표시한다.  
'여기'를 선택하여 단말기 전송 화면 실행

AddPac Technology의 출입 통제 관리 시스템에 오신것을 환영합니다.

본 시스템은 AddPac IP-Next 시스템과 연계되어 출입은 접근에 대한 사용자 및 출입 통제에 관련된 설정을 관리합니다. 아래 각 메뉴를 통해서 해당 기능을 수행할 수 있으며 상세한 설정은 왼쪽의 각 카테고리 메뉴 별로 접근할 수 있습니다.

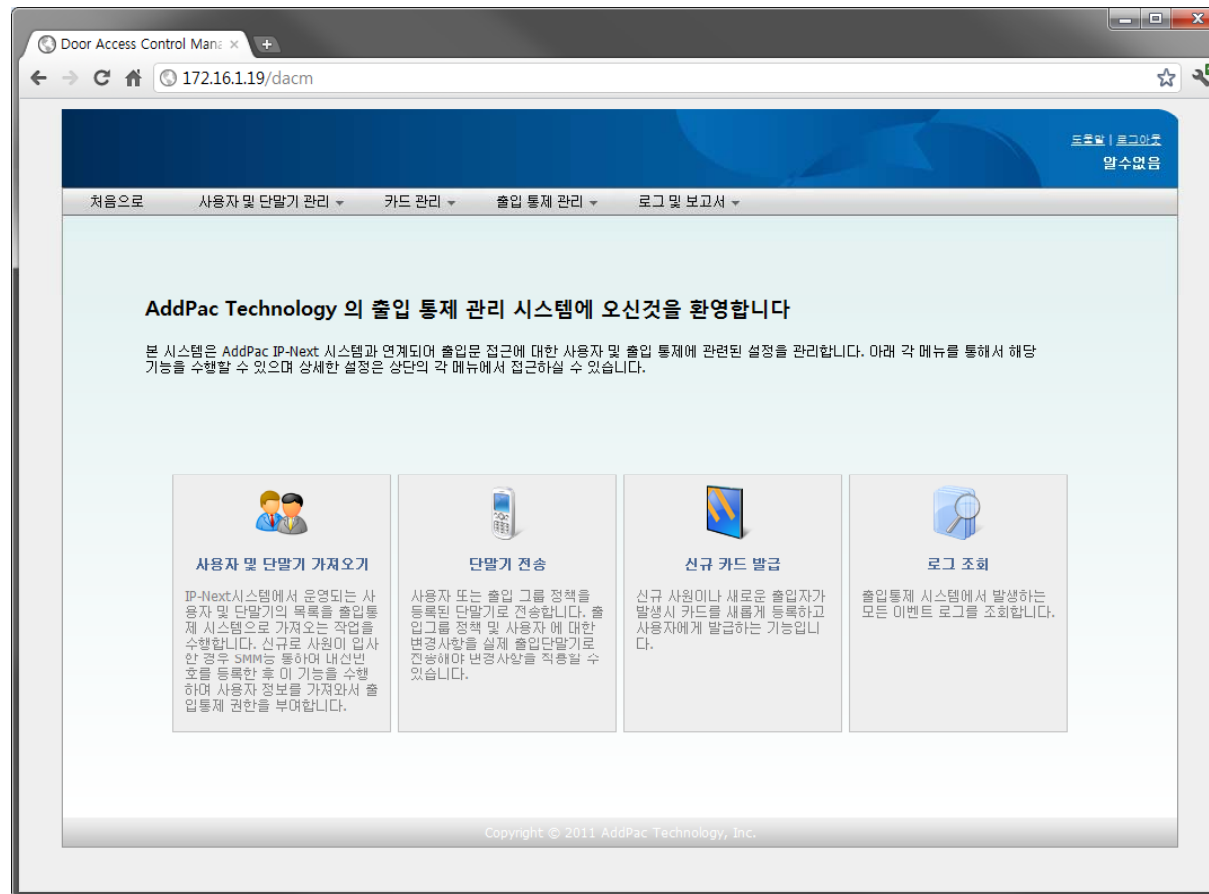
사용자 가져오기 | 단말기 전송 | 신규 카드 발급 | 로그 조회

메뉴를 선택하여 전송 화면 실행

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# DACM (Door Access Control Manager)

## Main Web Page





# DACM (Door Access Control Manager)

## User Management

**Door Access Manager**  
AddPac ver 1.0 Help | logout  
Admin (administrators)

 사용자 가져오기

IP-Next PBX에 등록된 사용자 목록을 출입통제 시스템으로 동기화 하는 기능입니다.  
이 기능은 설치 초기에 한번 수행하거나 신규 사원이 PBX에 등록된 경우에 출입이 필요한 경우 본 기능을 수행하여 카드를 발급하고 출입통제를 할 수 있습니다.

사용자

1. 사용자 목록 가져오기 선택

전체 사용자: 0, 변경됨: 0, 추가됨: 0, 삭제됨: 0

<input checked="" type="checkbox"/>	내선번호	이름	부서	상태
<input checked="" type="checkbox"/>	1000	홍길동 과장	/본사/영업부	➕ 추가됨
<input checked="" type="checkbox"/>	1001	김철수 대리	/본사/해외영업부	➕ 추가됨
<input checked="" type="checkbox"/>	1002	최진석 선임	/연구소/SmartMgt	➕ 추가됨
<input checked="" type="checkbox"/>	1003	권효준	/연구소/SmartMgt	➖ 삭제됨
<input checked="" type="checkbox"/>	1004	권중휘 책임	/연구소/SmartMgt	➕ 추가됨

2. 출입 통제 그룹 정책 선택

출입통제 그룹은 사용자 별로 일괄 적용되며 여러개의 그룹을 선택하실 수 있습니다. 선택하지 않은 경우에는 정책이 반영되지 않으며 사용자 별로 정책을 설정해야 합니다.

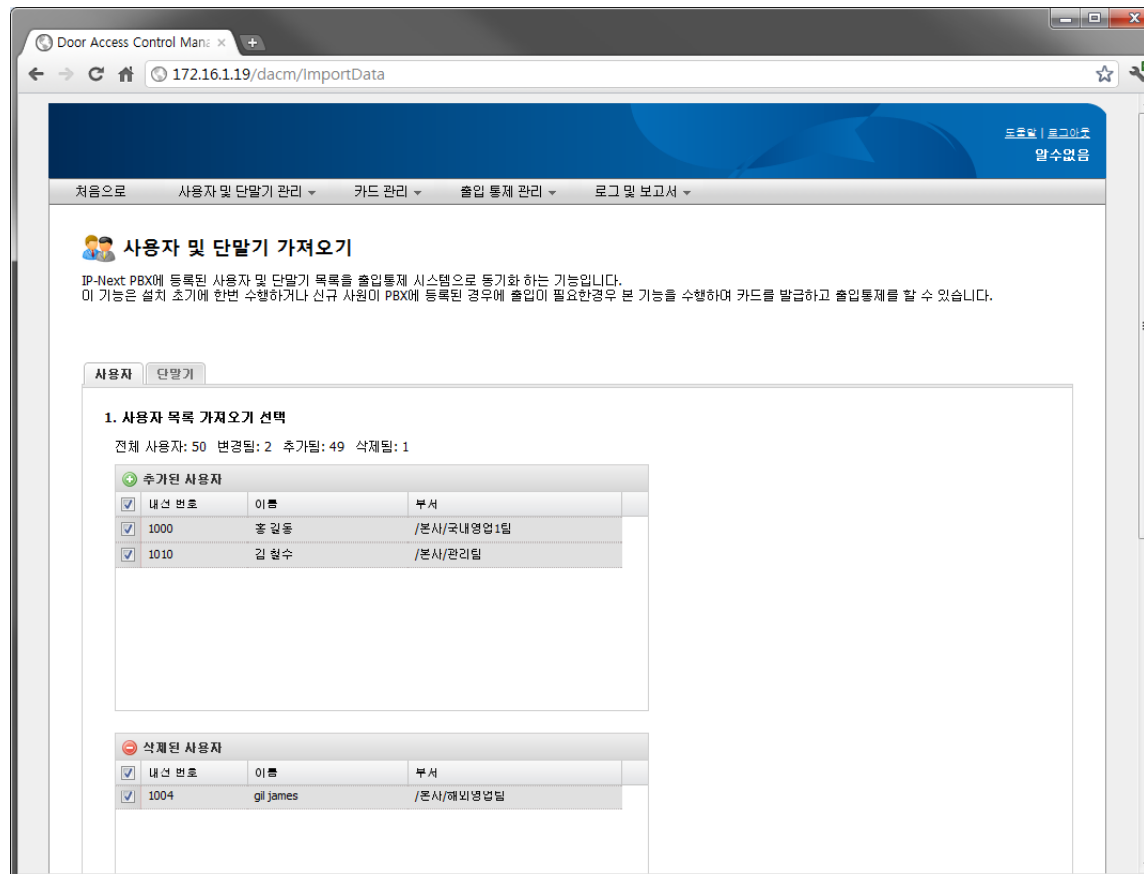
default policy  
2층 출입  
5층 출입  
방장 출입 그룹

설정 항목을 적용하시려면 '가져오기'버튼을 아니면 '취소'버튼을 선택하십시오.

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# DACM (Door Access Control Manager)

## User Management



# DACM (Door Access Control Manager)

## Access Group Management

Door Access Control Man: x

172.16.1.19/dacm/accessGroupList

드문발 | 로그인  
알수없음

처음으로 사용자 및 단말기 관리 카드 관리 출입 통제 관리 로그 및 보고서

### 출입 통제 그룹

등록된 출입단말기에 대해서 출입 권한 리스트 조회하거나 신규로 등록 및 수정할 수 있습니다.  
출입 통제 그룹은 위/아래 화살표를 이용하여 우선순위를 조정할 수 있습니다.

출입 통제 그룹 등록

그룹 이름	설명	스케줄 정책	생성 날짜	수정	삭제
no restriction	출입제한 없음	N/A	2011-06-27 12:23:12		
3F_only	3층만 출입	N/A	2011-06-27 12:23:12		
research_only	연구수 출입 정보	working_day	2011-06-27 12:23:12		
5Floor	5층연구수	working_day	2011-06-27 12:23:12		
관리사무소	관리사무소 출입 정보	working_day	2011-06-27 12:23:12		

페이지 1 / 1

Displaying 1 - 5 of 5

# DACM (Door Access Control Manager)

## Configuration Download to Terminal

The screenshot shows the 'Door Access Control Manager' web interface. The header includes the title 'Door Access Control Manager', version 'ver 1.0', and a warning message: '설정이 변경되었습니다. 설정을 반영하시려면 '여기'를 클릭하여 단말기 동기화를 하십시오.' (Settings have been changed. Click 'here' to refresh the terminal synchronization settings). The navigation menu includes '사용자 및 단말 관리', '카드 관리', '출입 통제 관리', and '로그 및 보고서'. The main content area is titled '단말기 전송' (Terminal Transfer) and contains a table of terminal configurations.

<input checked="" type="checkbox"/>	장비명	IP 주소	접속 상태	변경 여부	전체 동기화
<input type="checkbox"/>	3F door phone	172.16.10.5	접속됨	변경사항 없음	
<input checked="" type="checkbox"/>	lobby entrance	172.16.5.20	접속끊김	변경됨	
<input checked="" type="checkbox"/>	5F door phone	172.16.10.6	접속됨	변경됨	
<input checked="" type="checkbox"/>	factory main	172.16.10.8	접속됨	변경사항 없음	전체 반영 필요

동기화가 필요 없는 경우에는 check 가 해지된다. 강제로 하고자 하는 경우 check하면 된다.

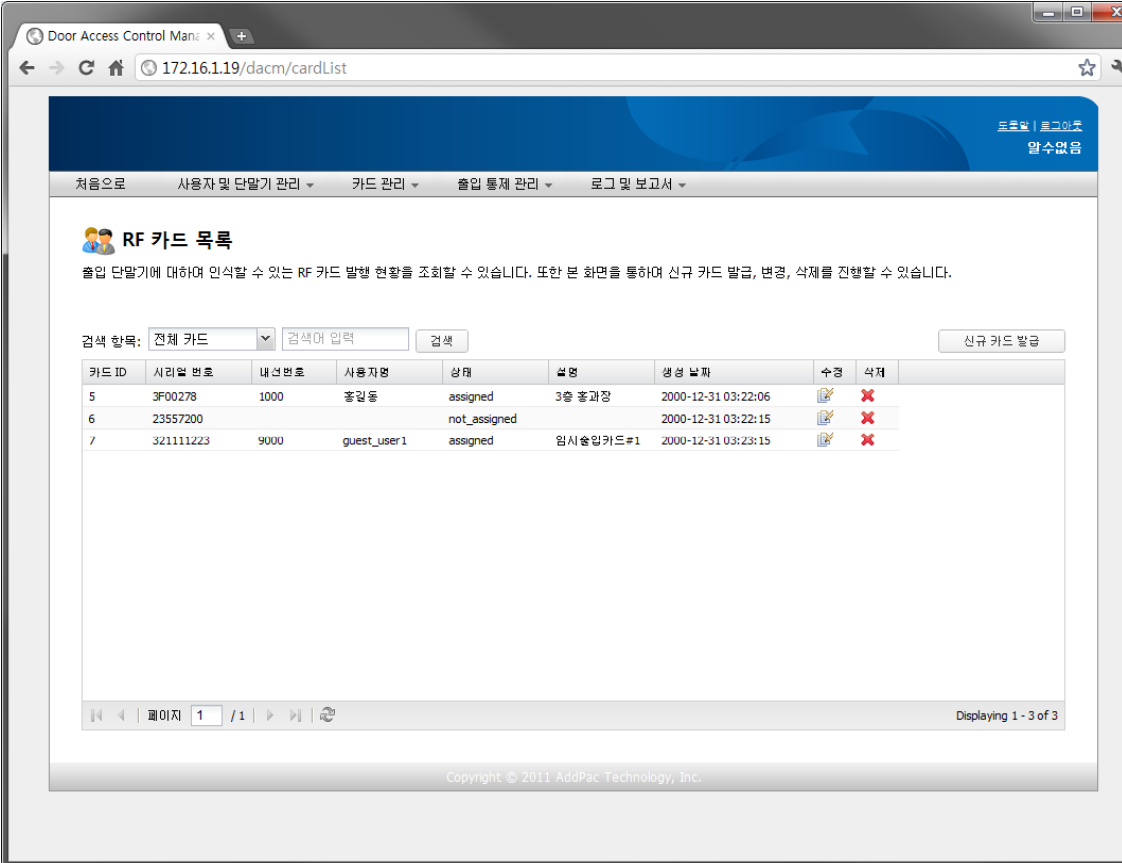
위 선택된 단말기에 데이터를 전송하려면 아래 '전송' 버튼을 선택하거나 작업을 취소하시려면 '취소' 버튼을 선택하십시오.

Buttons: 전송, 취소

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# DACM (Door Access Control Manager)

## RF Card Management



Door Access Control Manager

172.16.1.19/dacm/cardList

로그인 | 로그인할 수 없음

처음으로 사용자 및 단말기 관리 카드 관리 출입 통제 관리 로그 및 보고서

### RF 카드 목록

출입 단말기에 대하여 인식할 수 있는 RF 카드 발행 현황을 조회할 수 있습니다. 또한 본 화면을 통하여 신규 카드 발급, 변경, 삭제를 진행할 수 있습니다.

검색 항목: 전체 카드 검색어 입력 검색 신규 카드 발급

카드 ID	시리얼 번호	내선번호	사용자명	상태	설명	생성 날짜	수정	삭제
5	3F00278	1000	종업원	assigned	3층 종과장	2000-12-31 03:22:06		
6	23557200			not_assigned		2000-12-31 03:22:15		
7	321111223	9000	guest_user1	assigned	임시출입카드#1	2000-12-31 03:23:15		

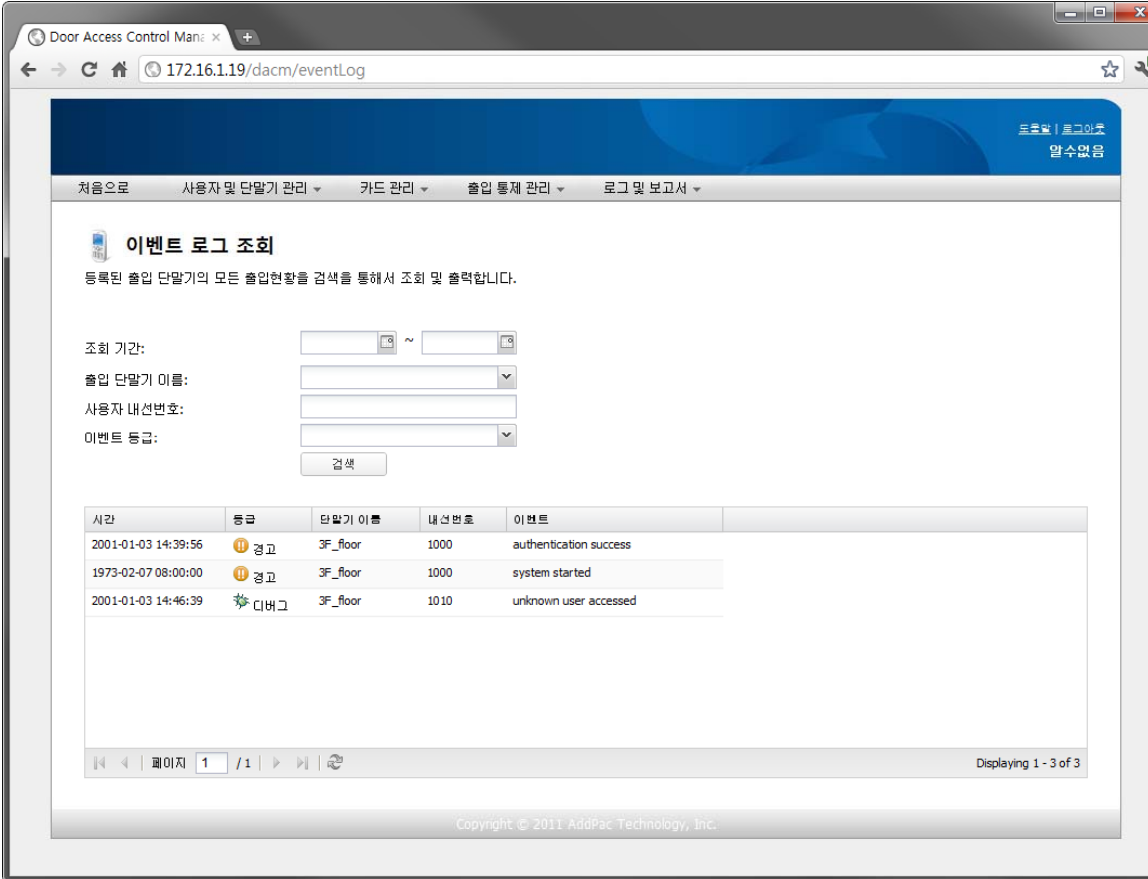
페이지 1 / 1

Displaying 1 - 3 of 3

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# DACM (Door Access Control Manager)

## Access Log Management



Door Access Control Manager

172.16.1.19/dacm/eventLog

도호빌 로그아웃  
알수없음

처음으로 사용자 및 단말기 관리 카드 관리 출입 통제 관리 로그 및 보고서

### 이벤트 로그 조회

등록된 출입 단말기의 모든 출입현황을 검색을 통해서 조회 및 출력합니다.

조회 기간: [ ] ~ [ ]

출입 단말기 이름: [ ]

사용자 내선번호: [ ]

이벤트 등급: [ ]

검색

시간	등급	단말기 이름	내선번호	이벤트
2001-01-03 14:39:56	경고	3F_floor	1000	authentication success
1973-02-07 08:00:00	경고	3F_floor	1000	system started
2001-01-03 14:46:39	디버그	3F_floor	1010	unknown user accessed

페이지 1 / 1

Displaying 1 - 3 of 3

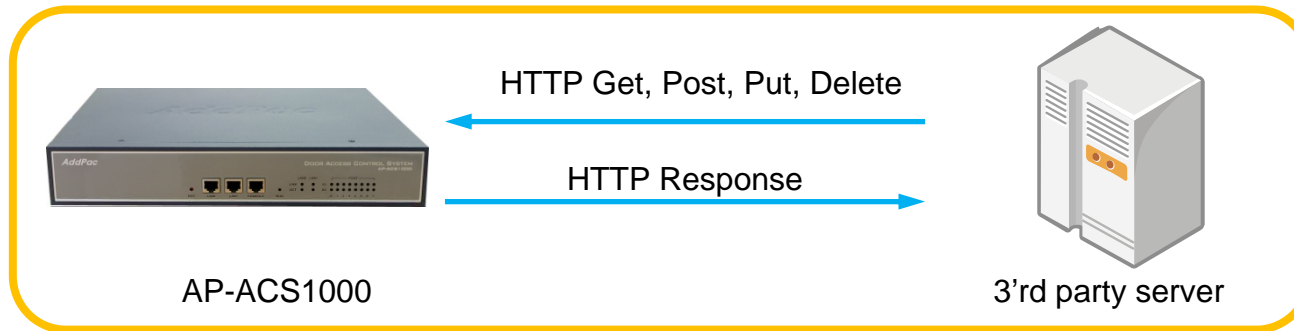
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# AP-ACS1000 Open API

# 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!

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