

DCN-100

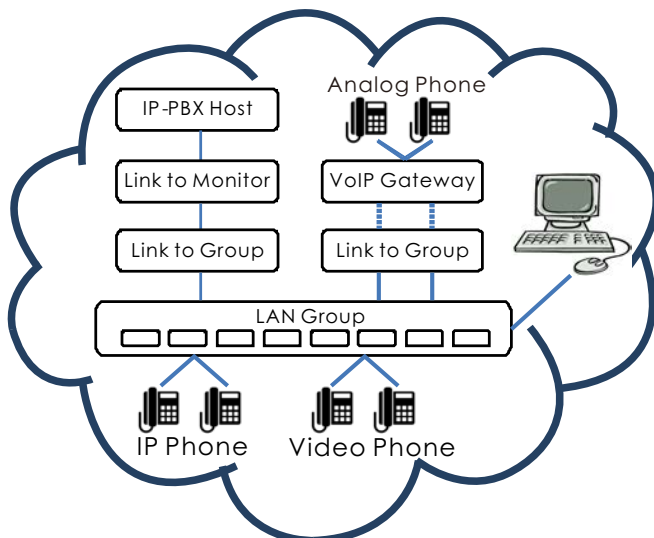
IP-PBX Training System



IP-PBX (Internet Protocol-Private Branch Exchange) is an Internet phone system. In comparison with a traditional PBX network, IP-PBX transmits all calls via data packets over a TCP/IP network. The IP-PBX Training System (DCN-100) is an ideal platform for exploring the functions of the IP-PBX. It utilizes the SIP (Session Initiation Protocol) technology to establish audio and video communication within data network. Along with DCN-100, the open-source software – “Wireshark Network Analyzer”, is used to capture and observe the SIP packets. In recent years, the protocol extensions of the SIP have lead to the continuous expansion of the SIP application scope. As a result, the SIP has emerged to be one of the next-generation key technologies in data networking / telecommunication/communication networking realm.

● Features

1. Software-aided, controlling the SIP main unit to execute establishment, modification, and maintenance of SIP accounts.
2. Demonstrates the configuration of the IP-PBX Training System.
3. Analyzes various scenarios involving hands-on communication between two or more endpoints across various phone devices (eg: traditional telephones, IP phones, and video phones) to embody the theory of data transmission through the IP-PBX system.



● Specification

DCN-11001 Main Unit

1. IP-PBX Host

- (1) Communication protocol : SIP (Session Initiation Protocol), complying with the standard RFC 3261
- (2) Speech compression:
 - a. G.711A-law/ μ -law
 - b. G.729,
 - c. H.263(video)
- (3) System capacity : Max. 15 calls can be made simultaneously by 100 registered users at once



2. VoIP Gateway/Gateway Group

- (1) Speech compression:
 - a. G.711A-law/ μ -law
 - b. G.723.1
 - c. G.726
 - d. G.729a/G.729b
 - e. PSTN audio detection and generation
 - f. Equipped with self-diagnostic function of FXS interface.
- (2) Voice interface: 8 ports in total (FXO+FXS)

3. Network Device

- (1) IP-PBX Host Monitor : 10/100 MB Ethernet(802.3) 1 Port
- (2) IP-PBX Host WAN : 10/100/1000 MB Ethernet(802.3) 1 Port
- (3) LAN Group : 10/100/1000 MB Ethernet(802.3) 8 Port
- (4) Link Group : 10/100/1000 MB Ethernet(802.3) 3 Port
Line to Monitor : 10/100 MB Ethernet(802.3) 1 Port

4. Power Input : 100V~240V AC, 50Hz/60Hz

DCN-13001/DCN-13002 IP Phone

1. Ethernet port (RJ-45, 10/100 base-T)
2. PoE (IEEE 802.3af)



DCN-13003/DCN-13004 Video Phone

1. Ethernet port (RJ-45, 10/100 base-T)
2. PoE (IEEE 802.3af)
3. Video codec : H.264 / H.263



DCN-13005/DCN-13006 Analog Phone

Dialing mode : Tone / Pulse



DCN-13011 PoE Module

1. IEEE802.3af compliant.
2. Support end-point and mid-span mode.
3. Support PD power classification from class 0 to class 4.
4. Per port over/under voltage protection.
5. Per port short circuit protection.
6. Per port over current protection.
7. Power Input : 90V~132V AC/180V~264V AC,
47Hz~63Hz (Setting by region)



List of Experiments

- Setting of the IP-PBX main unit
- Installation and application of an IP Phone
- Instruction of the VoIP Gateway operation—software and hardware
- Gateway settings and Applications: Analog Phone (FXS)
- Gateway settings and Applications (1): Foreign exchange Office (PSTN)
- Gateway settings and Applications (2): Foreign exchange Office (PSTN)
- Settings of Automatic exchange switchboard
- Gateway settings and the integration of Auto-Attendant
- Video Phone configuration
- DTMF
- Voice mail
- Group Phones
- Call Pickup
- The Broadcasting System
- Voice Conference Room
- Setting and Dialing of IP-PBX phones in the computer
- PoE (Power of Ethernet)

System Requirements

1. PC : 1GHz or faster 32-bit (x86) or 64-bit (x64) processor
4GB RAM, 2GB more free disk space
with Ethernet Card and CD-ROM drive
2. OS : Windows 7 Service Pack 1 or above

Accessories

1. Experiment manual
2. RJ-45 cable set x 1
3. RJ-11 cable set x 1
4. Setup CD x 1