

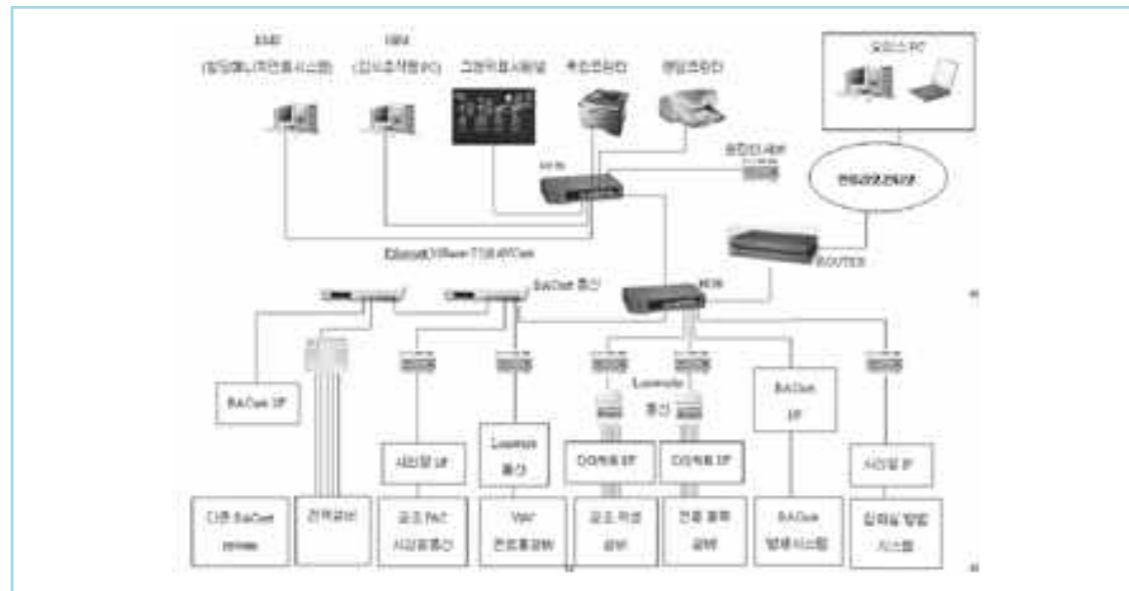
4) Internetworking

shelf
가
가
가
6)
가
가

5)

off - the -

가
가



[1]

3. /
/
BACnet
· Building Automation and Control network
· Protocol
LonWorks
· Local Operating Network
· Protocol
EIB
· European Installation Bus
· Protocol
CEBus
· Protocol
CAB
· Canadian Automated Building
· Protocol
/ 가
BACnet LonWorks

가. BACnet

1) BACnet(Building Automation and Control Network) ANSI/ASHRAE Standard 135(BACnet, A Data Communication Protocol for Building Automation and Control Networks)
ASHRAE(American Society of Heating, Refrigerating and Air-Conditioning Engineers ANSI(American National Standard Institute) 1995

CEN(European Committee for Standardization) pre-standard
CEN 2 1999 standard
ISO(International Standard Organization) TC205/WG3 BACnet 9 28 Technical Committee Committee Draft 2
ASHRAE SSPC 135 6 20 BACnet Conformance Testing Standard Public Review BACnet (Interoperability)
BAS BACnet 가 1999 12 16 KS (KSX6909, (BACnet)
2) BACnet ANSI ASHRAE BACnet 가 LAN

1997

Technical Report

Object-Oriented (object)
 Object (property)
 Object (access)
 Object (service)
 BACnet OSI 7 4 가
 , OSI (Application layer)
 OSI BACnet

BACnet Application Layer			Application
BACnet Network Layer			Network
ISO 8802.2 (IEEE 802.2)	MS/TP PTP	LonTalk	
ARCnet	EIA 485 EIA 232		
ISO 8802.2(IEEE 802.2)			Physical

가)
 , BACnet OSI (Physical)
 (Data Link) Protocol
 MS/TP, ARCnet, Ethernet, Lontalk, PTP(Point - to - Point) 5가 LAN
 Network MAC
 BACnet
 가 가

18가
 . BACnet
 (Device Object)
 BACnet
 Protocol 가
 . BACnet 35가
 , 5가

3) BACnet

1.	/
2.	.
3.	BACnet
4.	LAN - LAN BACnet LAN
5.	BACnet
6.	BACnet 가
7.	가
8.	가 가
9.	가 가
10.	- PICS

4)
 가
 (Interoperability)
 (OSI :
 Open System Interconnection)
 ISO 7498-Open System Interconnection Basic Reference Model
 Ethernet,
 ARCNET, LonTalk, RS-232 RS-485
 2)
 LonWorks Echelon
 (device)
 LonWorks BACnet
 ANSI/EIA 709.1(control networking), IEEE 1473(train communication), SEMI E54.6(semiconductor equipment)
 가) LonTalk
 가
 OSI 7
 가 :
 . LonWork
 1)
 Local Operating Network

가
 Flat
 가
 가
 LonWorks Echelon
 (device)
 LonWorks BACnet
 ANSI/EIA 709.1(control networking), IEEE 1473(train communication), SEMI E54.6(semiconductor equipment)
 가) LonTalk
 가
 OSI 7
 가 :
 .
 .
 . (peer-to-peer)
 .
 .

16

32

) Neuron Chip
 LonWorks
 LonWorks CPU Neuron Chip
 가 LonTalk Protocol
 CPU 가
 Application
 Main Controller가 Peer To Peer
 Free Topology

) LonWork Transceiver

)
 (Interoperability Guideline)
 LonWorks
 Association)
 가
 (LonMark Interoperability

300 가

3)

< 1> DDC Lonwork	
DDC	LonWorks
가	가
	· ASHRAE, ANSI, CEN TC247, BacNet
· 485 Transceiver	· FTT-10a (Twist Pair) Transceiver 가 (Wireless LAN),
· Noise	· Noise 220V · Ring Topology 가
· Controller DDC	· LonMark 가
Local · DDC Local Device 2 Wire · Noise	· 2 Wire Twist Pair Cable Free Topology · Noise Twist pair
· SI 가	· SI
· 가DDC · DDC Point	· 가 · 가 가 · 가
· DDC	

4.

(user)

(vendor)

21

가

- 6.7 2001
- 6 2001
- IBS Journal. 2001

- <http://www.ibskorea.org>
- <http://www.hyundaiatnet.com>
- <http://www.sdsk.co.kr>
- <http://echelon.co.kr>
- <http://nsl.naodigital.co.kr>
- <http://ibs.withyou.net>