



Home Gateway Technology and Standardization

(H.R. Lee)
(Y.K. Jeong)



2

가

9

가

가

가

가

가

,가

I.

가

가

,가

PC

가
가

가

가

[1].
가

가 가

II.

1.

가

PVR, ,
 가
 Home Gateway, Home Server,
 IPTV Gateway, Router, ADSL Gateway, Cable
 Gateway, Software Platform

< 1>
 , < 2> < 3>
 (/)
 [2],[3].

< 1>

2Wire	• HomePotal 1100
Linksys	• BEFN2PS4
	• WRT54G
Buffalo	• AirStation WBR-G54
Motorola	• SBG1000
Netgear	• DG834
Netopia	• Cayman 3547W

< 2> ()

S.A	• Explorer 4200HD
Pace Micro	• Digital IPTV420
	• Digital IPTV442
Coactive	• Connector 1000 Series
	• Connector 2000 Series
Everex	• IntelliWAY -iLAN
SonicBlue	• Replay5500

< 3> ()

Jungo RG	• OpenRG
Prosys	• mBedded Server 5.2
Wind River	• Tornado

2.
 가. Telemetry/Control Gateways

가
 가

, Coactive Networks /
 가
 가 [4].

. Two - Box Broadband Access Gateways
 가

가
 Compaq iPAQ Con-
 nection Point가

. Broadband Access Data Gateways
 two - box

NAT

가

가

. 2Wire

HomePortal 1500

Home LAN

. Voice/Data Gateways

Home PBX

. VoDSL

Devices(IADs)

Arris Interactive

가

. Integrated Services Gateways(ISG)

QoS

Packets Subscriber Distribution Unit(SDU)

, VoIP

QoS, CoS

WAN LAN

가

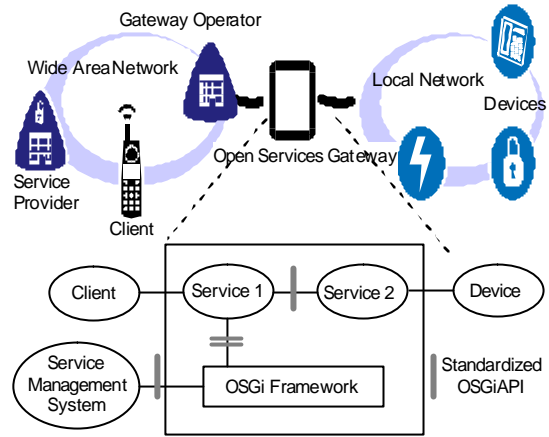
III.

1. OSGi

OSGi(Open Services Gateway initiative)

CPE

가



(1) OSGi

, OEM

API

SUN

OSGi (1)

OS

, OSGi

OSGi

가

가

가

SOHO(Small Office Home Office)/ROBO(Remote Office Branch Office) 가

가

end - to - end

2000 5

OSGi

Spec Ver.1.0

, 2001 10

Ver.1.0

. ISG

World Wide

가 Ver.2.0

, 2003 3

, Jini

UPnP

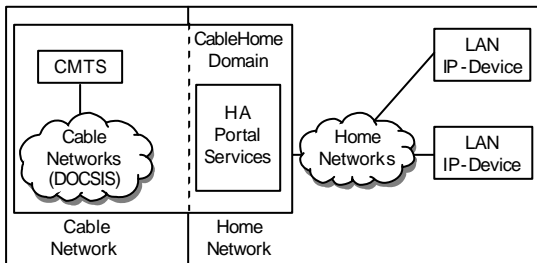
가 , SOHO

가 가 Ver.3.0

2. CableHome

CableHome

CableLabs가 , TR-41.5 WAN Home LAN
 가 ,
 DOCSIS, PacketCable, OpenCable . TIA TR-41.5
 가
 TIA/EIA/TSB-100
 2002 4 CableHome Ver.1.0 ,
 (2)
 , QoS , TIA TR-41.5 1995 GTE, Reltec,
 가 (visibility) 가 Telcordia RG
 CableHome Ver.1.0 ,
 QoS , 1999 1
 가
 , DNS
 , QoS Packet-
 Cable PacketCable QoS
 - 가
 -
 1999 12 TSB-110: Residential
 Gateway
 , HFC QoS ,



(2) CableHome 1.0

4. ISO/IEC JTC1 SC25 WG1

ISO(International Organization for Standardization)/IEC(International Electrotechnical Commission) JTC(Joint Technology Committee 1)/SC 25(SubCommittee 25) WG1(Working Group 1)

ISO, IEC

3. TIA TR - 41.5

TIA(Telecommunications Industry Association)

TIA TR-41.5

(stack) "HomeGate"
 (HomeGate)
 OSGi가 API
 LAN
 WG1
 , WG1
 WGI(WAN Gateway Interface),
 HGIP(HomeGate Internal Protocol) LGI(LAN
 Gateway Interface)가 HGIP
 RGIP
 WGI WAN , 가
 WAN
 , HGIP
 . LGI WGI
 LAN , 가 WAN
 , HGIP
 . HGIP
 - HGIP
 - WGI LGI
 - HGIP
 -
 - 가
 - HGIP

5. FS - VDSL

FS-VDSL(Full Service-Very High speed
 Digital Subscriber Line) (video),
 (data), (voice) full service
 ,
 FSN SubCommittee .

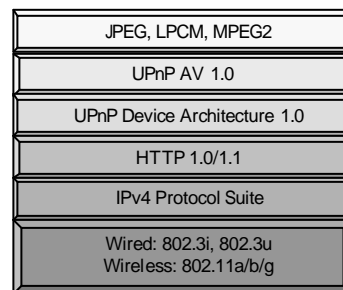
ITU-T SG16 FS-VDSL Focus Group
 2002 6 FS-VDSL Committee
 , ITU-T SG16 Focus Group
 2003 5
 , ()
 , ATM ,
 VDSL ,

6. CEA

CEA(Consumer Electronics Association)
 가
 . CEA
 EIA/CEA-851: VHN Home
 Network Specification, CEA-775-A: DTV 1394
 Interface Specification, CEA-775.1: Web En-
 hanced DTV 1394 Interface Specification,
 CEA-851.1: IP-Based Digital Telephony for
 the Versatile Home Network, CEA-851.2: Se-
 curity Services for the Versatile Home Net-
 work .

7. DLNA

DLNA(Digital Living Network Alliance)
 2003 6 DHWG(Digital Home Work-
 ing Group)
 . (3)



(3) DLNA

, MS 130 2004 , SNMP
 6 HNV1.0 [4].
 , PVR, 가 가 가
 MP3 . 가 가

IV.

.
 가
 2004
 가 FTTH(Fiber To
 The Home)
 가 ,
 가 가
 , 가
 가
 가
 가
 가

ADSL TP
 (Twist Pair), Fast Ethernet UTP
 HomePNA 2.0 Fast Ethernet
 1 2003 8
 2001 12 TTA 가
 (backbone network)
 HomePNA 2.0 Ethernet(10/100Base-T) 가
 가 [5].

(Home Device Bridge/Routing:
 HBR) IEEE1394, PLC,
 Wireless
 가 xDSL
 xDSL, HomePNA
 2.0
 , RIP , 가

V.



가 ,
 ,
 “ 1
 (last 1mile)” 가 .

가
 가 .

- [1] , “2003
 2003. 6., pp.41-48.”
- [2] Suzanne Betts, “Broadband Residential Gateways,”
 Allied Business, 2003, pp.71-76.
- [3] Mike Wolf, “Residential Gateways: The Coming
 Battle for the Digital Living Room,” Cahners. IN-
 STAT/MDR, 2002, pp.12-27.
- [4] , “
 , 2004. 2., pp.107-112.”
- [5] , “
 ,” 2004.
 6., pp.26-29.