selectv

product
technical data
sheet

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network requirements & standards

The purpose of this section is to serve as a guideline for selecting and configuring suitable network switches for implementing SELECT-TV™. The architecture and health of a network very much determine and affect the performance of SELECT-TV™.

CORE SWITCH

The Core Switch must meet the following requirements,
• Manageable.
• Gigabit (1000 Mbps) uplinks for all the Edge Switches and Servers.
• Switching Fabric / Backplane Capacity of minimum 50 Gbps.
• IGMP v2 (Querer / Router).

EDGE SWITCH

The Edge Switch must meet the following requirements,
• Manageable.
• Gigabit (1000 Mbps) uplink to Core Switch.
• Ethernet and Fast Ethernet (10/100 Mbps) to all STBs.
• IGMP v2 (Snooping)

Note,
Each Edge Switch shall be directly connected to the Core Switch via a Gigabit (1000 Mbps) uplink. Cascading will require proper standards using CAT6 cascading on cascade ports.

RECOMMENDED MANUFACTURERS AND MODELS

Manufacturer	Switch	Model
3Com	Core	4200G, 4500G and 5500G Family
3Com	Edge	4200, 4500 and 5500 Family
HP	Core	3500 and 5400 Procurve Family
HP	Edge	2600 Procurve Family
Cisco	Core	3560, 3750 and 6500 Catalyst Family
Cisco	Edge	2950 and 2960 Catalyst Family

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IPTV standards & encoding

SELECT-TV™ is designed and build to comply with international standards ensuring compatibility with content providers and delivery processes. The capabilities of SELECT-TV™ are:

VIDEO COMPRESSION

- MPEG-1
- MPEG-2 (Variable and Constant bit rate)
- MPEG-4 (variants)
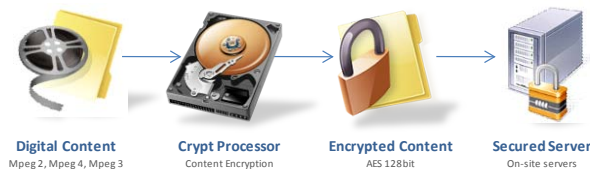- MPEG-4 AVC (H. 264)
- VC-1
- Theora

VIDEO RESOLUTION

- 480P
- 720P – HD Series only
- 1080i – HD Series only. Supports all profiles including advanced profiles
- 1080P – HD Series only. Supports all profiles including advanced profiles

AUDIO COMPRESSION

- MPEG1-Layer III (MP3)
- AAC
- Vorbis

DIGITAL RIGHTS MANAGEMENT

- 128 bit AES Encryption
- Key Infrastructure
- Rotating keys for Live TV streaming up to 100 keys per second

MAC Address & Public Key
Registered Set Top Boxes

Secured Physical Connection
Local Area Network via cables

Select-TV DRM Server
Authentication and security processing

Digital Content
Mpeg 2, Mpeg 4, Mpeg 3

Crypt Processor
Content Encryption

Encrypted Content
AES 128bit

Secured Server
On-site servers

select**v**
digital rights management

IP Set Top Box

Certificate Authority
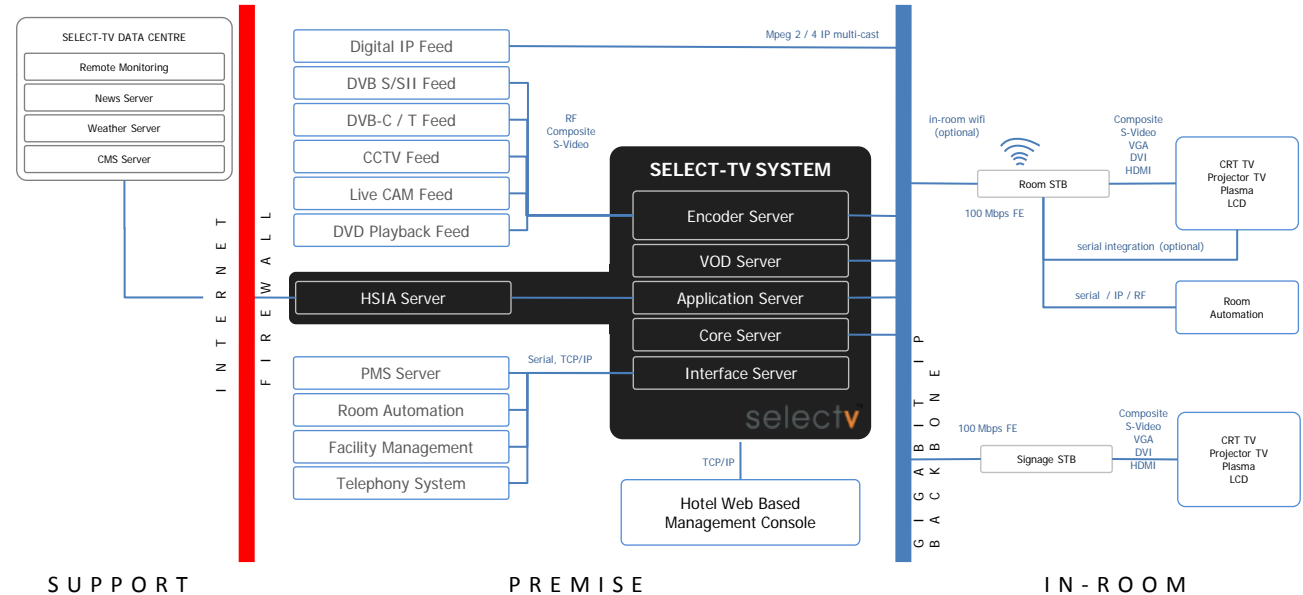
Private Key
Private Key issued

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technical architecture

Designed and built fully on IP technology, Select-TV leverages on the benefits that comes with IP convergence. Utilizing a single common infrastructure, Select-TV provides the following to your premise:

- Interactive TV
- IPTV
- Digital Signage
- Internet Billing System
- Advanced Telephony
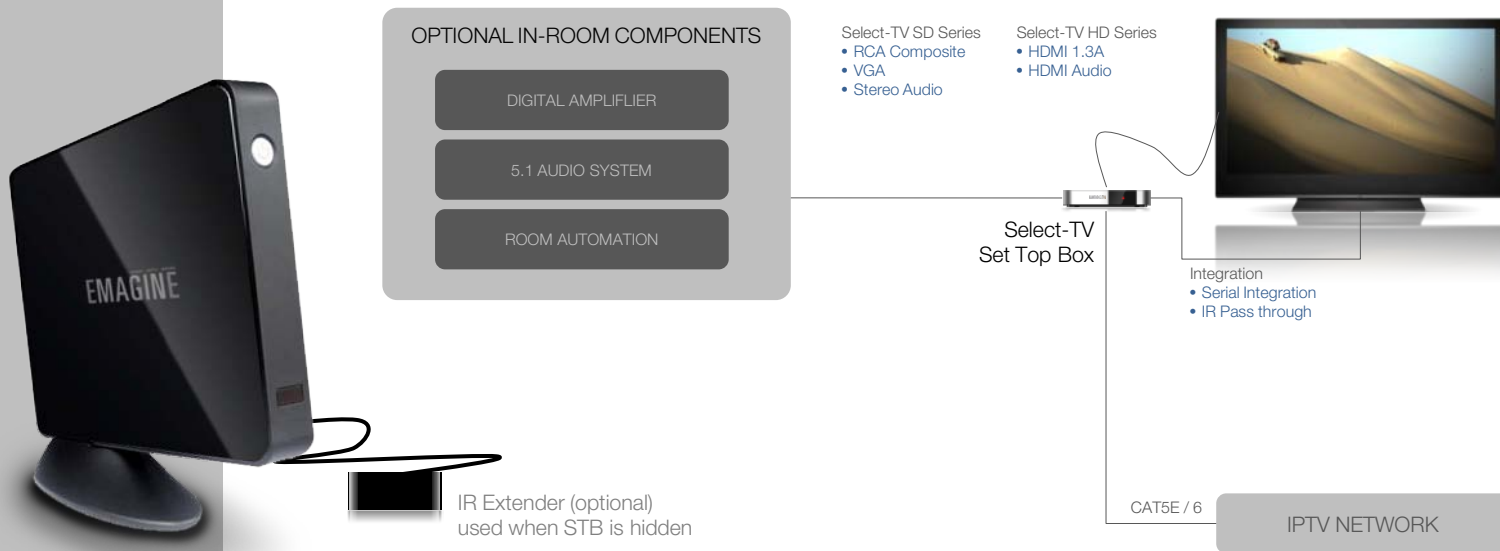- CCTV feed dissemination

SELECT-TV DATA CENTRE
- Remote Monitoring
- News Server
- Weather Server
- CMS Server

Digital IP Feed
DVB S/SII Feed
DVB-C / T Feed
CCTV Feed
Live CAM Feed
DVD Playback Feed

HSIA Server

PMS Server
Room Automation
Facility Management
Telephony System

INTERNET

FIREWALL

Mpeg 2 / 4 IP multi-cast

RF Composite S-Video

Serial, TCP/IP

SELECT-TV SYSTEM
- Encoder Server
- VOD Server
- Application Server
- Core Server
- Interface Server

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TCP/IP

Hotel Web Based Management Console

GIGABIT IP BACKBONE

in-room wifi (optional)

Room STB

100 Mbps FE

serial integration (optional)

serial / IP / RF

100 Mbps FE

Signage STB

Composite S-Video VGA DVI HDMI

CRT TV Projector TV Plasma LCD

Room Automation

Composite S-Video VGA DVI HDMI

CRT TV Projector TV Plasma LCD

SUPPORT   **PREMISE**   **IN-ROOM**

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in room equipment & set up

SELECT-TV™ key capabilities that ensure a rich yet robust solution for hotels are:

- 100% "zero storage" on the set top box eliminating issues of storage corruption
- Linux operating system reducing security threats and other Windows related issues
- Flash based GUI ensuring a rich and attractive customer interface
- 100% web based technology increasing scalability and adaptability
- 100% server based for all information, content and storage requirements ensuring reliability and security of data

OPTIONAL IN-ROOM COMPONENTS

DIGITAL AMPLIFLIER

5.1 AUDIO SYSTEM

ROOM AUTOMATION

Select-TV SD Series
- RCA Composite
- VGA
- Stereo Audio

Select-TV HD Series
- HDMI 1.3A
- HDMI Audio

Select-TV
Set Top Box

Integration
- Serial Integration
- IR Pass through

EMAGINE

IR Extender (optional)
used when STB is hidden

CAT5E / 6

IPTV NETWORK

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set top box

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VERSION:	Select-TV STB Version 3.0HD	Select-TV STB Version 3.0SD
DIMENSION :	ABS 197mm X 150mm X 25mm	
PORTS:	1 X Gigabit Ethernet RJ-45 1 X Infrared Extender Port 1 X HDMI 1.3A TV-Out (with audio) 2 X USB 2.0 1 X Stereo Audio Out	1 X Gigabit Ethernet RJ-45 1 X Infrared Extender Port 1 X VGA Display Out 2 X USB 2.0 1 X Stereo Audio Out

RAM:	1GB
MULTIMEDIA PROCESSING:	MPEG 2, 4, .H264, Xvid SD, HD 1080P, HD1080i (HD version) MPEG 3
INTERNET COMPLIANCE:	HTML FLASH 10.1 Javascript
PERIPHERALS:	Select-TV RF Wireless Keyboard Select-TV IR Remote Control
GAMING:	OPEN GLES 2.0 Full 3D
POWER:	< 40W consumption (60W in)
ENVIRONMENT:	Operation temperature: 0~60o C Storage temperature: -20~80o C Operation humidity: 5~95%,

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integration

SELECT-TV™ is fully compliant and integrated with numerous in-room devices:

- Hotel LCD TVs – for TV controls and IR pass through
    - LG
    - Samsung
    - Sony
    - Sharp
    - Panasonic
    - B&O
    - Phillips

- In Room Automation & Devices
    - Marrantz – Home Theatre
    - ABB – room automation
    - AMX – room automation

SELECT-TV™ is fully certified and integrated with most popular Hotel Property Management Systems:

- Micros Fidelio – Fidelio, Opera
- Softbrands – HIS, Epitome
- Hotsoft
- Commanche
- VHP
- Easyfor
- Innkeeper
- eHors
- Comtrol (common interface for 150 different PMS)

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universal remote control & wireless keyboard

SELECT-TV™ key capabilities that ensure a rich yet robust solution for hotels are:

- Fully programmable learning remote control with USB load scan codes to ensure compatibility with all TVs
- Customized large buttons for ease of use by guests
- Shortcut buttons for common accessed functions on system
- Only single remote control in room controlling both Select-TV system and TV
- Radio Frequency 2.4GHz wireless keyboard with up to 10m non line of sight range
- Easy to use full size keyboards. Does not require pointing direction to TV.

VERSION:	Select-TV Remote Version 3.0
DIMENSION :	H 190mm X W 50mm
BATTERIES:	2 X AAA Alkaline (720 hours)
PORTS:	USB for code loading
WIRELESS:	INFRARED (7m range)

VERSION: (optional item)	Select-TV Keyboard Version 3.0
DIMENSION :	W 400mm X H 175mm X D 38mm
BATTERIES:	4 X AA Alkaline (360 hours)
CONFIGURATION:	Full Sized QWERTY & Track Ball Mouse
WIRELESS:	Radio Frequency 2.4Ghz (10m range) 32,768 unique IDs

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interactive tv and communication servers

SELECT-TV™ key capabilities that ensure a rich yet robust solution for operators are:

- Fully rack mount servers for all servers ensuring standard compliance implementation and easy management
- All servers are equipped with Select-TV's monitoring watch dog for 24 X 7 monitoring and remote access support

SELECT-TV APPLICATION SERVER

- DIMM Memory 2GB (2x1024), DDR-2 667MHz
- 80GB 3.5-inch 7.2K RPM SATA II Hard Drive
- Integrated ATI ES1000 (RN50) SVGA Controller with 32MB Memory
- Dual Integrated Broadcom 5721 Gigabit Ethernet Controller
- C2: No Raid, On-board SATA Controller, 2 SATA

SELECT-TV CORE SERVER

- DIMM Memory 2GB (2x1024), DDR-2 667MHz
- 80GB 3.5-inch 7.2K RPM SATA II Hard Drive
- Integrated ATI ES1000 (RN50) SVGA Controller with 32MB Memory
- Dual Integrated Broadcom 5721 Gigabit Ethernet Controller
- C2: No Raid, On-board SATA Controller

SELECT-TV CONTENT MEDIA SERVER

- Integrated ATI ES1000 (RN50) SVGA Controller with 32MB Memory
- Dual Integrated Broadcom 5721 Gigabit Ethernet Controller
- C4: Raid 1, SAS6i/R Integrated SAS 6/iR Controller Card
- 300GB 3.5-inch 15K RPM SAS Hard Drive

SELECT-TV INTERNET SERVER

- DIMM Memory 2GB (2x1024), DDR-2 667MHz
- 80GB 3.5-inch 7.2K RPM SATA II Hard Drive
- Integrated ATI ES1000 (RN50) SVGA Controller with 32MB Memory
- Dual Integrated Broadcom 5721 Gigabit Ethernet Controller
- C2: No Raid, On-board SATA Controller

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application

content

core

internet

server specs

CHASSIS

Form Factor: 1U Rack
Height: 1.68" (4.27 cm)
Width: 17.60" (44.70 cm)
Depth: 21.50" (54.61 cm)
Weight: ~ 26.0 lbs. (11.80kg)

Ports

Rear: 2 x USB 2.0 ports, 1 x video connector, 1 x serial connector, 1 x PS/2 mouse connector, 1 x PS/2 keyboard connector
Front: 2 x USB 2.0 ports, 1 x video connector

Power

Single power supply (345W)

Environmental

Operating Temperature: 10° to 35°C (50° to 95°F)
Operating Relative Humidity: 20% to 80% (non-condensing) with a maximum humidity gradation of 10% per hour
Operating Maximum Vibration: 0.25 G's 0-Peak, 3-200 HZ sweep @ 1/2 Octaves/minute
Operating Maximum Shock: 31G, 2.6ms, 20inch/sec, bottom side
Operating Altitude: -16 to 3048 m (-50 to 10,000 ft.)
Storage Temperature: -40° to 65°C (-40° to 149°F)
Storage Relative Humidity: 5% to 95% (non-condensing)
Storage Maximum Vibration: 1.54 GRMS - 6 sides @ 15 min/side
Storage Maximum Shock: 71G, 2ms, 35inch/sec, 6 sides; 3

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IRD & IPTV encoding servers

SELECT-TV™ key capabilities that ensure a rich yet robust solution for operators are:

- Fully rack mount servers for all servers ensuring standard compliance implementation and easy management
- All servers are equipped with Select-TV's monitoring watch dog for 24 X 7 monitoring and remote access support

SELECT-TV STANDARD DEFINITION IPTV ENCODING SERVER

- DIMM Memory 1GB DDR-2 667MHz
- Up to 5 channels per server
- Input options: RF, Composite, S-Video
- Mpeg2 hardware encoding
- Dual Integrated Ethernet Controller

SELECT-TV HIGH DEFINITION IRD (only for FTA or CAM module supported DVB DRM)

- Up to 6 DVB-C/S transponders
- Up to Full-HD broadcast-grade
- 2 X CAM Support
- Built-In Multiplexer for any table injection and ASI inputs for cascading
- Simultaneous ASI and IP streaming outputs
- 2x GB 10/100/Gigabit Ip streaming outputs