

Shaping the Future of Digital Connectivity

5Play™ Convergence via a
100m UTP Cable

General Manager Japan
Shintaro Iguchi



Company Profile

A Fabless Semiconductor founded in October 2006

Investors: Genesis, Magma

20 Employees

Headquarters: Hod-Hasharon, Israel

Management:

Dror Jerushalmi - CEO (ex Saifun, Emblaze semiconductors, DSPG)

Massad Eyal - VP R&D (ex Mysticom, National)

Eyran Lida - CTO (ex Mysticom)

Micha Risling - VP Sales & Marketing (ex Saifun, M-systems)

Ariel Sobelman - VP business development (ex SanDisk, Discretix)

Local representatives in: Japan, Korea, Taiwan, China

23 US patent applications

Introduction

- ▶ HDBaseT is an innovative PHY (Physical Layer) that defines a new digital connectivity positioned to be the next HDMI, enabling:
 - ▶ Point to Point connectivity
 - ▶ Multimedia distribution between multiple CE devices
- ▶ The first HDBaseT product will enable to **simultaneously** send the following over a single 100m/328ft Cat5e cable:
 - ▶ Uncompressed video 1080P, 60Hz, 48bits, 3D and 4K x2K
 - ▶ HDMI 1.4 equivalent
 - ▶ HDCP Compliant
 - ▶ Audio –Dolby 7.1
 - ▶ Ethernet – 100Mbps
 - ▶ Power over Ethernet (PoE+, up to 50Watt)
 - ▶ Various Controls (HDMI CEC, RS232, IR, USB)
- ▶ We call it 5Play™

5Play™ Convergence



5Play convergence via a 100m/328ft Cat5e LAN cable

Answering the In-Home Connectivity Needs

- ▶ 5Play convergence
- ▶ Long-reach easy to install HD infrastructure:
 - ▶ Home coverage (between rooms) up to 100m
 - ▶ In-walls installation
 - ▶ Standard inexpensive cables (Cat5e)
 - ▶ Passing through passive connectors
 - ▶ Field terminated connectors
- ▶ HDBaseT/Ethernet dual mode PHY – utilizing the existing RJ-45 connector either for standard Ethernet or HDBaseT (Ethernet fall back)
- ▶ Highly robust, EMI proof complies with CISPR/FCC Class B EMC/EMI compliance

HDBaseT and the HD Landscape



Internet enabled TV

The hottest topic, there is a clear need for one connectivity to carry both HD video and Internet

HDBaseT support Uncompressed HD Video and Internet



A shift to "Green" CE devices

The vision of sending power to a Blu-ray player or a slim monitor can become a reality with HDBaseT

HDBaseT supports 30Watt and more over LAN cable



Slim TVs are everywhere

HDBaseT enables the need for two pieces TV / remote extension box



HD multimedia home distribution

Uncompressed content turns to be the best alternative for cost effectiveness, seamless integration and future upgradability

HDBaseT enables uncompressed HD video distribution with full home coverage



Valens
semiconductor

high definition made simple

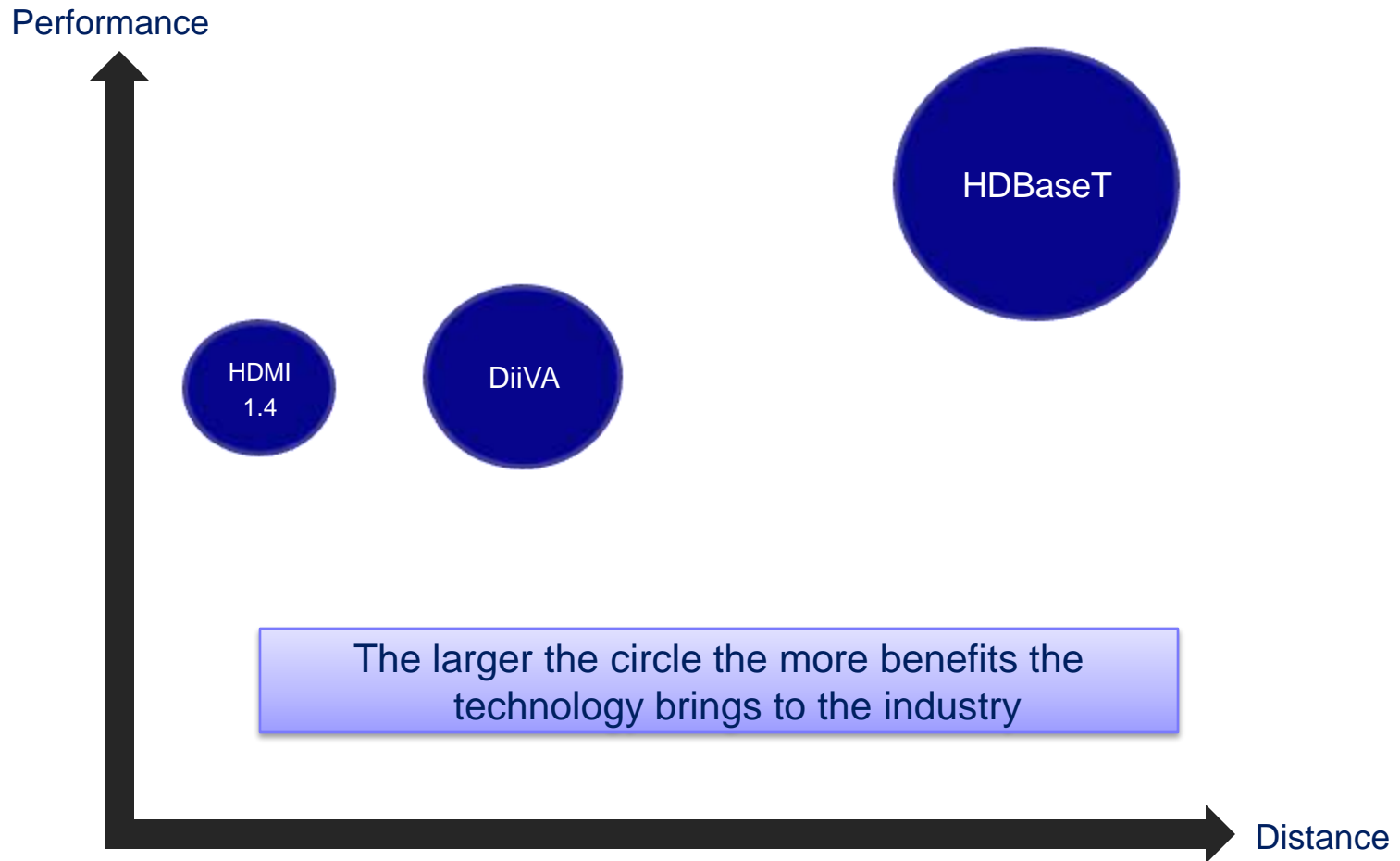
Competitive Analysis



Specification Comparison Table

Criterion	HDMI 1.4	DiVA	HDBaseT
Video	10.2Gbps	13.5Gbps (1 st generation - 4Gbps)	20Gbps (1 st generation - 10.2Gbps)
Length	Few meters	26m	100m
Robustness (EMI Compliance)	Low	Low	High
Cable	Special Cable	Special Cable	Low cost Cat5e
Connector	New	New	Std. RJ45
Power	No	5Watt Only	50W
Ethernet	100Mbps	Giga	Giga (1 st generation - 100Mbps)
Daisy Chain	No	Yes	Yes
Multi-stream	No	No	Yes (Not supported in the 1 st generation)
Installation-Friendly	No	No	Yes
HDCP	HDCP 1.3 & 2.0	No	HDCP 1.3 & 2.0
Std. CEC	Yes	Optional	Yes
Firmware Change	No	Yes	No

Performance Over Distance



Different Usage Cases, Different Solutions



HDMI

Few meters Point to Point Connectivity



HDBaseT

Long-reach easy to install Point to Point HD Video, Audio and Data converged Connectivity



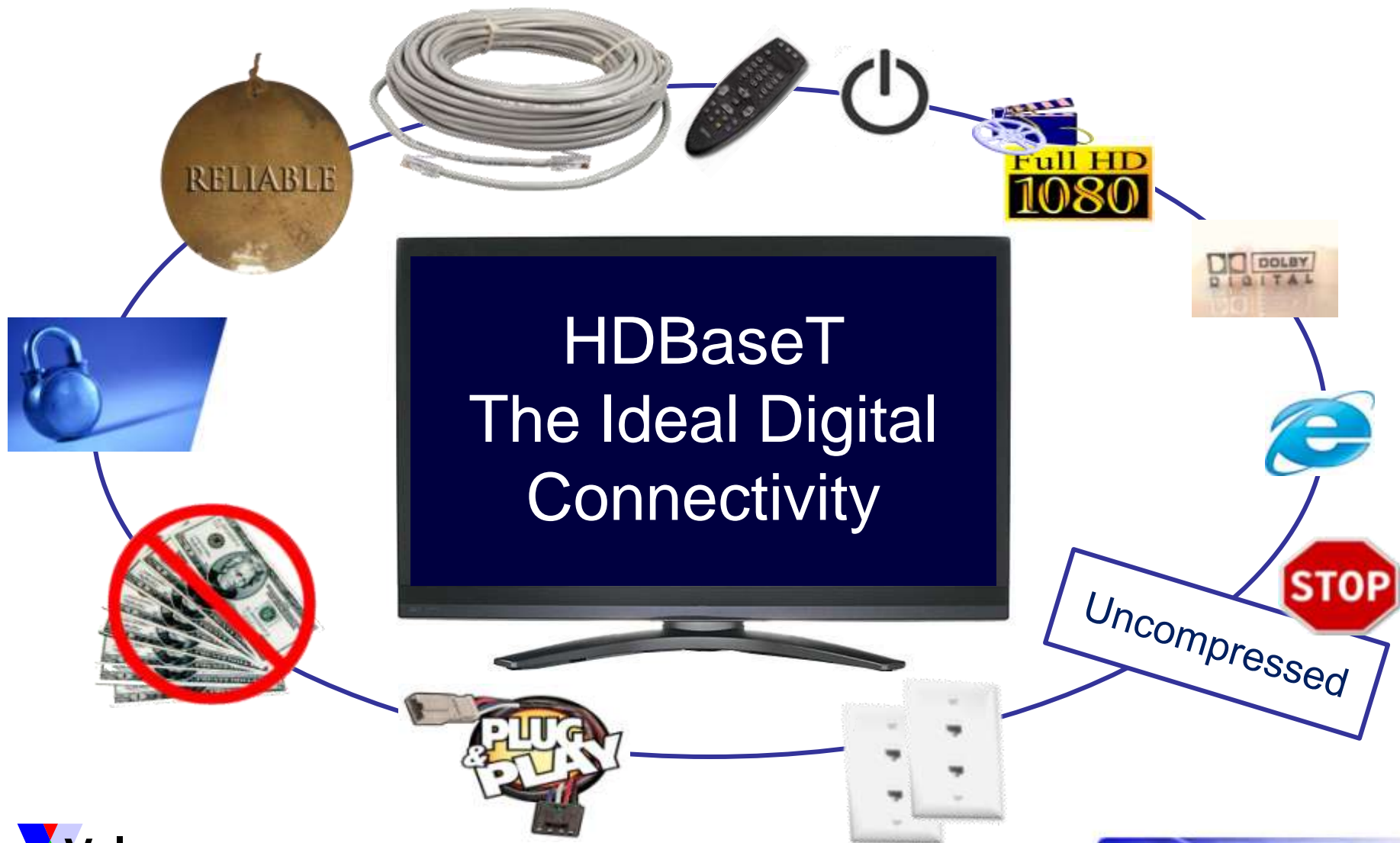
HDBaseT

In-home HD Multimedia distribution



high definition made simple

The Ideal Digital Connectivity



Usage Cases



Shaping the Future of Home Connectivity



HDBaseT-based Point to Point Connectivity



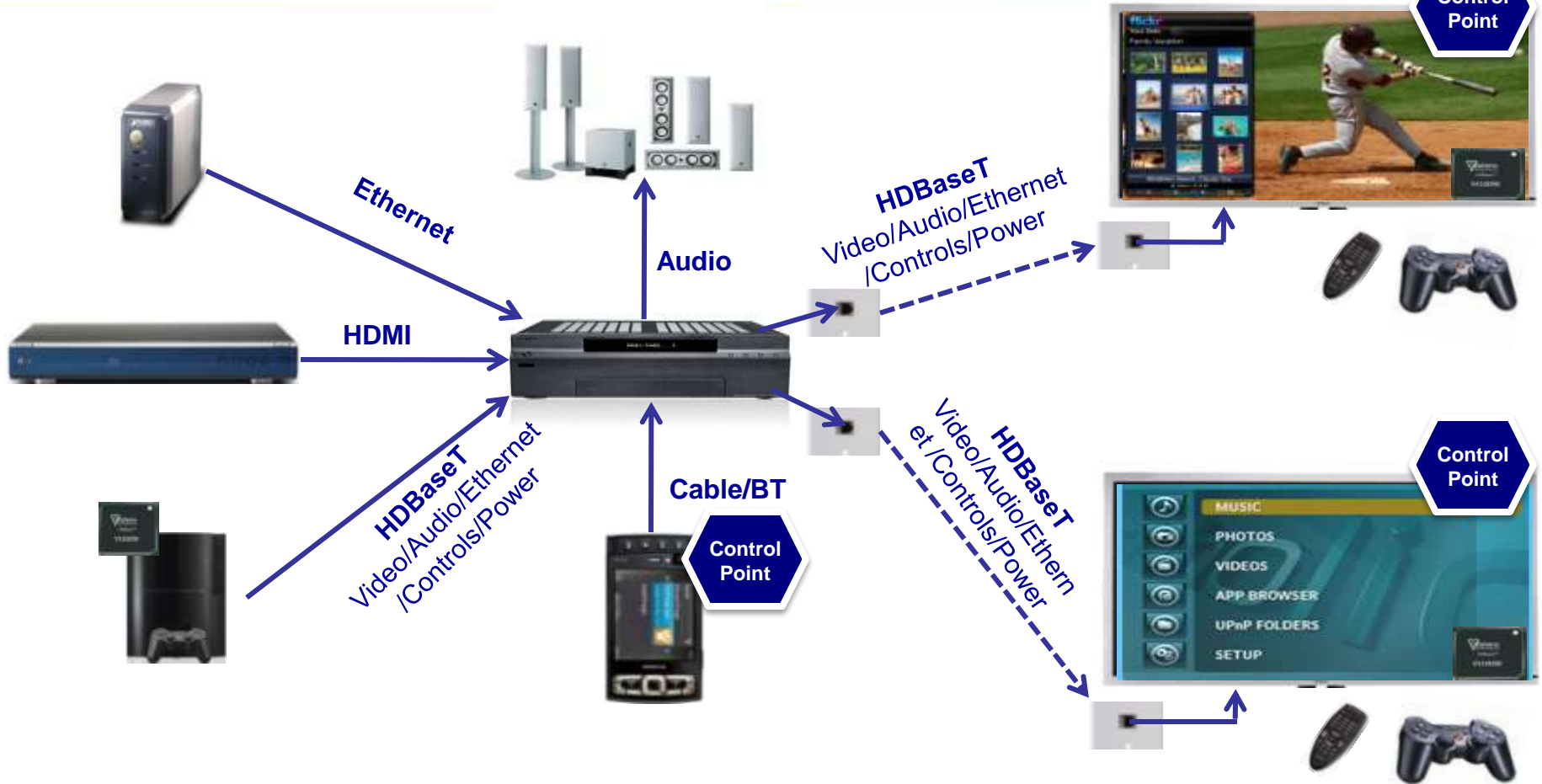
Blu-ray
DVD
Game Console
AV Receiver



HDBaseT™

8Gbps video, audio, Ethernet, power and controls
over 100m/328ft Cat5e cable

Dual Network Multi-room Multimedia Distribution System



HDBaseT – Dual network (DLNA and Uncompressed)
Supports HDBaseT, HDMI & Ethernet devices
using one infrastructure

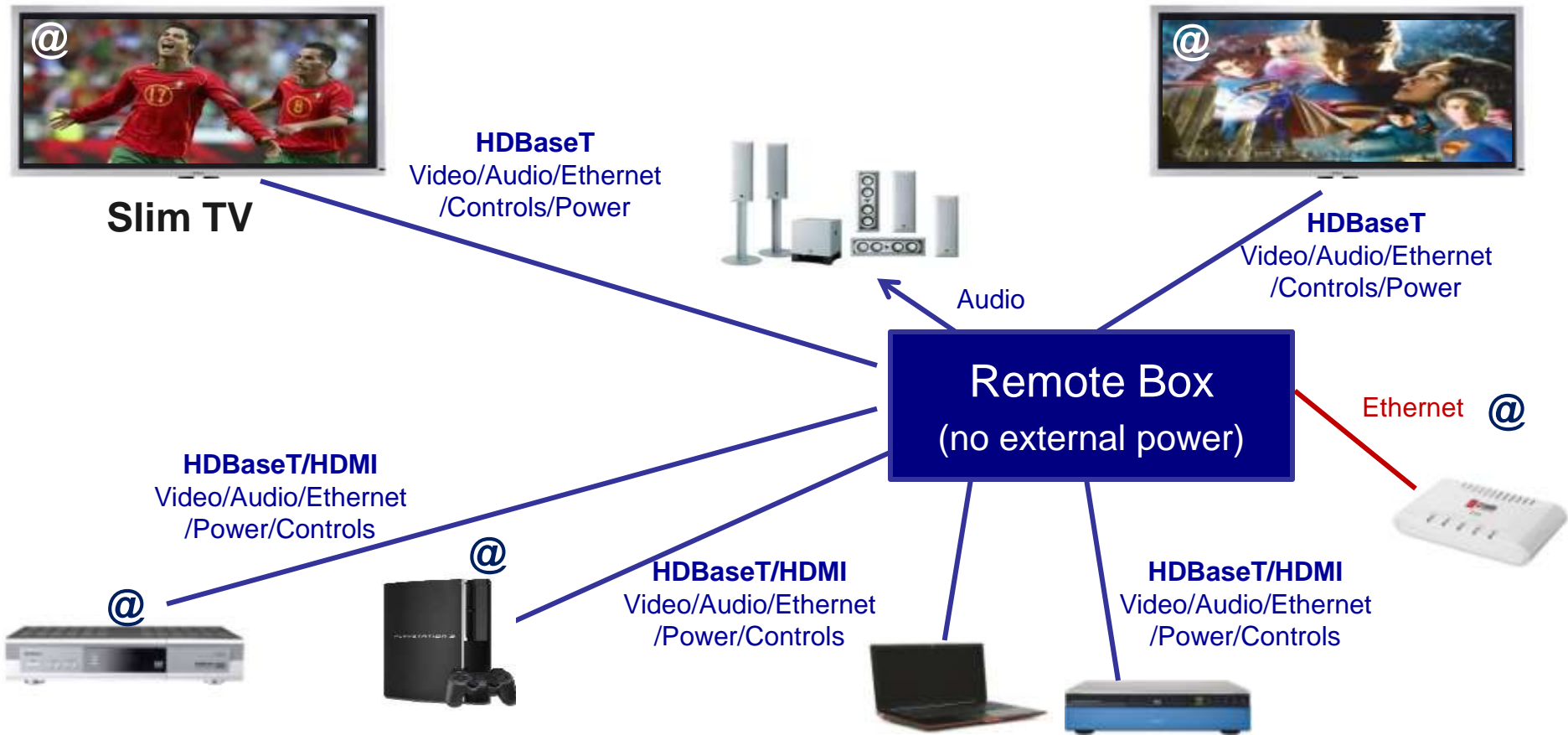
DTV as a Control Point



Using DTV as a control point (DLNA & CE)



A HDBaseT-based Two Piece TV



More than a remote Box

Remote Desktop



Single chip, Single cable remote desktop
(Power, Video, Audio and Controls)



From Thin Client to "Zero" Client

Applicable also for Digital Signage

Multiple Users

Single chip, Single cable zero client
(Power, Video, Audio and Controls)



Daisy Chain Usage Scenario

Living Room



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In-wall 100m
Cat5e
installation

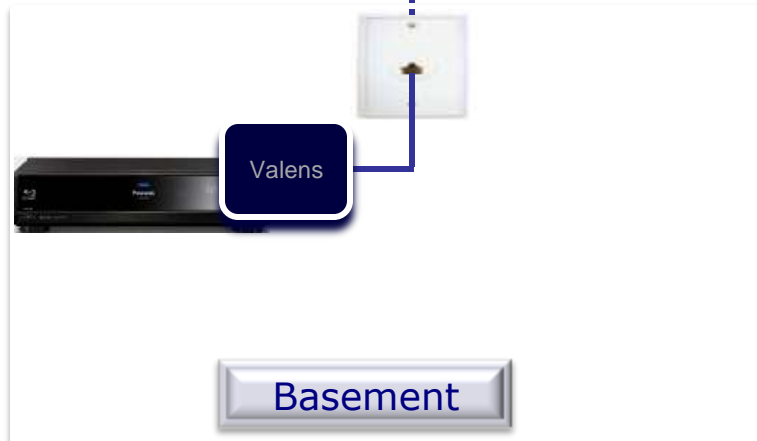
Children's Room



Valens



In-wall 100m
Cat5e
installation





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How to approach toward market



Go to market strategy (Sales time line)

2010

HDMI extenders
KVM manuf.
Signage systems

2011

Projectors

Signage monitors

Commercial video & data distribution (hotels, ...)

Service providers

Various commercial application

Consumer Electronics

2012

Addressing Other Segments

HDMI Extenders

Extending the limited HDMI distance by using external dongles based on Valens technology



Digital Signage & Public Areas

Connecting multi HD displays in large spaces



3 Stages Penetration



Phase #1 : Two Dongles

Phase #2 : Embedding into the TV side

Phase #3 : Embedding on both sides

Roadmap & Status



Status & Schedule

Schedule

VS100 Engineering samples (ES) available now

Business Achievements

HDBaseT Alliance

Leading companies have joined the HDBaseT alliance as board members and as promoters

Joint demo

Funai showed HDBaseT-based Demo in IFA. Other leading CE vendors will show demos at CES.

Design-wins with leading customers

First product expected to hit the market at and of 2009.

HDCP approval from the DCP LLC (Intel)

HDBaseT is officially an HDCP approved output

Strong relationship with Hollywood

Hollywood sees HDBaseT as a preferred output for premium content

Successful seminar in Tokyo

40 attendances from the 10 leading CE companies

Two key speakers: the president of the DCP LLC and the CTO of MPAA (Hollywood)

Thank You

Question and remarks can be sent to:
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For additional information please log to our web site at:

www.valens-semi.com