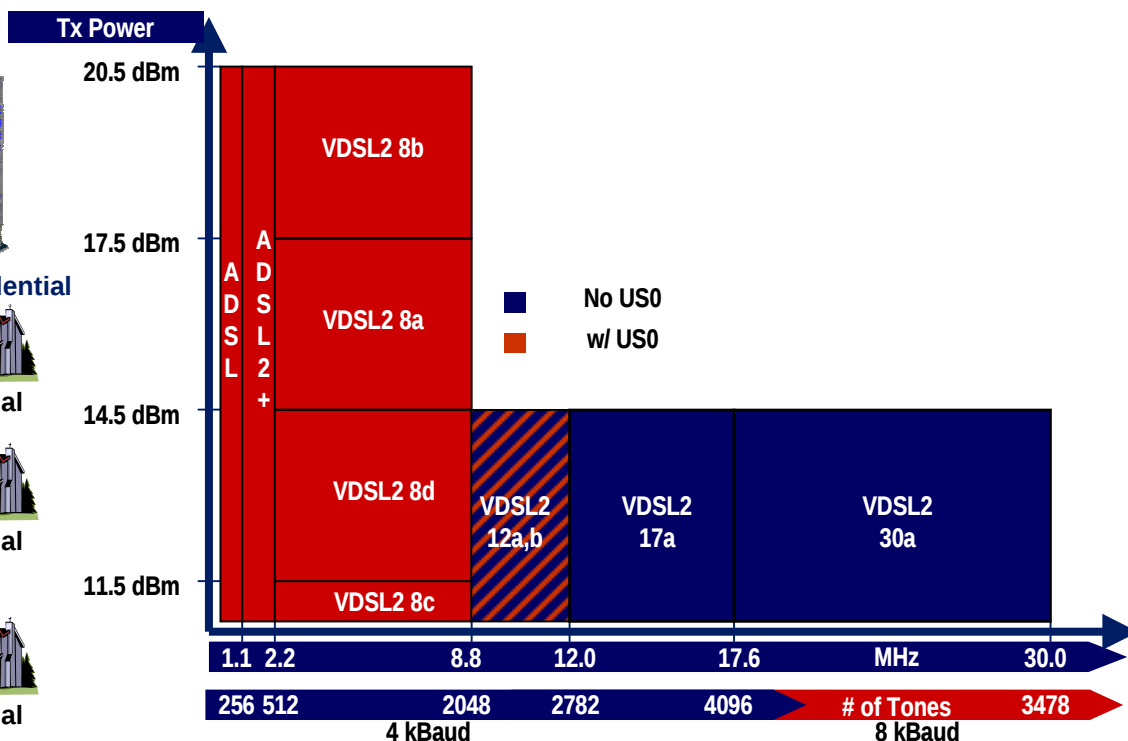
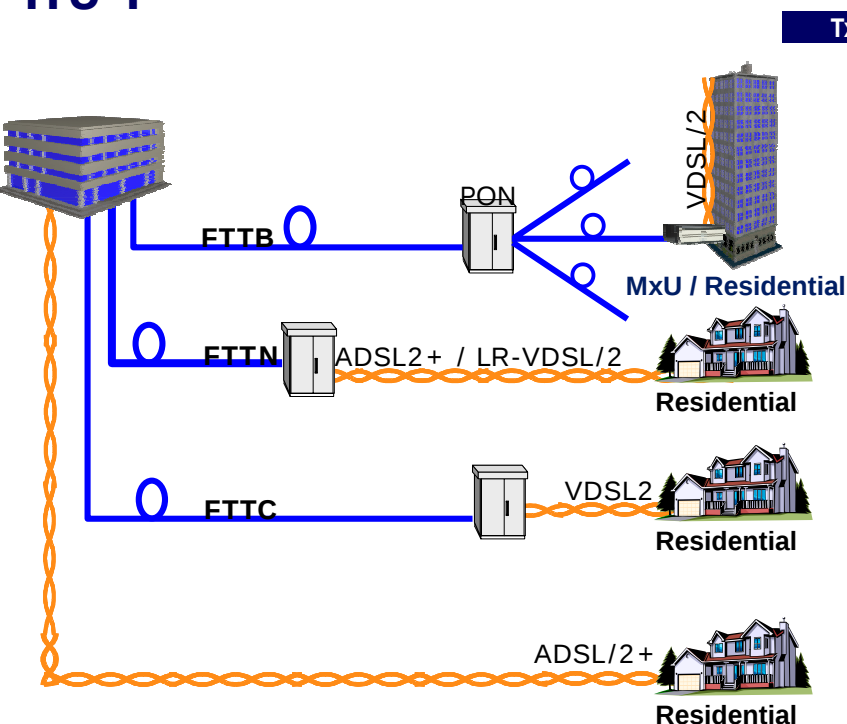


VDSL2 - Taking Broadband Access Evolution to the Next Level

Dr.-Ing. Martin Schenk
Vice President Marketing
Infineon Technologies, COM Wireline Access

VDSL2 (ITU G.993.2) – An Overview



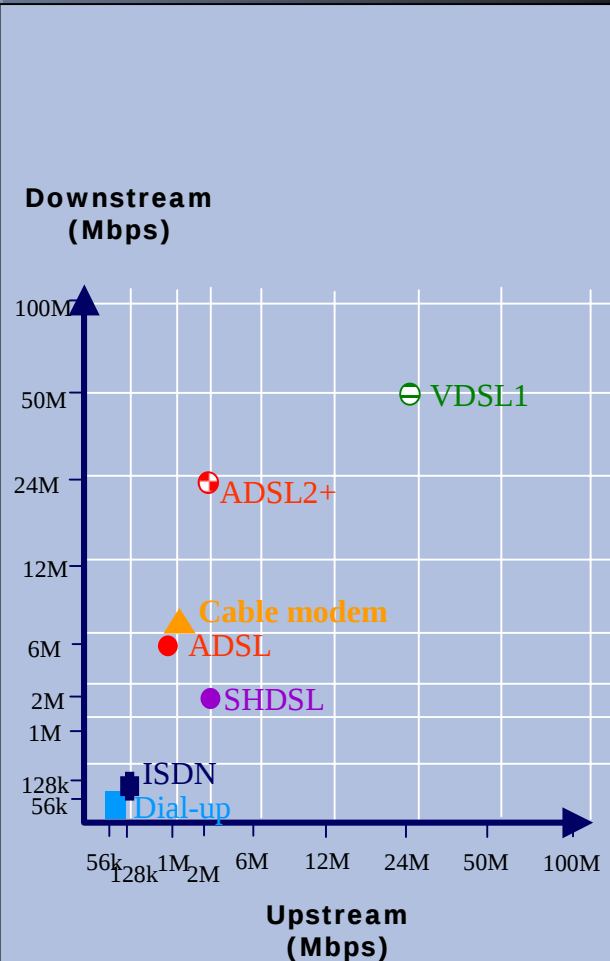
About VDSL2 - ITU G.993.2

- ITU consent reached in Geneva May 2005
- Multiple Profiles defined to address regional and application specific bandwidth requirements
 - Up to 30 MHz bandwidth
 - Up to 100/100 Mbps
 - ADSL2+ backwards compatibility

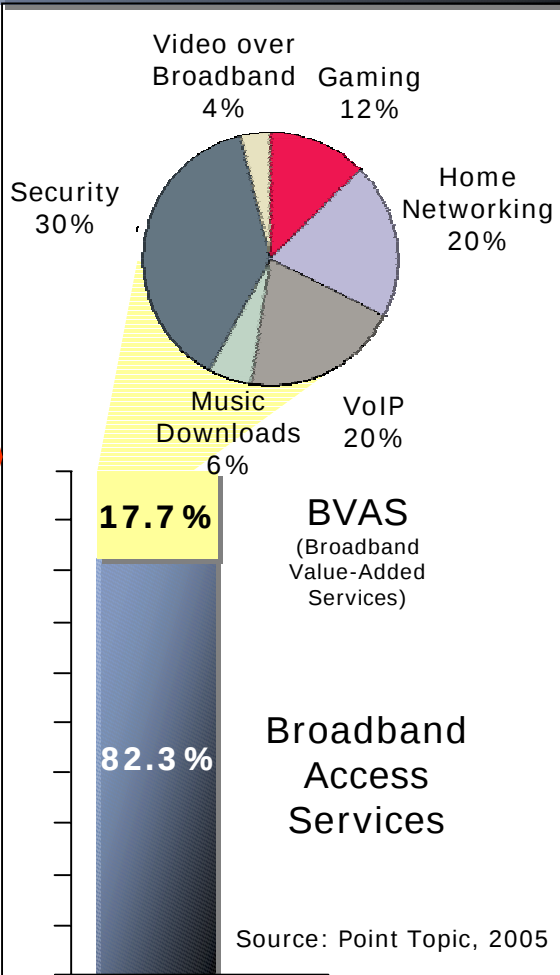
Broadband Access Status Quo

Performance – Services - Deployments

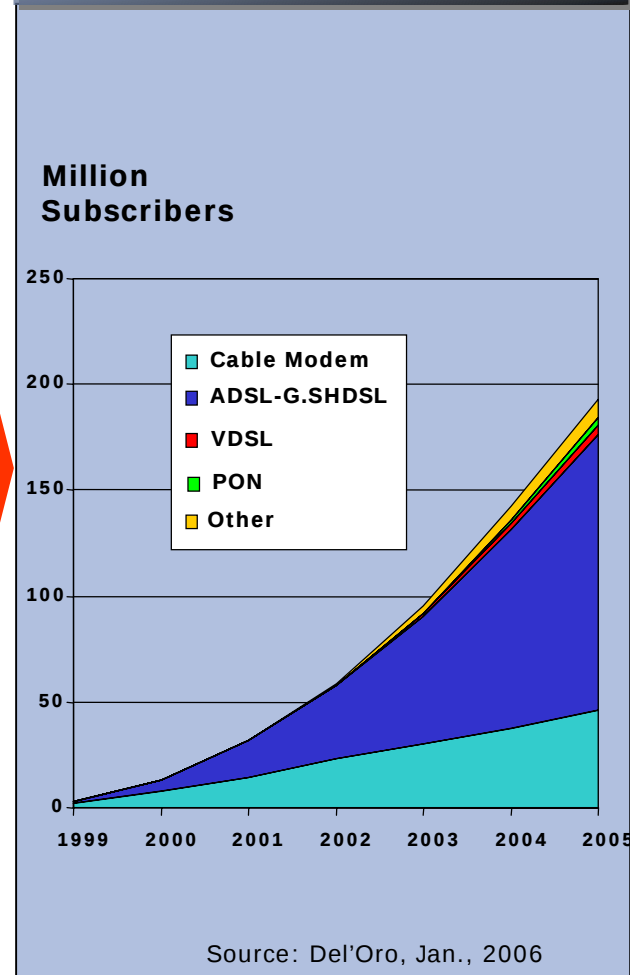
Performance



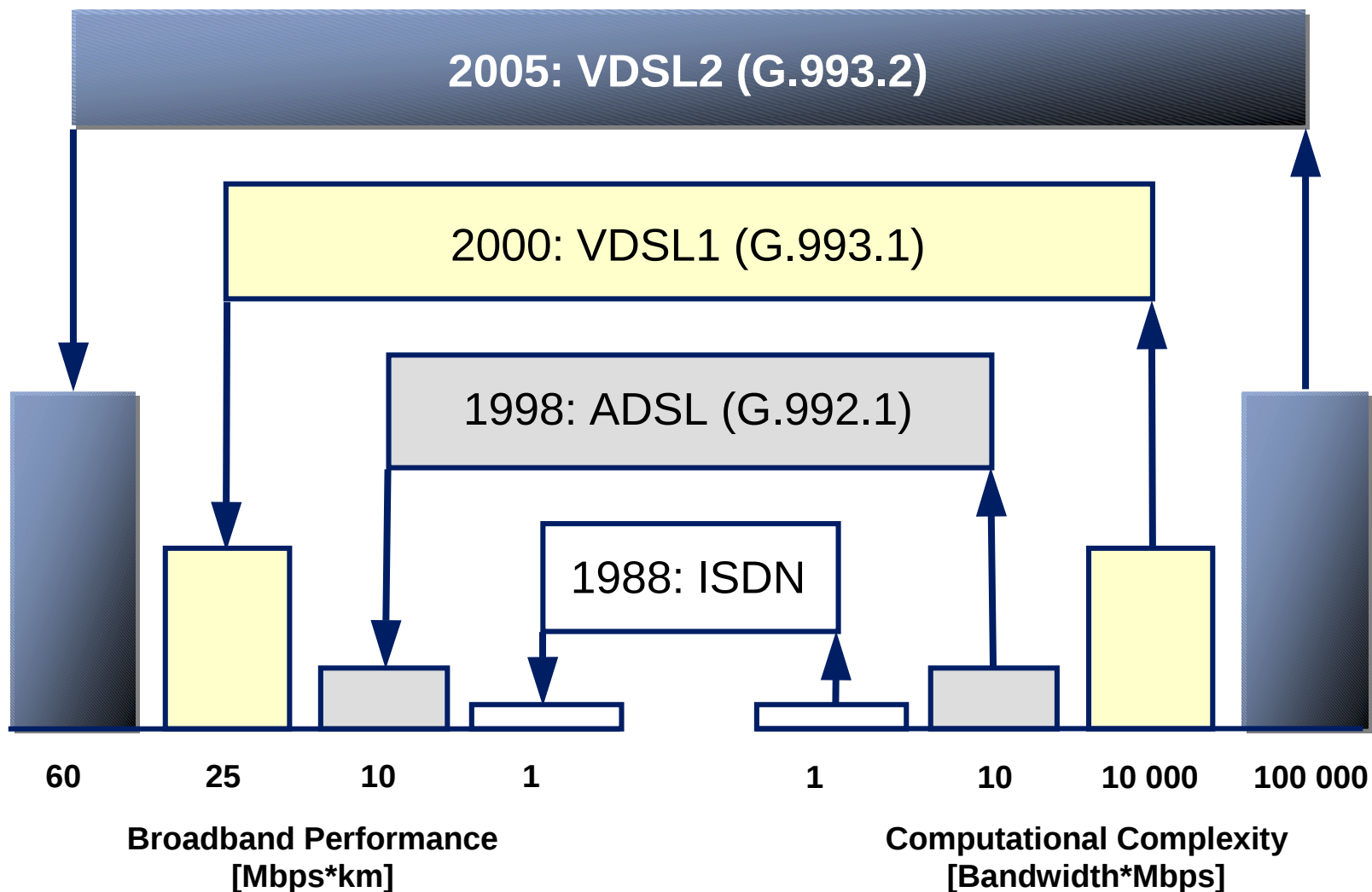
Services



Subscribers



Reaching the Next Level in Broadband Access Performance



VDSL2 Performance advantages over VDSL1

Criteria			Benefit
Bandwidth	VDSL1	 12MHz	Much higher performance for short loops
	VDSL2	 30MHz	
Trellis, SRA, GCI	VDSL1	None	Improved performance
	VDSL2	Mandatory	
Long Reach	VDSL1	 1km	90% customer reach + single technology
	VDSL2	 3km ...	
ADSL Compatibility	VDSL1	None	Reuse of existing ADSL infrastructure
	VDSL2	ADSL, ADSL2, ADSL2+	
QoS	VDSL1	None	Enable Triple - Play applications
	VDSL2	Dual Latency, Dual Bearer, Pre-Emption	

Reaching the Next Level in Broadband Access Services

Interactive Services	Upload Requirement	Time Required (284 Kbps)	Time Required (100 Mbps)
Digital Photo Sharing	20 photos (5 MB each)	20 minutes	30 seconds
Video Phones	Broadcast Quality	Not Possible	Possible
Music Sharing	Transfer 30 songs (5 MB each)	30 minutes	1 minute
Video Publishing	Upload 50 MB files	5 minutes	15 seconds



Broadband Value-Added Services

High Growth for Video and IPTV expected



Television pictures in 3-Dimensions

Viewers can see real depth without aids such as shutter or polarisation spectacles... The aim of the collaboration is to produce live images at the Football World Cup 2006 for the pilot sets

Worldwide subscribers to Digital Video Recording (DVR) services will rise by a factor of seven between 2005 and 2010

Market will reach 83.4 million users in 2010, representing a compound annual growth rate (CAGR) of 45.3%, from 12.9 million in 2005, according to iSuppli

Table 2: IPTV Homes by Region, 2005-2010

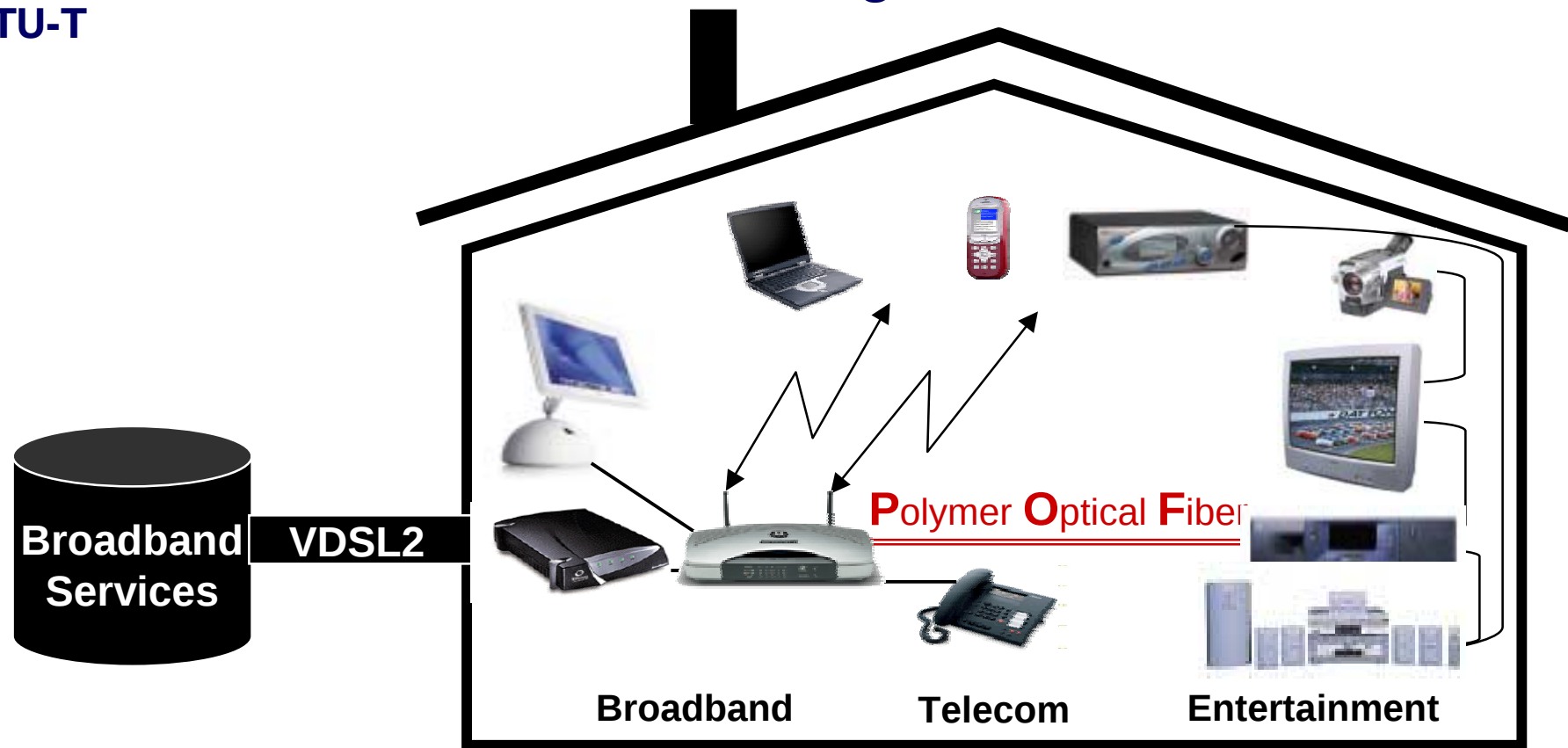
Subscribers in Millions

Region	2005	2006	2007	2008	2009	2010	CAGR 2006-10
North America	0.3	1.4	3.9	6.5	9.4	12.9	74%
Europe	1.4	1.9	5.0	9.5	14.2	19.6	80%
Japan	0.0	0.4	1.5	3.5	5.1	7.0	107%
Asia	0.6	1.2	1.9	2.6	3.2	3.6	32%
China	0.0	0.2	1.3	2.6	5.5	8.8	176%
India	0.0	0.2	1.1	3.6	5.8	8.1	141%
Rest of World	0.0	0.1	0.4	0.8	1.5	3.1	129%
Total	2.4	5.3	15.0	29.1	44.7	63.1	92%

Source: iSuppli Corp. | December 2005



The Final Challenge and its Solution: Video Home Networking over the “last meters”



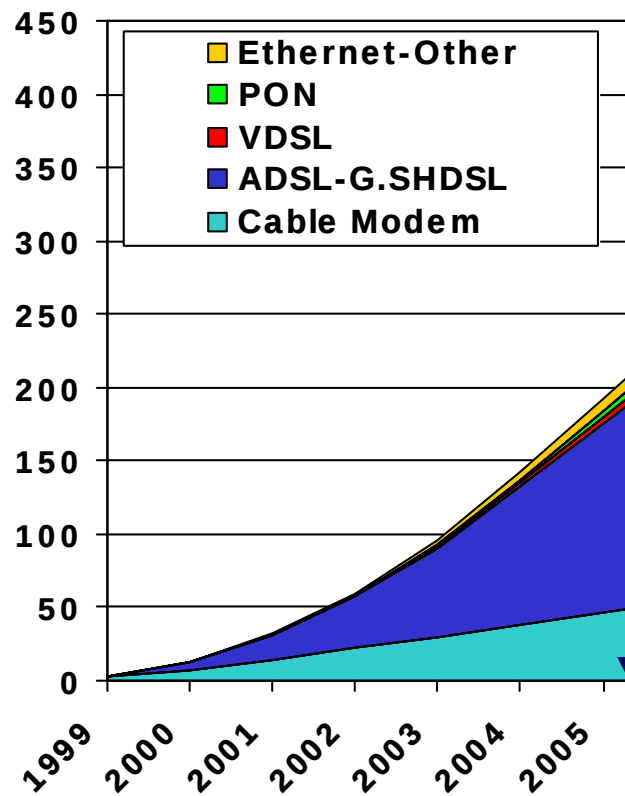
POF Solution for Video Home Networking:

- Very thin fiber for simple and invisible installation
- High reliability and speed of 100Mbps and more
- No electromagnetic interference



Reaching the Next Level in Broadband Access Penetration

ITU-T



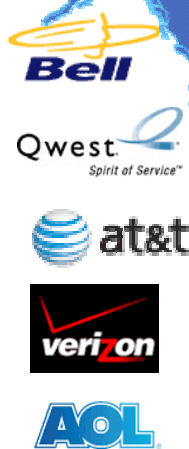


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Reaching the Next Level in Broadband Access The Telco World

North America

- VDSL2 compliance
- Service 100/50Mbps & 30/5Mbps
- Profile 30a & 8c
- ADSL/2/2+ Interoperability



Europe

- VDSL2 compliance
- Service 50/10Mbps
- Profile 17a, 30a for business
- ADSL/2/2+ Interoperability

APAC and Japan

- VDSL2 compliance
- Service 100/100Mbps
- Profile 30a
- ADSL/2/2+ Interoperability



Conclusion

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	Wireless	Cable	Fiber/PON	DSL
Current Penetration				
Costs of Deployment				
Dedicated Bandwidth				
Broadband Performance				
HDTV support				

↔ VDSL2 !

VDSL2 – Taking Broadband Access Evolution to the Next Level

- VDSL2 takes broadband performance of xDSL to the next level ↔ 100/100 Mbps to ADSL2+
- Broadband Performance is Essential for Success of IPTV and HDTV
- VDSL2 ITU G.993.2 Deployments are Happening Today