

The Obligatory Bluetooth Question

Where Does the Name Come From?

- ◆ Ericsson, the principal inventor, borrowed the name from Harald Bluetooth (son of Gorm)
 - The King of Denmark circa 900AD
 - United Denmark and Norway
- ◆ Seemed like a good name for uniting many dissimilar devices from different manufacturers
 - Marketing observation: At least ignoring that the unification didn't last!

Learn your Viking name at:
www.gorm.com/name/index.htm



What is Bluetooth?

- ◆ A unique new wireless technology specifically for:
 - Short range
 - Up to 10 meters typically
 - Modest performance (720Kbps)
 - Dynamic configurability
 - i.e. ad hoc networking/roaming
 - Low power
 - Well suited to handheld applications
 - Support for both voice and data

And an EXPLOSIVE growth market!!!

What is Bluetooth Good For?

- ◆ No Wires!
 - In the home
 - On the move
- ◆ Personal Area Networking (PAN)
 - Enabling several personal devices to work together
- ◆ Locality sensitive services (i.e. roaming)
 - Visibility and access to additional resources, but only when they are within range and useful to you



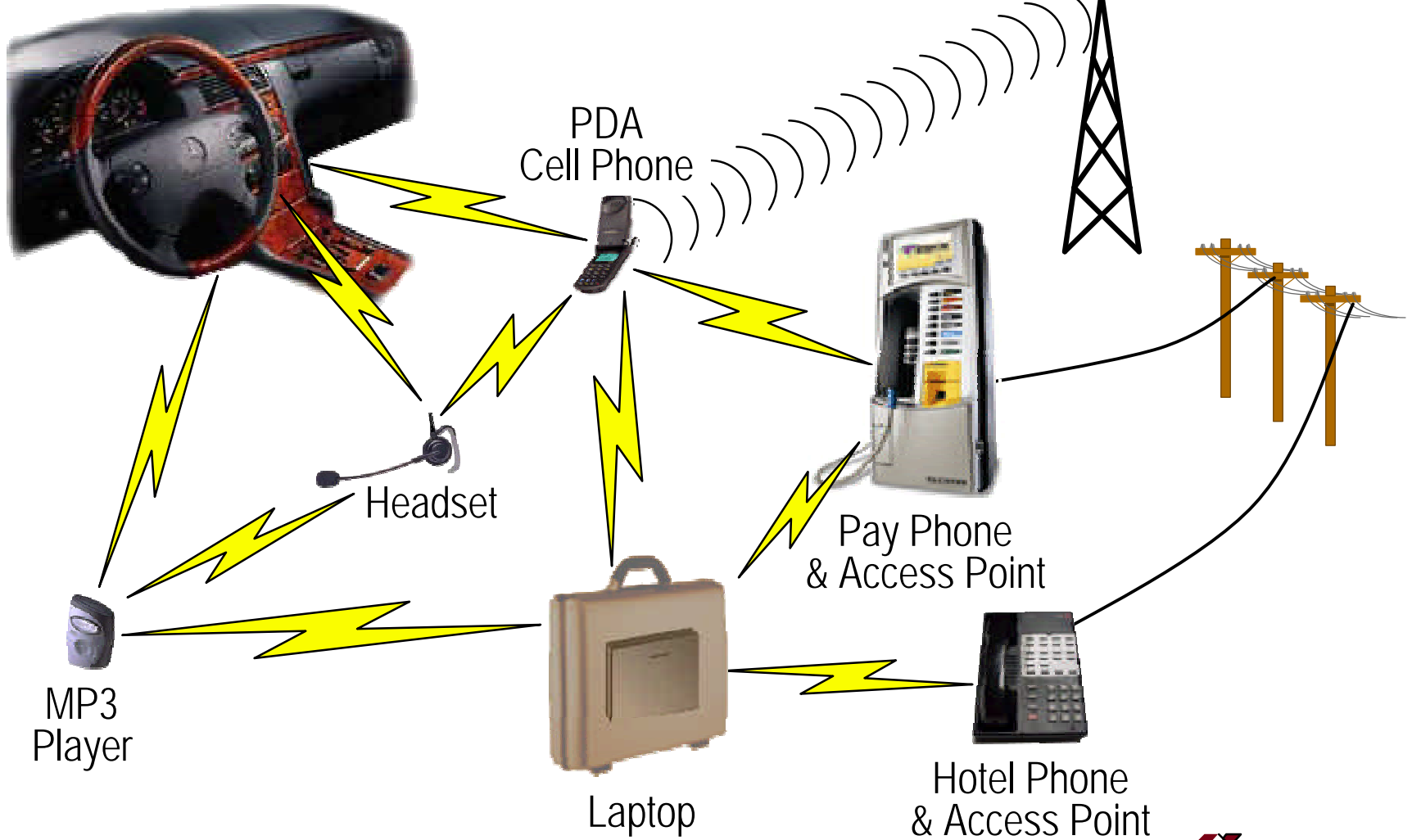
Bluetooth in the Home

No Wires



And On the Road

Car Audio System



Bluetooth in Computer Products

Computer devices



- ◆ Laptop computers



- ◆ PDAs/HPCs



- ◆ Desktop PCs



- ◆ Broadband access points
 - Ethernet/xDSL/cable



- ◆ Printers



- ◆ Scanners



- ◆ Video projectors



- ◆ Web tablets

Computer applications

- ◆ Peripheral connectivity
 - Printers
 - Scanners
 - Video projectors
- ◆ Network access
 - Broadband access points
 - Packet radio cellular phones
- ◆ File synchronization
 - Calendars
 - Contact management
- ◆ File transfer
 - VCards
 - MP3
 - Digital pictures

Bluetooth in Telephone and Consumer Products

Telephone devices



- ◆ Cellular handsets



- ◆ Wireless headsets



- ◆ PSTN access points
 - Payphones
 - Hotel/home phones

Telephone applications

- ◆ Hands free use
- ◆ File synchronization
 - Calendars
 - Contact management
- ◆ Land line I/F for voice and data

Consumer devices



- ◆ Set-top boxes



- ◆ Digital cameras



- ◆ MP3 audio players

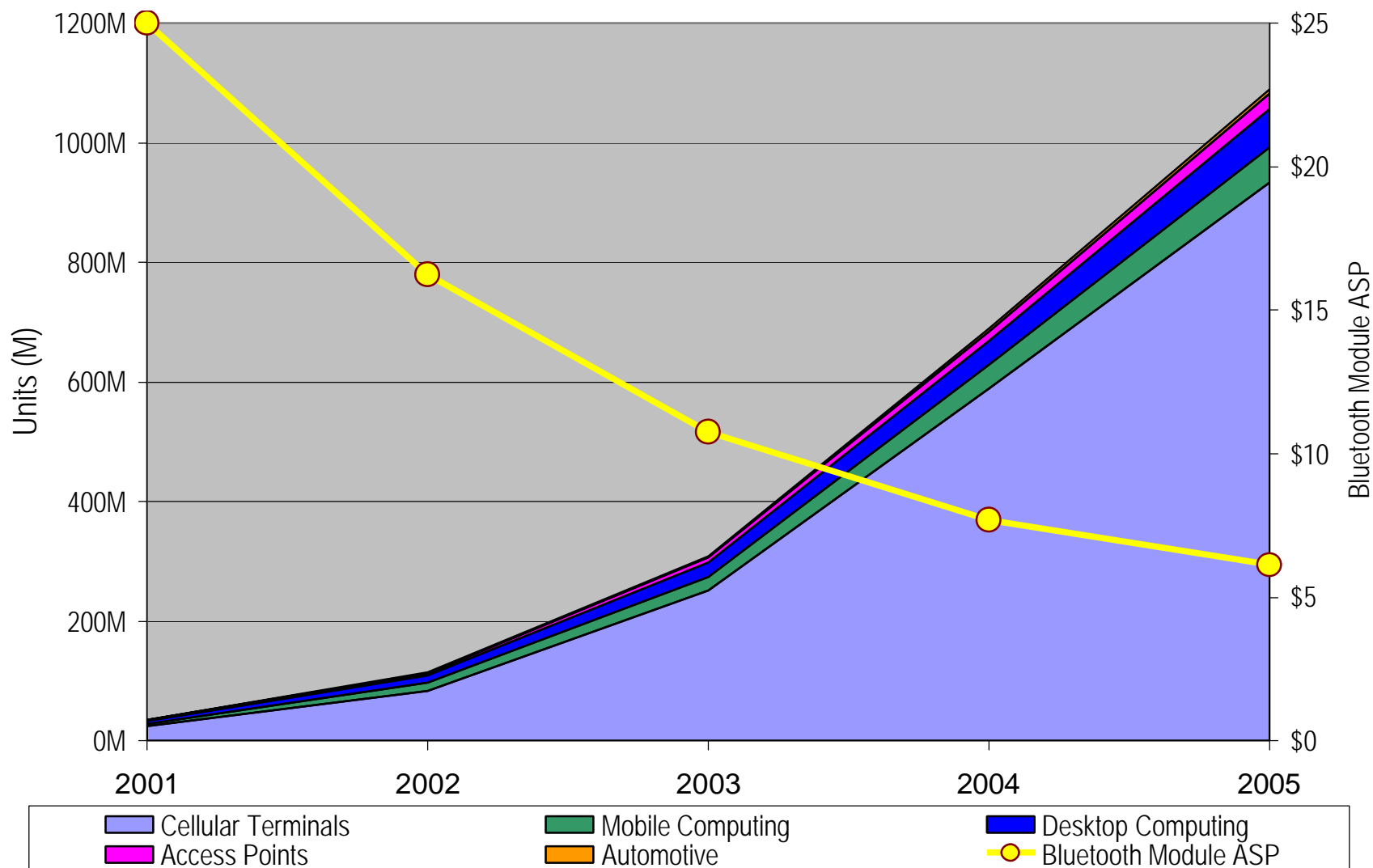


- ◆ Home audio systems

Consumer applications

- ◆ File transfer
 - MP3
 - Digital pictures
- ◆ Peripheral connectivity
 - Keyboard/mouse/remote
 - Printer

Bluetooth Market Forecast



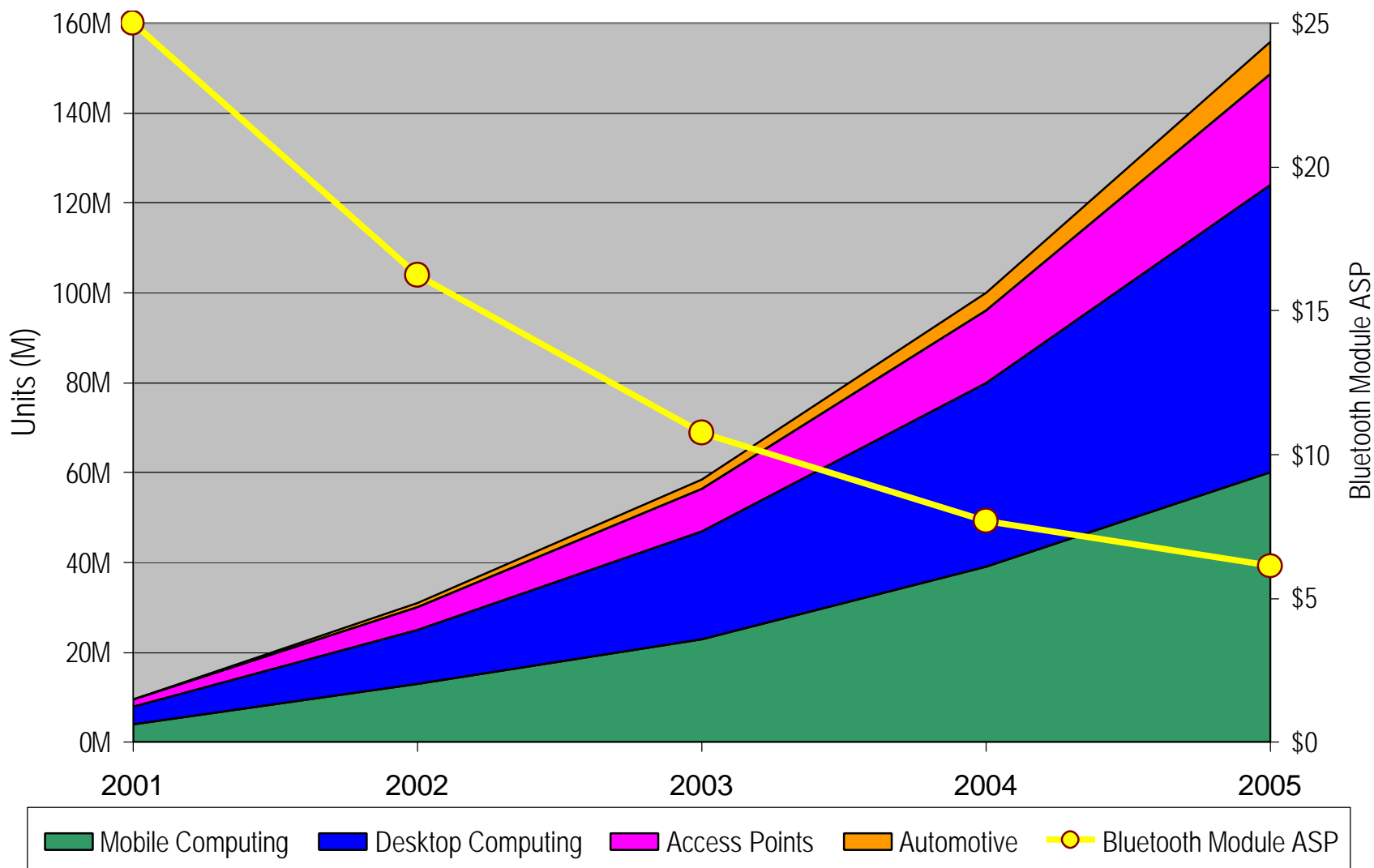
Source: Intex Management Services Limited, April 2000



www.xilinx.com



Bluetooth Market Forecast



Source: Intex Management Services Limited, April 2000



www.xilinx.com



Bluetooth Vs. Other WLANs

	Technology					
	Bluetooth	HomeRF	802.11b	HyperLAN	802.11a	HyperLAN2
Frequency Band	2.4GHz	2.4GHz	2.4GHz	2.4GHz	5GHz	5GHz
Technology	Frequency Hopping Spread Spectrum	Frequency Hopping Spread Spectrum	Direct Sequence Spread Spectrum	Gaussian Minimum Shift Keying	Orthogonal Freq. Division Multiplexing	Orthogonal Freq. Division Multiplexing
Performance	720Kbps	1.6Mbps	11Mbps	23Mbps	~50Mbps	~50Mbps
Range	<10 meters	50 meters	100 meters	?	?	?
Power	Very Low	Medium	Medium	Medium	Medium High?	Medium High?
Relative Cost	Low/ Very Low	Medium/Low	Medium	Medium	High	High
Target Applications	Cable Replacement Wireless Data Wireless Voice Personal Networks	Wireless Data Wireless Voice	Wireless Data	Wireless Data	Wireless Data	Wireless Data
Fixed N/W Support	PPP, Ethernet	?	Ethernet	Ethernet	Ethernet	Ethernet, IP, ATM, PPP, 1394, UMTS
Key Features	Very Low Power Voice and Data Roaming Low Cost Good noise immunity	Voice and Data Moderate Cost	Good Performance	Good Performance	High Performance	High Performance
Promoters	2000+	<50	~100	<50	~100	<50
Regional Support	Worldwide	US	US/Asia	Europe	US	Europe
Shipping	Now	Now	Now	Now	2001	2001