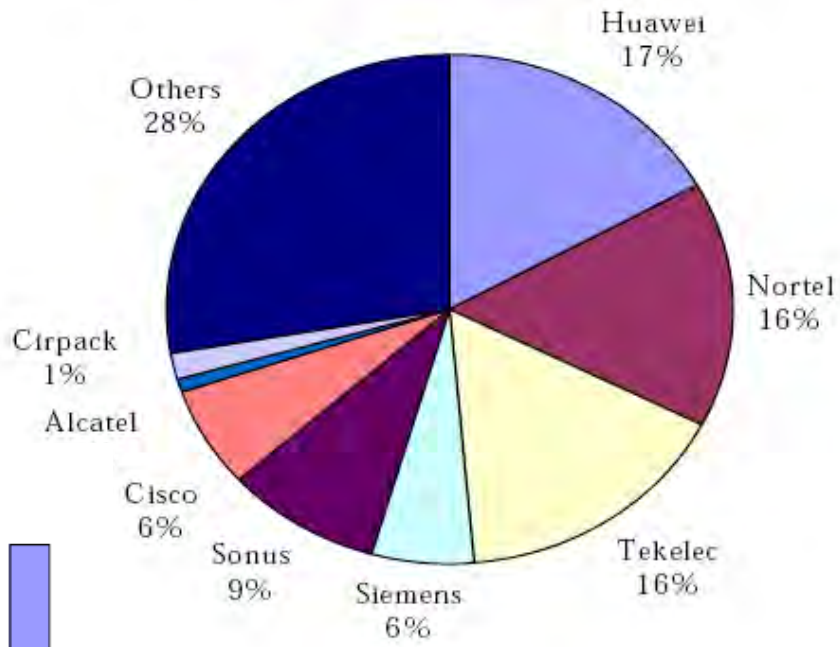
Media Gateway

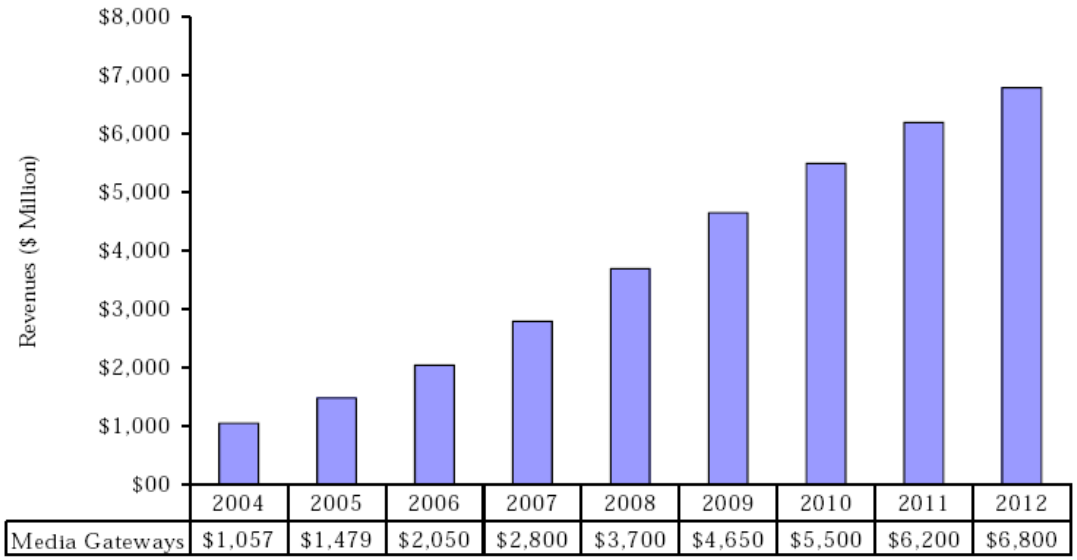
Application Notes

Media Gateway Development Trends

- Media gateways are part of the IMS architecture
- Hardware platforms are shifting from cPCI to ATCA/µTCA
- Operators require a “Plug & Play” approach
- i-TDM is defined as a Telephony Bus
- Number of network types and protocols is increasing

Market Forecast

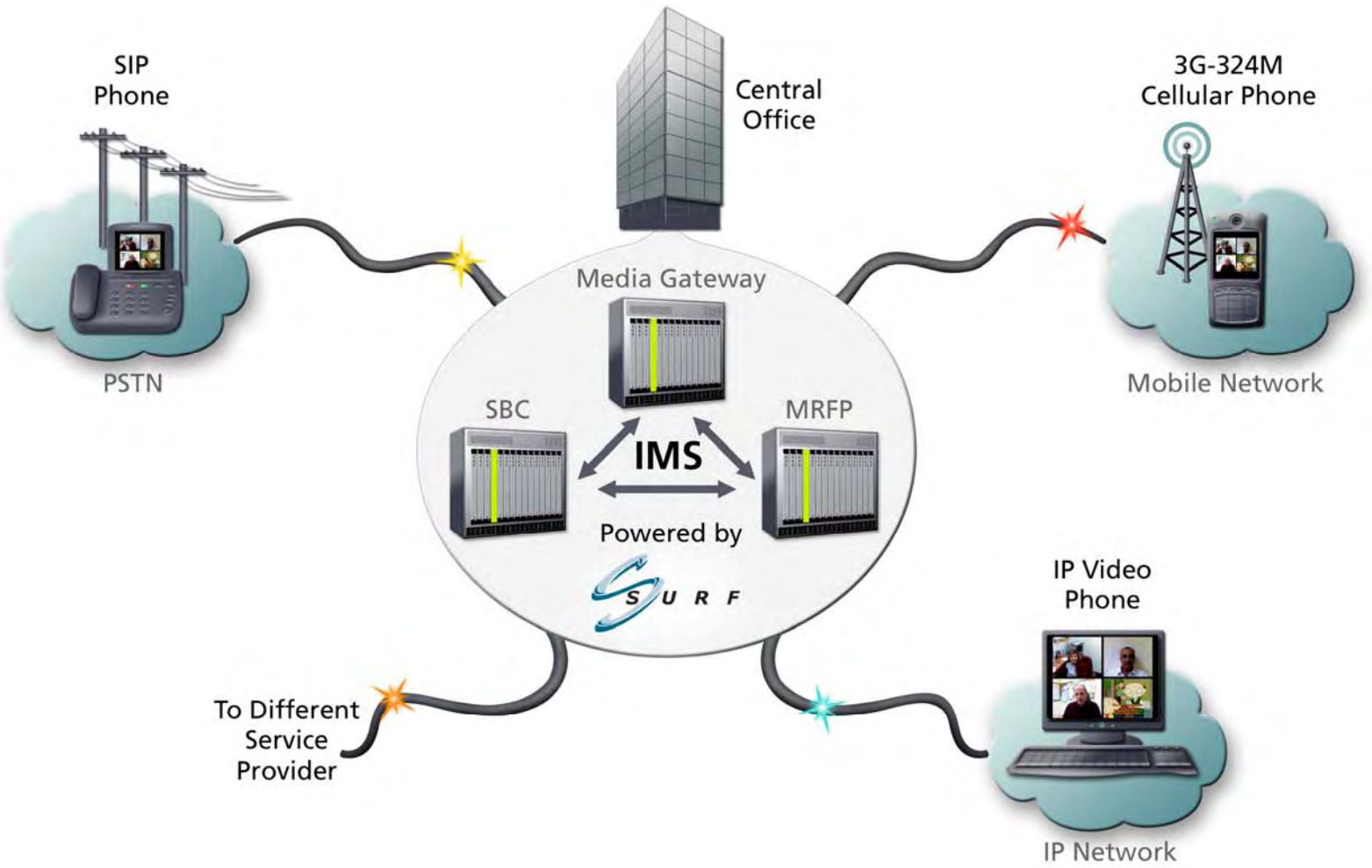




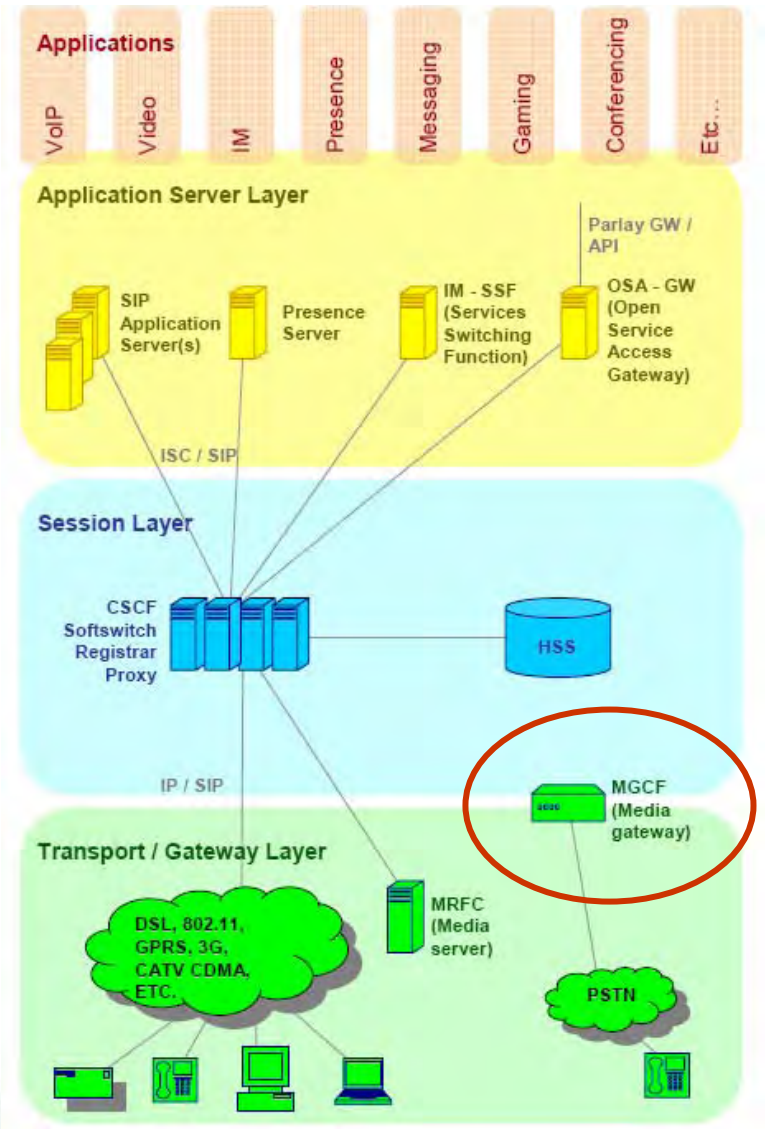
	2004	2005	2006	2007	2008	2009	2010	2011	2012
Media Gateways	$1,057	$1,479	$2,050	$2,800	$3,700	$4,650	$5,500	$6,200	$6,800

Source: Media Gateway Market - Frost & Sullivan 2006

Network Diagram



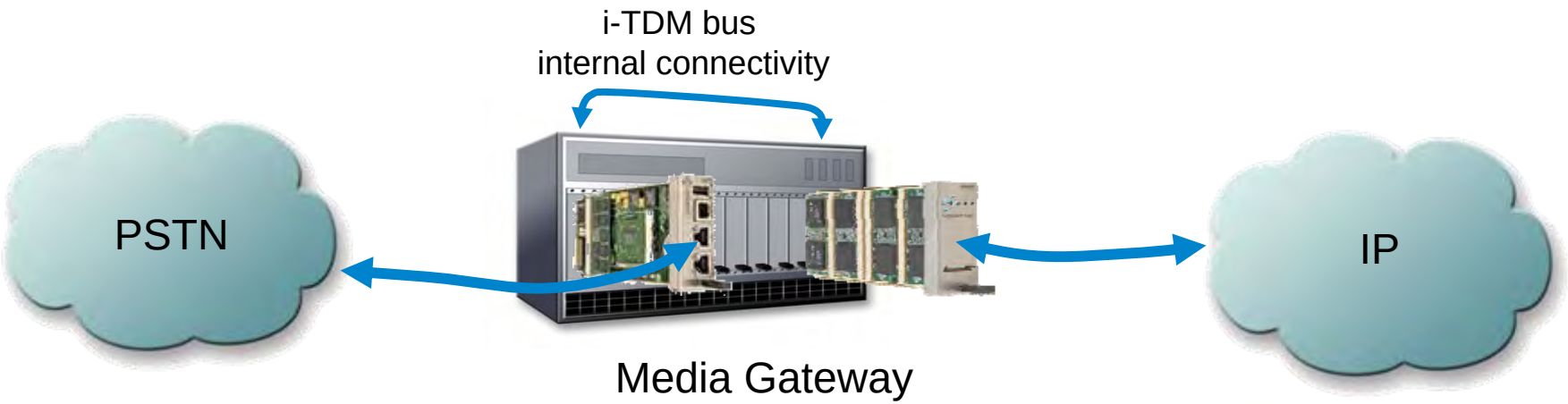
Media Gateway in an IMS Environment



The Media Gateway connects the “All IP” IMS network to the legacy PSTN network

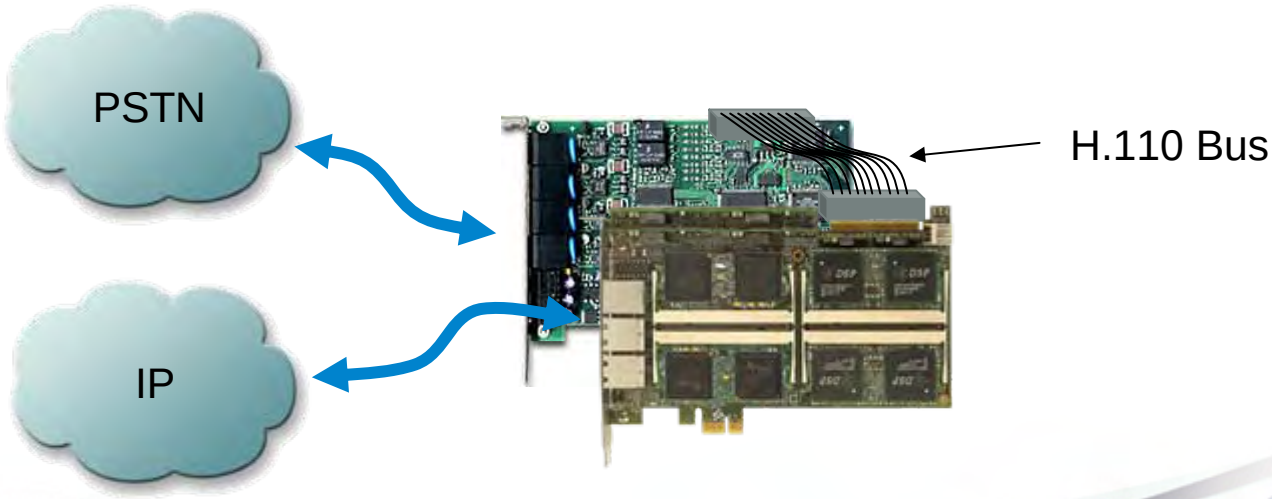
Carrier-Grade High Availability System

- Based on i-TDM
  - Allows true plug and play
  - Optimal resource usage: DSP horsepower vs. TDM interfaces
  - Allows for a truly redundant, fault-tolerant system
  - Scalable system



Cost-Effective System

- Based on H.110
  - Allows true plug and play
  - Optimal resource usage: DSP horsepower vs. TDM interfaces
  - Allows for a truly redundant, fault-tolerant system
  - Scalable system
- Supports media server functionality for a converged system



Surf's Unique Features

- Carrier-grade
  - **Floor space** - AMC form factor for lowest power consumption and floor space
  - **Time to market** - i-TDM connectivity and interoperability test
  - **Best of breed selection** - Integrated with leading interface card vendors
    - SBS
    - Interphase

- Enterprise
  - **Best of breed selection** - H.110 connectivity
  - **Cost-Effective** – High throughput using PCI Express bus interface
  - **Reusability** - Converged media server/media gateway solution

Surf's Offering

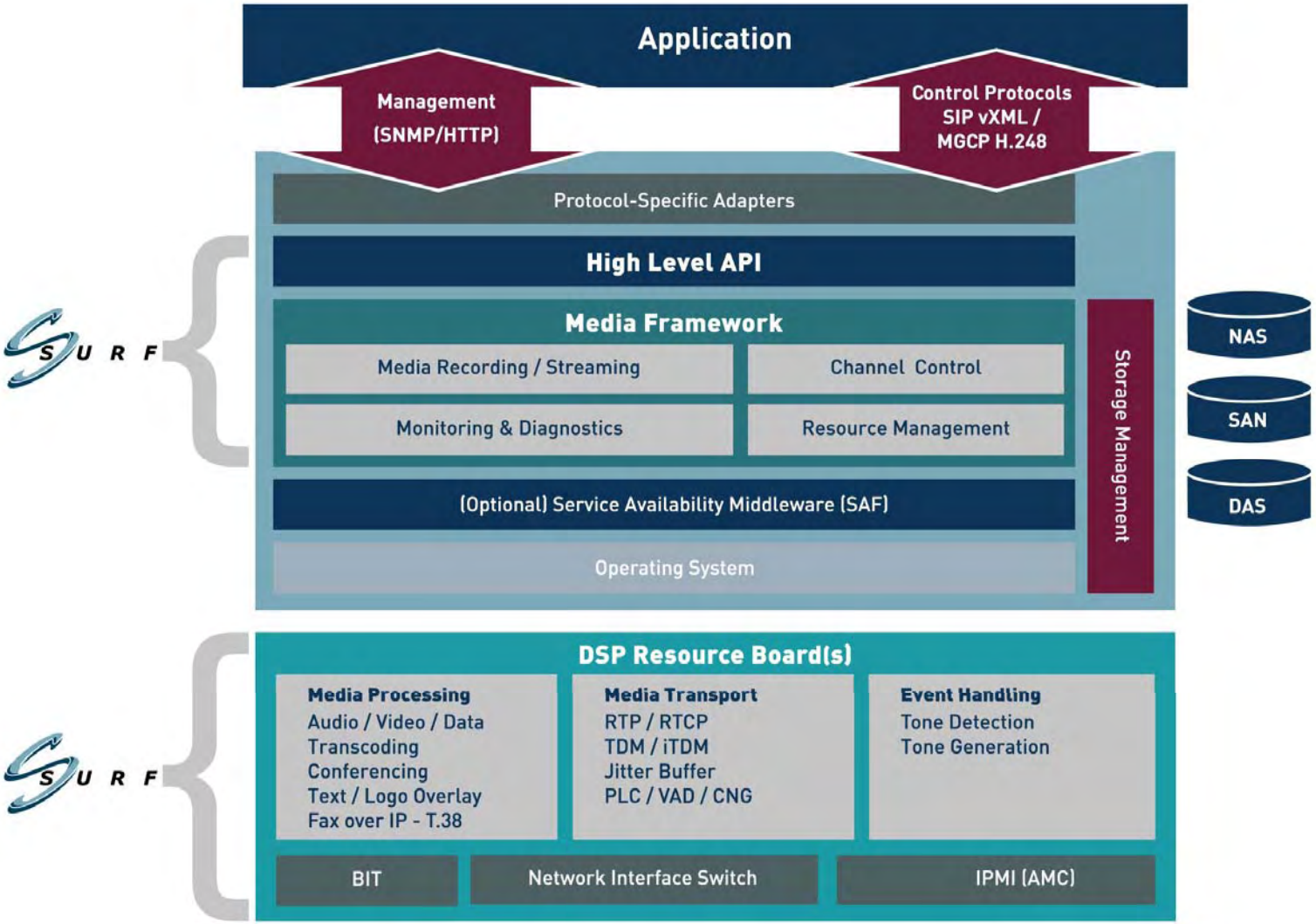
SurfExpress/PCIe

- Single-lane PCI Express card
- SurfDocker architecture with up to 8 TI C64x family DSPs
- 2 x 1Gb Ethernet ports
- H.100

SurfRider/AMC

- AMC 2.0 form factor
- SurfDocker architecture with up to 8 TI C64x family DSPs
- iTDM
- Pre-integrated with leading xTCA vendors

Software Architecture



Mobile Video Features Highlights

- 3G-324M support
  - H.324 Annex C
  - H.223 Annex A & B
- H.223 running on the DSP for enhanced performance
- H.245 running on the host
- High-level 3G-324M APIs
- MONA* (H.324 Annex K - fast connect)

** Roadmap feature*

Voice Features Highlights

- Audio Codecs
  - G.711
  - G.726
  - G.723.1A
  - G.729AB
  - iLBC
- Extended Wireless Codecs
  - G. 722.2 (WB-AMR)
  - GSM FR
  - GSM EFR
  - GSM NB-AMR
  - EVRC
  - AAC*
  - WMA9 (decode only)
  - QCELP*
- Echo cancellation
  - G.168 2002 Echo tail up to 128ms
- Configurable Packet size
- VAD, CNG, Packet Loss Concealment
- RTP/RTCP
  - RFC 3550, 3551, 3389
- Fixed/Adaptive Jitter Buffer
  - Up to 500 ms
- Caller ID Detect/Generate
- Tone and Events
  - Monitoring
  - Relay (RFC 2833)
  - Generation
  - User-defined tones

** Roadmap feature*

Conferencing & Streaming

Conferencing

- Up to 256 TDM or IP audio conferencing participants on a single DSP
- Dominant speakers detection
- Up to 100 **active** video participants
- Up to 16 **displayed** participants
- Configurable video conference layouts
- Text & image overlay on conference output

Streaming

- Play/Record of any channel from/to file
- Supported file formats
  - 3GP
  - MP4
  - ASF (WMV9)
  - AVI*
  - SRF (proprietary)
- Supports more than 1000 concurrent G.711 streams

Customer Benefits

- **Flexible and scalable** hardware design results in:
  - **Cost-Effective** solution
  - **Saves Money** due to reduced R&D efforts
- **One Stop Shop** for all your needs in multimedia processing
- **Field-proven**: Surf products are used by many Tier-1 TEMs
- Built–in diagnostics, providing **easier troubleshooting** and **better application** control
- Complete SDK and high-level API ensures fastest **Time-to-Market**
- Dedicated customer service team ensures **smooth development cycle**

Thank You

www.surf-com.com