Samurai (ADM6996LC/FC/I/M and ADM6995LC)

March 2005

Infineon

Five and Six Port L2 Ethernet Switch

- **Low Power**

- **Ethernet L4 QOS**

- **Hardware IGMP**

- **Advanced Security**

Infineon technologies

Agenda

- Samurai target market

- Multimedia Networking Connection Market Forecast

- Samurai key features

    - Low Power

    - IGMP Hardware and Software implementation

    - L4 QOS

    - Security

- Samurai advantages per application

- Samurai product family

- Samurai – product highlights

Samurai Enables Home Networking

- Supports any Media Adapter to provide triple play services
- Embedded security features for safe surfing and voice communication

Video

HDTV

FTTH/xDSL/Cable Router

Internet

FTTH/xDSL/Cable

VOIP

Data
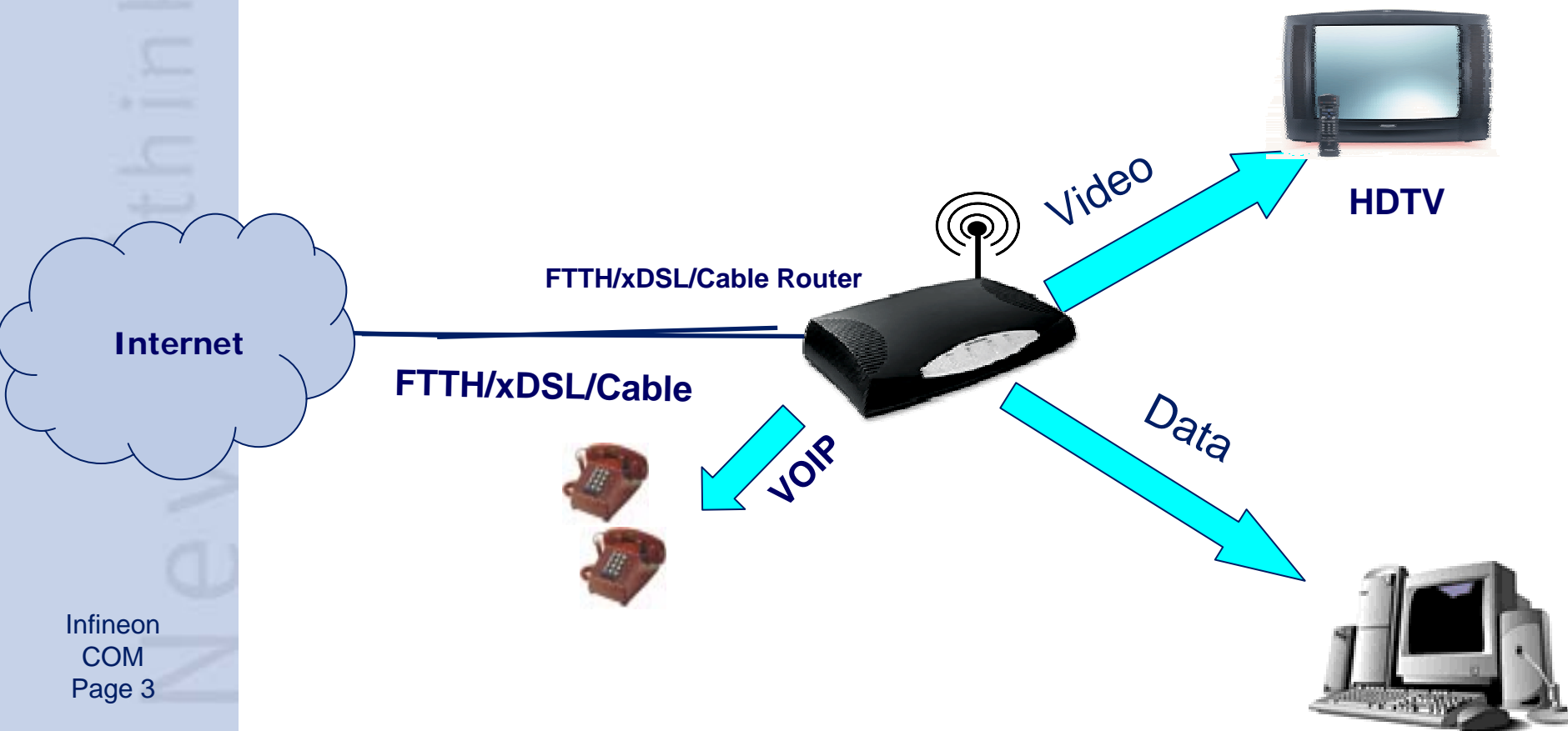
InStat-MDR: Media Networking Connections (in Thousands)

- Ethernet offers low cost and ubiquity in LAN platforms
- Ethernet to be the largest overall category for LAN connectivity in CE devices
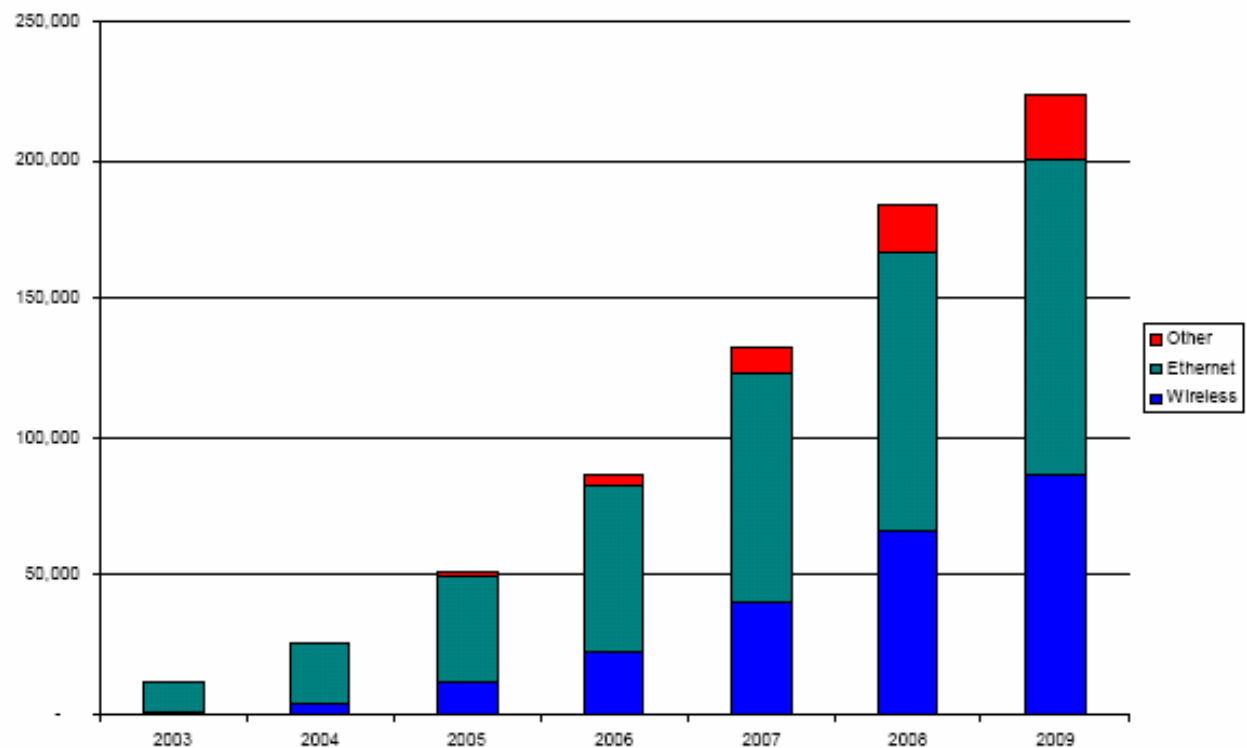
Source: In-Stat, 2/05

Samurai Key Features

- 10/100 Mbps MDIX TX/FX transceivers with five/six-port 10/100M Ethernet L2 switch controller

- IGMP, MAC Table Access and Port Mirror functions

- L4 Ethernet Q.O.S.

- Security Functions: 802.1x, MAC Address and "Accept/Reject" address control

- Scalable Ingress/Egress Bandwidth Control

  - 64K~100M with 64K/Scale.

- Port Mirror, Spanning Tree, Special Tag

- PPPoE Identification

  - Receive PPPoE packet only.

- 16 VLANs. Learn 12 Bits VLAN ID.

- Interrupt, MDC/MDIO pin support

- SNAP/ARP/RARP packet to CPU

- Additional Features:

  - Port Base, IPV4, IPV6, TCP/UDP Port Number, VLAN

Samurai Key Features: IGMP

- Software IGMP

    - Share with Learning Table. Up to 2K sets Multicast Table.

    - CPU fill out Multicast Address and Multicast Group Table

    - Supports V1, V2.

- Hardware IGMP

    - Supports 32 set Hardware IGMP tables

    - CPU fill out Multicast Address

    - Samurai learns IGMP Join and Leave command then modifies Multicast Group Table.

    - Supports V1, V2.

Samurai Key Features: Q.O.S

- Supports adjustable(1~15) four Queues

- Physical Port Base Q.O.S.

- VLAN Tag Base Q.O.S.

- TCP Q.O.S.

- 8 sets Layer4 Destination Port Q.O.S.
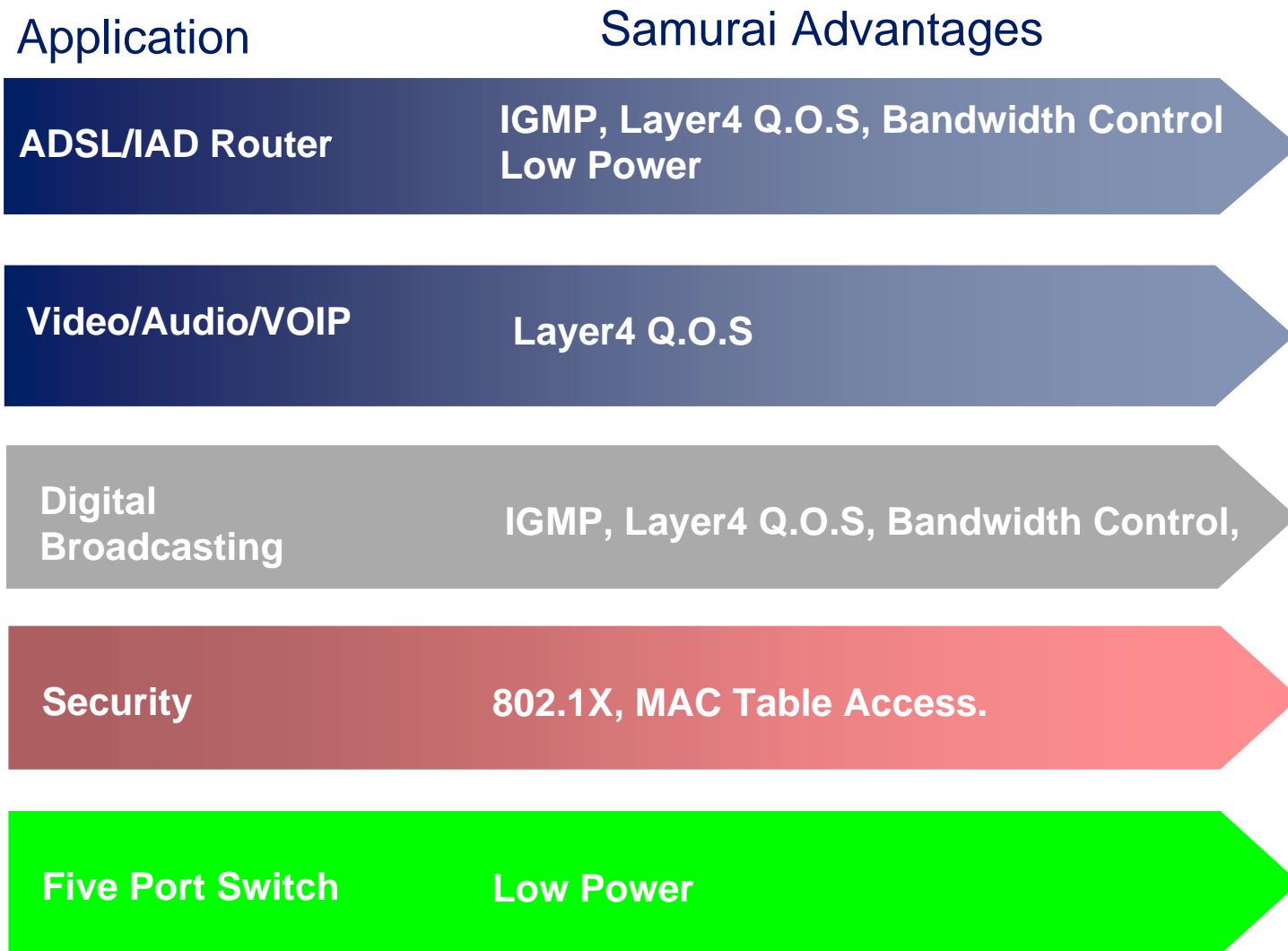
- MAC Address Q.O.S.

- IPv6 Q.O.S.

Samurai Key Features: Security

- 802.1x

    - Unknown Address sent to CPU.

- MAC Table Access

    - Find MAC Address

    - Add MAC Address

    - Delete MAC Address

    - Aging Out Enable/Disable Control

    - Filter/Accept MAC Control

        - User can set specific address Accept or Reject using Samurai

Samurai Addresses Home Networking Applications

Application   Samurai Advantages

ADSL/IAD Router   **IGMP, Layer4 Q.O.S, Bandwidth Control Low Power**

Video/Audio/VOIP   **Layer4 Q.O.S**

Digital Broadcasting   **IGMP, Layer4 Q.O.S, Bandwidth Control,**

Security   **802.1X, MAC Table Access.**

Five Port Switch   **Low Power**

Samurai

Samurai Product Family

- **ADM6996LC**
  - Pin to pin compatible with ADM6996L. 5TP+MII

- **ADM6996FC**
  - Pin to pin compatible with ADM6996F. 4TP+2MII

- **ADM6996I**
  - Pin to pin compatible ADM6996LC, extra function on IGMP, QOS

- **ADM6996M**
  - Pin to pin compatible ADM6996FC, extra function on IGMP, QOS

- **ADM6995LC**
  - Pin to pin compatible with ADM6995L. 5TP

Samurai (ADM6996LC/FC/I/M) – Product Highlights

Markets Addressed

- Five Port Switch
- Router Products:
  - ADSL Router
  - Wireless/Wire Router
  - Home Gateway Router
  - Cable Modem
  - Web DVD

Product Features

- 10/100 Mbps MDIX TX/FX transceivers with a five/six-port 10/100M Ethernet L2 switch controller
- Serial Management Interface (SMI)
- Per Port Counter, Status & Enable/Disable, Bandwidth control
- Comprehensive OAM, providing Packet Filter, Classify, and Tagging with Protocol
- IGMP, MAC Table Access and Port Mirror
- Port Base, IPV4, IPV6, TCP/UDP Port Number, VLAN
- Ethernet L4 switch Q.O.S.

Benefits

- Flexible home networking applications
- Lower temperature
- IEEE802.3 conformance.
- Ethernet L4 Q.O.S. features for multimedia applications
- Provides Software/Hardware IGMP for VOD applications
- Security control