



*CPE 2.0 - The Converged Digital Home*

# CPE Solutions



- ◆ Silicon Labs offers enabling technology for this growing market
  - SLICs
  - Tuners
  - Demodulators
  - Modems
  - Power over Ethernet Controllers
  - Microcontrollers
  - Isolators

STB/TV-centric

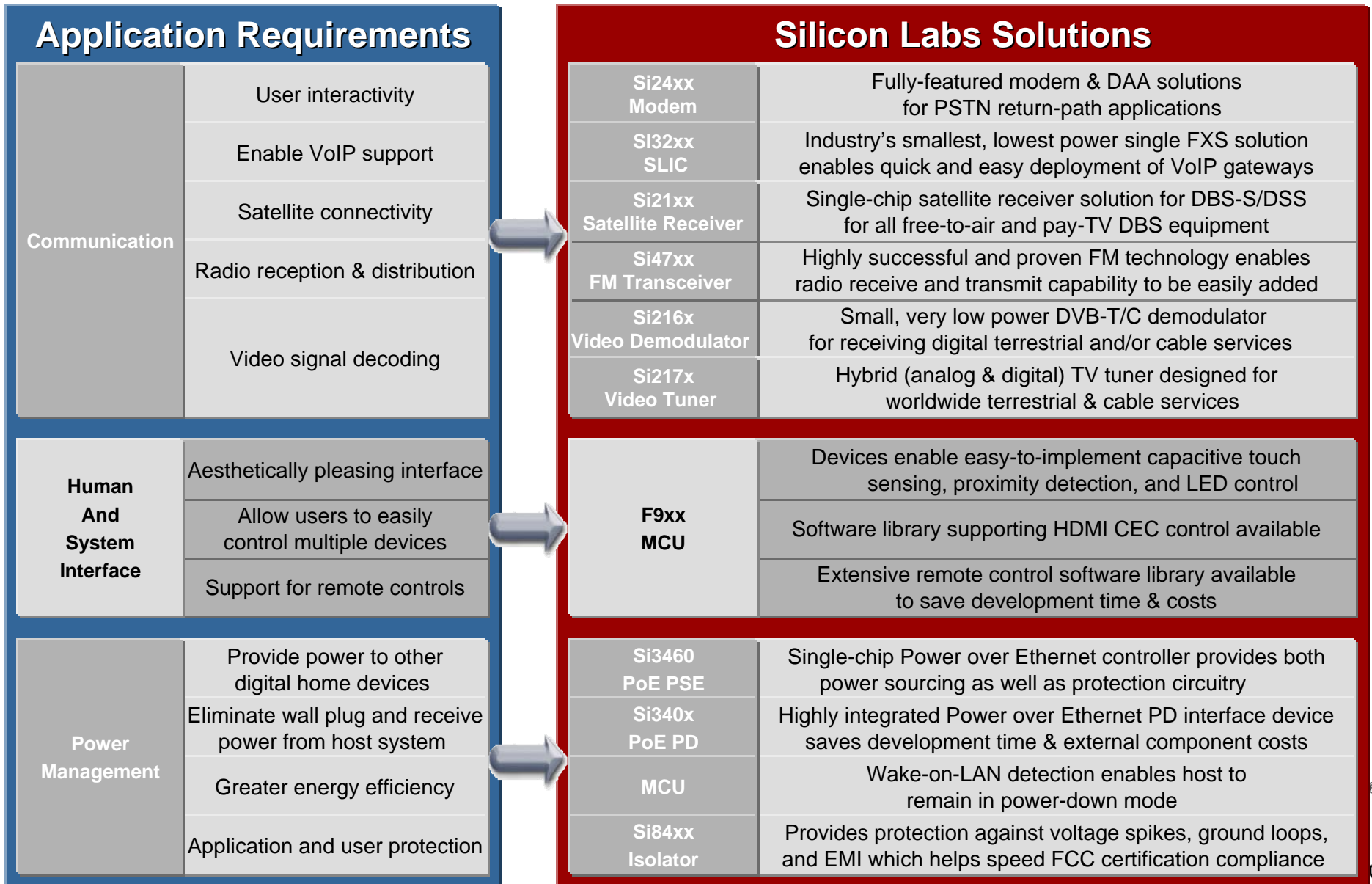
Gateway-centric



CPE 2.0: Key Equipment for the Converged Digital Home



# Range of Application Requirements



# Silicon Labs Capabilities: Communication

- ◆ CPE equipment requires a range of solutions for handling the emerging set of triple-play services
  - Silicon Labs offers a range of ICs that are well suited for these applications
  
- ◆ Requirement: Voice / Audio Support
  - Si32xx SLIC
    - Family of products that combine SLIC, codec, linefeed, and DAA functionality into a small, low power IC
  - Si47xx FM Transceiver
    - High performance, low power, single-chip FM transceiver solution with additional support for RDS and RBDS
  
- ◆ Requirement: Video Support
  - Si216x Video Demodulator
    - Low power, high performance combo demodulator solutions for DVB-T, DVB-C, and fixed reception of DVB-H
  - Si217x Video Tuner
    - Hybrid (analog & digital) TV tuner supporting NTSC, PAL/SECAM, ATSC/QAM, DVB-T/C, and ISDB-T/C
  - Si21xx Satellite Receiver
    - Complete (tuner, demodulator, LNB controller) front-end solution for DSS and DVB-S digital satellite reception
  
- ◆ Requirement: Data Support
  - Si24xx Modems
    - Complete modem solution includes patented silicon DAA that can withstand over 6kV of surge



# Silicon Labs Capabilities: Human & System Interface

- ◆ New CPE designs will focus on how best to bring value to the end consumer
  - The Silicon Labs C8051 8-bit MCU family comes with tools that are specifically designed to add customer appeal and functionality to CPE applications
  
- ◆ Requirement: Visually appealing user interface
  - LED on/off/dimming control
    - Code matrix library examples available
  - Touch button / touch panel
    - Capacitive touch sense technology included in MCUs
  - Proximity sensing
    - Demonstration firmware available for touch and proximity detection
  
- ◆ Requirement: User command and control
  - IR Remote control
    - Software library supporting RC5, RC6, RCMM, Ruwido, Rstep, & UEI available
  - HDMI CEC control
    - Software library supporting CEC bridging to host available
  
- ◆ Requirement: CPE design optimization
  - Integrated temp sensor
    - Ideal for temperature calibrations
  - Integrated real-time clock
    - Can be used for scheduling of events



**C8051F9xx  
Low Power MCU**



# Silicon Labs Capabilities: Power Management

- ◆ The new converged digital home will require innovative ways to optimize, source, and manage power
  - Silicon Labs has a long history of providing compelling power solutions
  
- ◆ Requirement: Leverage existing infrastructure to source/sink power
  - Si3460 Power-over-Ethernet PSE (power sourcing equipment)
    - Single-port PoE controller with integrated DC-DC controller can be used to provide power to a variety of externally connected devices
  - Si340x Power-over-Ethernet PD (powered device)
    - Complete PoE interface device that can eliminate wall plugs by utilizing power supplied over standard Ethernet cabling
  
- ◆ Requirement: Protect both consumers and CPE devices
  - Si84xx Isolators
    - Fully digital isolators which offer protection from dangerous external voltages, ground loops, and EMI
    - Offers significant advantages over traditional opto-couplers: lower power, higher performance, better signal integrity
  
- ◆ Requirement: Greater energy efficiency in CPE devices
  - Wake-on-LAN detection support available in MCUs
    - Host can remain in sleep or standby mode until needed which lowers overall system power requirements
  - Most Silicon Labs IC's were built with low-power consumption in mind
    - Lower power consumption = better energy efficiency





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