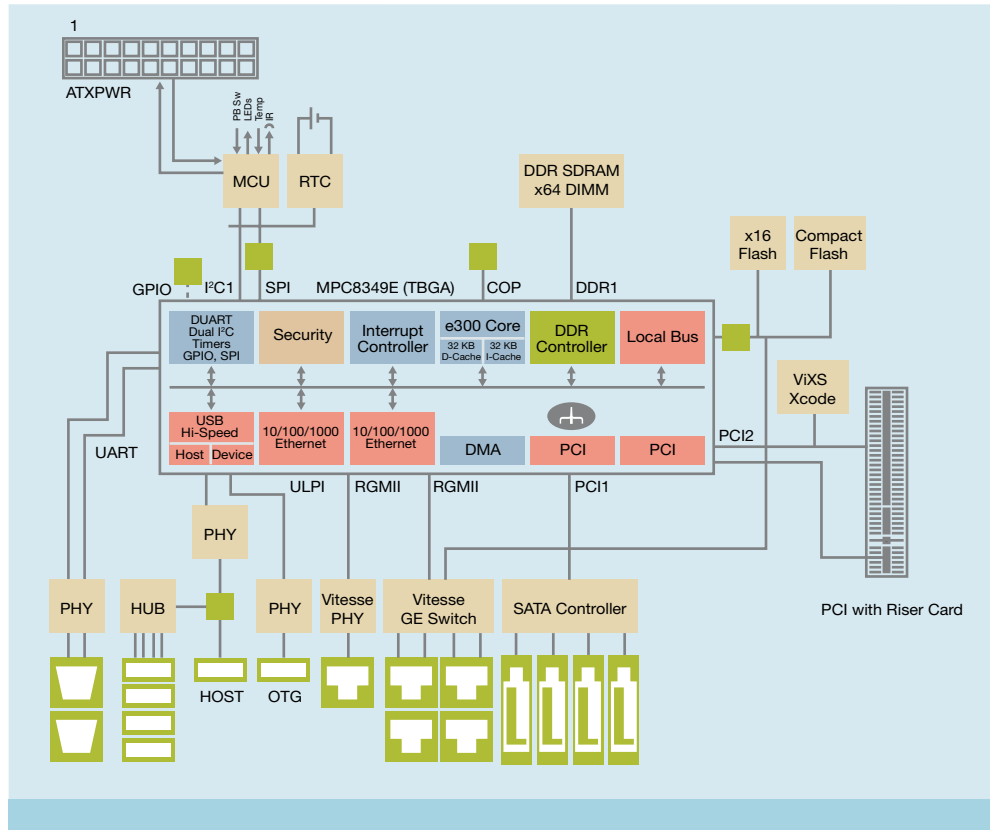# Media Server-in-a-Box
Based on MPC8349E-mITX

In today's digital homes, consumers manage, store and share vast amounts of content among their networked PCs and entertainment appliances. In addition to performing traditional backup functions, next-generation network attached storage (NAS) products are adding additional media serving features and becoming the home's network media hub. The MPC8349E-mITX Media Server-in-a-Box solution is a turnkey hardware/software reference platform for home media servers with advanced NAS, transcription and transcoding/transrating capabilities. This reference platform is based on the MPC8349E PowerQUICC™ II Pro processor, built on Power Architecture™ technology, Xcode processor from ViXS, a leading technology and product provider for next-generation video compression solutions and standards-compliant software from Mediabolic, a leading provider of end-to-end software solutions for connected entertainment products.

The Media Server-in-a-Box platform solution is designed to help original equipment manufacturers (OEMs) and original design manufacturers (ODMs) accelerate the development process and speed time to market for next-generation home media servers. The Digital Media Server platform, developed using the Freescale reference design, ViXS transcoding device and Mediabolic's Media Server software, is designed to enable consumers to share and store multimedia files, such as video, DVD backups, music and photos, throughout the digital home. Mediabolic software makes it easy to centrally manage and distribute digital content among multiple PCs and networked entertainment devices.

The MPC8349E-mITX integrates the enhanced e300 Power Architecture core and advanced features such as DDR memory,

MPC8349E-mITX Block Diagram

dual PCI, Gigabit Ethernet and high-speed USB controllers. The platform is designed to support dual 10/100/1000 Mbps Ethernet controllers, dual 32-bit/single 64-bit PCI controllers, integrated security engines, USB 2.0 host and devices controllers, 4-channel DMA, DUART, serial peripherals, general purpose I/O and system timers. The high level of integration in the MPC8349E helps to lower system costs, improve performance and simplify board design.

The MPC8349E also integrates a hardware encryption block designed to support different algorithms for high-performance data authentication for secure communications in the NAS market. It is designed to support

DES, 3DES, MD-5, SHA-1, AES, PKEU, RNG and RC-4 encryption algorithms in hardware.

In addition to the highly-integrated MPC8349E processor, the reference platform leverages external components to support these additional features:

- Five-port Gigabit Ethernet switch
- Four high-speed USB ports
- Four Serial ATA ports
- PCI slot, MiniPCI slot and compact flash memory slot

freescale
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Mediabolic's Media Server software is designed to allow personal content to be streamed on a variety of connected entertainment devices throughout the home. Mediabolic offers its software as a turnkey object license for manufacturers seeking a ready-to-go solution and as a Source Code SDK license to provide complete design flexibility and customization. The software is highly efficient, requires minimal CPU and memory resources and is extremely interoperable. Mediabolic's Embedded Media Server software is Universal Plug and Play (UPnP™) compliant and is certified by the Digital Living Network Alliance (DLNA).

Mediabolic Media Server Sofware Features:

Interoperability

- UPnP AV 1.0 compliant
- Designed to meet DLNA guidelines

Synchronization

- Synchronizes content from any selected directory, local or networked
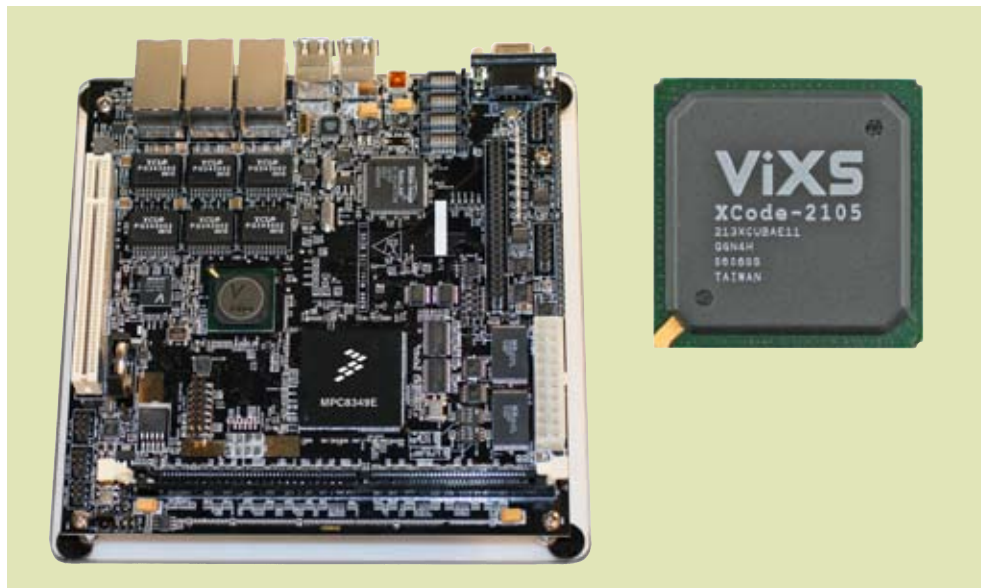- Continuous directory monitoring for content updates, local or networked

Optimized for Networked Media

- Aggregates all media resources on the network into a single, unified end-user presentation
- Can present multiple servers in a single content directory
- Unlimited simultaneous media streams

Enjoyable End-User Experience

- Access to available music and photo metadata
- Automatic generation of photo thumbnails
- Detection of music thumbnails (album art)

www.mediabolic.com

ViXS Transcoding

As personal and premium content becomes prevalent inside the home, the need for aggregation into a similar format will become essential in a home media server. The ViXS' xCode device combines MPEG encoding, transcoding and transrating with world-compliant conditional access and content protection to support multiple digital rights management schemes.

ViXS xCode has the ability to encode MPEG-2 and MPEG-4 streams and is based on ViXS' xCodeHD Engine, which gives consumers high-speed transcoding and transrating capabilities for reprocessing of MPEG streams to lower bit rates, resolutions and MPEG formats. The XCodeHD Engine delivers high-speed HD-to-HD transrating, as well as HD-to-HD and HD-to-SD downscaling.

Format Conversion of Multiple MPEG Streams:

- MPEG-1 to MPEG-2
- MPEG-1 to MPEG-4 (ASP)
- MPEG-2 to MPEG-4 (ASP)

Multi-Audio Format Conversion:

- AC3, AAC, MP3, MPEG-1 Layer II

Bit-Rate Reduction of Multiple Streams:

- 24 Mbps–250 Kbps

Resolution Reduction of Multiple Streams:

- HDTV, SDTV, CIF and QCIF

High Quality Multi Encoding

- Realtime HD-Transrate
- Save HDD Space

High-Speed TransRate

- For DVD Burning
- For DLNA Streaming

High-Speed Transcode

- For Portable Media
- For SD Memory

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