



MOCA
MULTIMEDIA over COAX ALLIANCE

Home Networking of
Digital Entertainment
Without Compromise.

An open, industry driven initiative,
promoting distribution of digital
video and entertainment through
existing coaxial cable in the home.

MoCA addresses all the market requirements of telcos, cable MSOs and DBS providers.

MoCA technology was designed from the ground up to address the key requirements for networking digital entertainment: high throughput, quality of service, security, and ease of use. It is the only technology that has been independently validated to work in this application in a large-scale field trial.

We are the only home networking consortium with board members from cable, satellite and telco service providers.

MoCA expands business models and increases revenue opportunities for digital entertainment product manufacturers and broadband service and content providers by delivering no compromise video, audio and data to consumers when and where they want it.

MoCA is open to all. Our licensing is based on RAND (Reasonable And Non-Discriminatory)

terms which means everyone gets access to everything. It is the same price for all — small OEM or first tier — without extra fees or separate agreements.

Home Networking Technologies

Current home networking technologies and mediums have fulfilled their respective promises of delivering voice, data and portability, and MoCA was designed to work with all of them. MoCA operates in the spectrum accommodating CATV and DBS, above 850 MHz so there is no interference with technologies, mediums, or consumer electronic devices already in use.

“I think MoCA is going to change the world.”

> Tom Nolle
CEO, CIMI Corporation
Telecommunications Online
January 3, 2006

“MoCA is destined to become the defacto coax home networking standard for delivery of HDTV home entertainment products for use in Asian and U.S. markets.”

> Fujio Nakajima

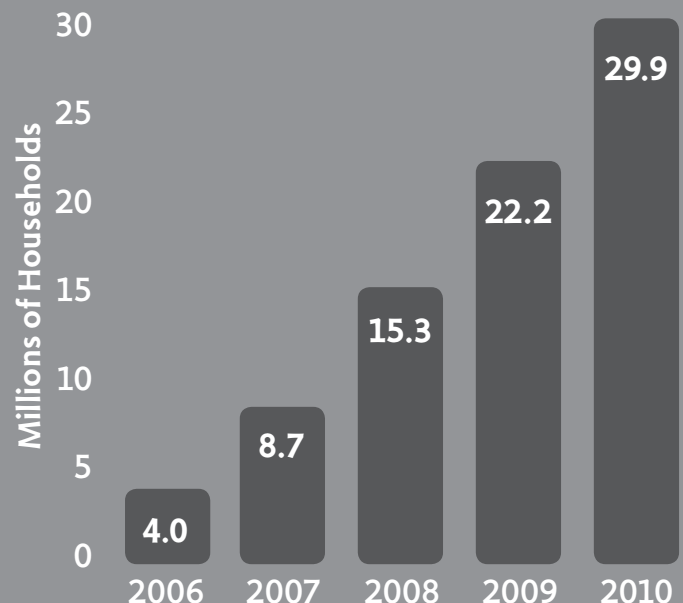
CTO, Panasonic AVC
Networks Company

Additionally, MoCA allows for the distribution of multiple high-definition video services, such as pay-per-view content over coaxial cables as well as traditional phone lines. By tapping into the unused bandwidth available on coax, MoCA certified products seamlessly deliver HDTV and DVD quality digital entertainment, and high speed data without glitches or freezes.

The Market Environment

- Product initiatives to network entertainment by CATV, CE, DBS, PC
- DVR products accelerating beyond early adopter phase
- CATV and DBS are rolling out whole-home HD DVR set-top boxes
- More than 60 million installed digital STBs could be clients to a DVR
- Transition from analog to digital TV sets well underway:
 - > By the end of 2006, more than 20 percent of TV households will have HDTV
 - > By 2007, all TVs, more than 25 inches, sold in the U.S. must be HDTV capable
 - > By April 2009, all TV sets sold in the U.S. will be HDTV to meet the FCC mandate
- PC OEMs are supplying Media Centers
- Media adapters networked throughout the home are underway
- Entertainment and multimedia are expected “anytime, anywhere” throughout the home

Forecast of U.S. Connected Entertainment Households

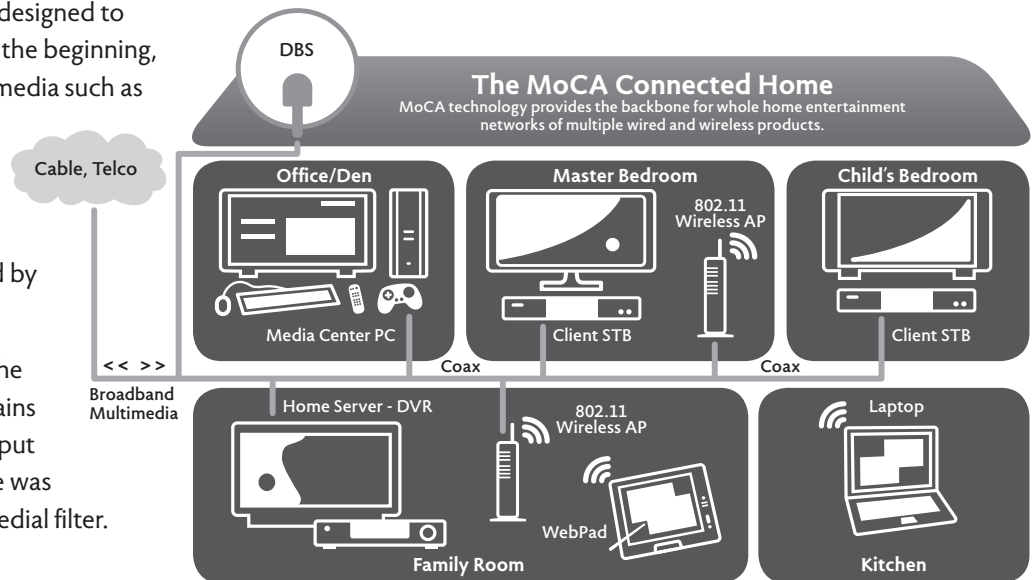


Source: Networks in the Home: Connected Consumer Electronics
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Coax is the ideal medium for home networking of digital entertainment.

According to the National Cable & Telecommunications Association (NCTA), an estimated 90 percent of U.S. households are wired for coaxial cable. Most homes have multiple cable outlets. Coax is already connected to more than 300 million television sets and is the preferred in-home video distribution medium for more than 100 million cable and satellite homes in the United States today. It was designed to distribute broadband video from the beginning, including all modes of streaming media such as audio, SDTV and HDTV, and is capable of supporting high data rates in excess of 100Mbps. Moreover, coax is a familiar and obvious medium well understood by cable and satellite operators.

Field tests in 250 homes around the U.S. have shown that MoCA sustains more than 110 mbps net throughput in 97% of outlets. 100% coverage was attained with an inexpensive remedial filter.



The MoCA Solution:

Simple: No new wires or home upgrades are required, seamlessly linking consumer entertainment devices from room to room using the existing coax cable.

Easy to Install: A retail set-top box solution with no professional installation or truck-roll required. It works where your TV or STB works. Customers can easily place products and watch at the outlet they want.

Full Quality of Service: Supports streaming media, including audio, SDTV and HDTV — without compromise. It is a clean, dedicated, shielded medium with open frequency band. It coexists with CATV, DBS and terrestrial services. It supports content protection, key protocols and a high data rate of up to 270 Mbps.

Secure: Easily shares video and data files through a managed and trusted home network.

Futureproof: It supports multiple simultaneous HDTV, SDTV, DVR, data, gaming, and voice streams. It can support up to 1 Gbps home network and is consistent with DLNA, CableHome, UPnP™ Technology, and 1394.

MoCA is the best means of support for HDTV because it is inherently a digitized broadcast. Analog demodulation will not work for whole house DVR with HDTV content. HDTV uses significant bandwidth and, to support HDTV streams, the home network must support very high data rates with very low bit error. MoCA technology provides the necessary high throughput to support multiple HD programs simultaneously, and MoCA does this all the time.

IPTV is at hand

The networked home will be a blend of connected media and technologies to deliver voice, data and video/entertainment. All technologies will need to “talk” with each other. The ultimate unifying protocol will be Internet Protocol. MoCA is inherently IP over coax. For service providers specifying IPTV solutions, MoCA can provide a seamless IP-based connection to virtually every video device in the home. MoCA provides the connection without interfering with any existing data or video services on the coax network.

MoCA is the industry standard for home networking of digital entertainment.

“Multimedia over Coax Alliance technology has seen some key design wins and rollouts in the IPTV space during 2006.”

> Michael Wolf

Principal analyst of digital home and multimedia, ABI Research
TechNewsWorld
October 19, 2006

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