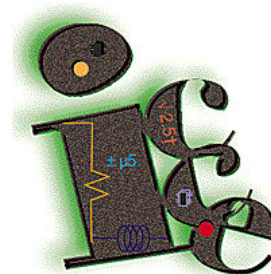
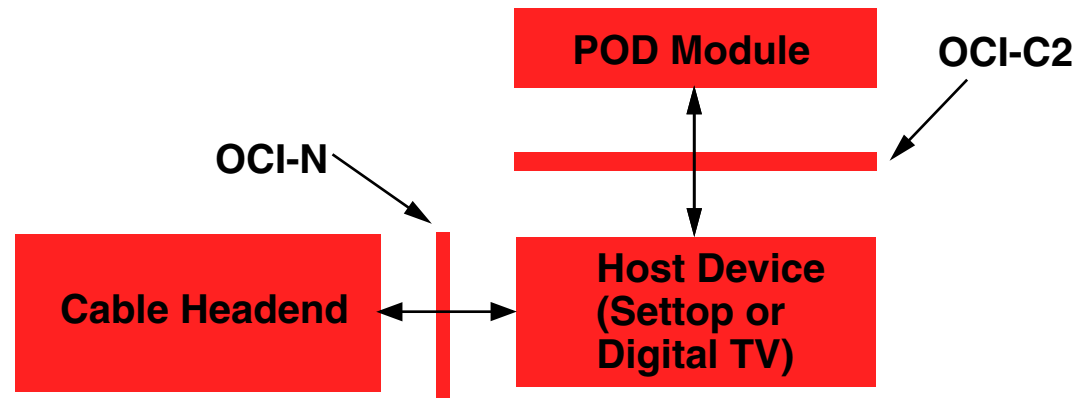


Evening Panel Discussion -Wednesday, June 18, 8:00 p.m., Salon 4

DTV Plug &Play: What's the Next Plateau?



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DTV Plug & Play: What's the Next Plateau?



Organizer &

Moderator: Stuart Lipoff

Consultant

eMail: s.lipoff@ieee.org

Panel

- Members:**
- 1) Peter Fannon- Panasonic, VP Technology Policy & Regulatory Affairs**
 - 2) George Hanover- Consultant, formerly VP CEA**
 - 3) Charlie Kennamer- Comcast Cable, VP Digital Engineering**
 - 4) Paul Thomsen-Hitachi, Director Digital Home Network Group**
 - 5) Ron Wheeler-Fox, SVP Content Protection**
 - 6) Kevin Wirick-Motorola Broadband, VP Marketing Digital Media Systems Group**

Last August the FCC mandated a phased roll-out of DTV tuners. This important FCC action was followed in December by a plug&play licensing agreement between the CE and Cable industries that provides for a point-of-deployment (POD) module supporting digital rights management (DRM) conditional access to broadcast cable services in DTV receivers. While this POD agreement was formally between CE manufacturers and CableLabs, the larger group of stakeholders who influenced the agreement included the broadcasters, MPAA, CE retailers, Congress, and the FCC. Indeed the so called CableLabs "PHILA" plug&play license went well beyond a POD technical standard by including additional encryption and rights management technology designed to deter piracy and control unauthorized copying of content. This December agreement was an important milestone but not the final plateau. Since even today's cable services are provisioned with a set-top box that goes beyond the capabilities of the POD, there is much more work to be done by all parties to accommodate the additional capabilities needed for two-way interactive services, advanced program guides, navigation, downloadable programs, controls, and man/machine interfaces. Given the scope of these additional required capabilities, it is clear that any future industry agreements will be technically challenging and have dramatic impacts on product design, product cost, and who pays on the additional technology.

Join us for a lively discussion between a balanced mix of industry stakeholders, as we explore the issues and visualize the next plateau.

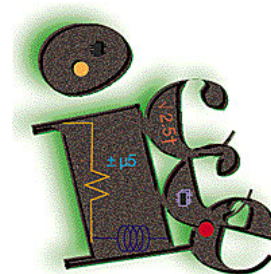
Pizza and beverages will be served in the meeting room at 7:30. Join us for an informal gathering before the discussion begins!

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ABSTRACT

- In August 2002 the FCC ruled that future TV receivers include DTV tuners on a phased in basis
- In December 2002, the CE & Cable Industry worked out agreements to support conditional access (CA) for 1way broadcasts by means of an MSO supplied Point-of-Deployment (POD) module
- Work is now ongoing to explore agreements that will lead to supporting 2way services
- Reaching such agreements could lead to profound impacts to the stakeholders but there are significant challenges as well
- This panel will explore the impacts, challenges, and provide personal perspectives on what the future might hold



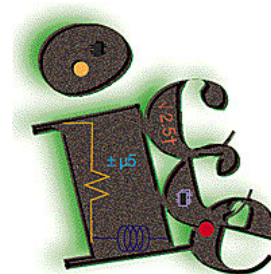
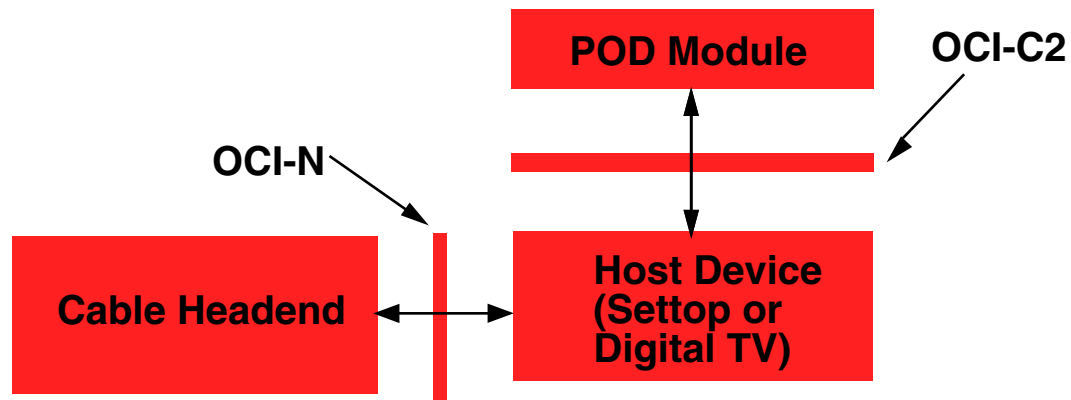
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The Cable/CE 1way agreement supports security functions

- Conditional access of the digital video transport stream from the headend under control of The MSO
- Secure (i.e. encrypted) tunnel of the decoded program feed to host device
- Authentication of the host with provisions for revocation using PKI



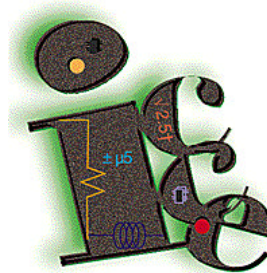
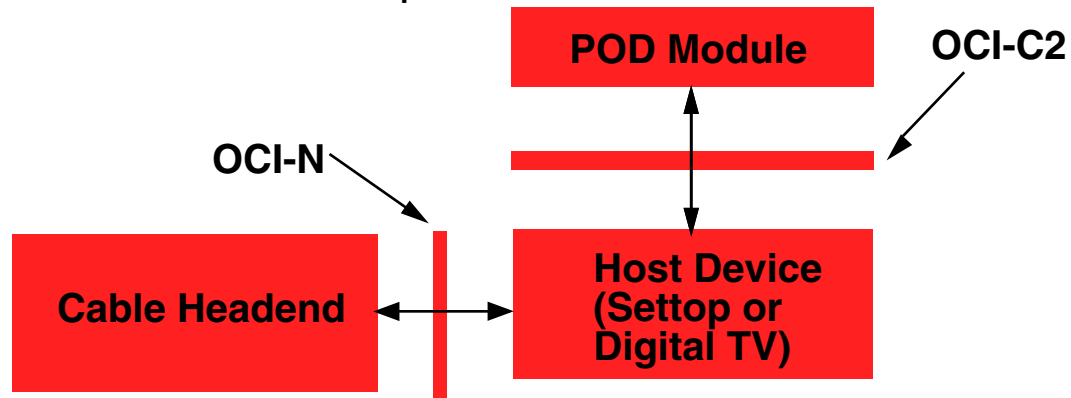
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The Cable/CE 1way agreement supports user features on 1way networks

- Convenient access to open as well as CA protected content without a set-top box
- Seamless use of the CE manufacturers TV remote control/user interface
- Program and navigation information display
- IPPV ordered over the telephone



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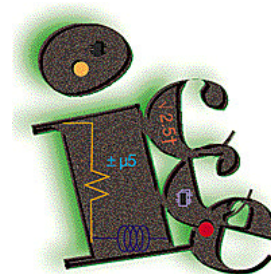
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However cable operators have already deployed and desire to expand services to support a much wider variety of 2way services

- Video on demand and IPPV from a TV centric user interface
- MSO customized *look and feel* user interface
- Web interface
- Chat and messaging
- Linking of program and web content
- Games
- Video commerce
- Opinion polling
- Electronic content distribution and sale

• • • AND

a much larger variety of 2way services that have yet to be defined?

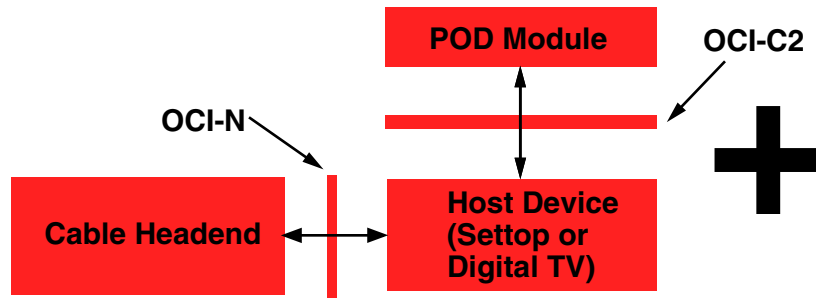


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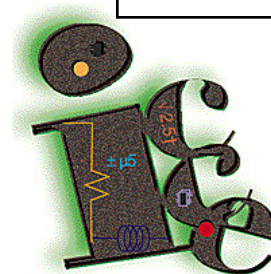
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To support current known, future to be defined, 2way services the current 1way Cable/CE agreement needs to be expanded to add some combination of:



For example:

- A programable presentation engine
- MSO control of the UI look and feel
- Passing UI actions upstream
- Software model that allows MSO to modify and script the CE manufacturers control logic
- Support of interfaces to external devices including:
 - home networks
 - PVRs
 - MP3 players
- Flexibility to adapt to new, as yet unknown requirements



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Many of the building blocks to implement the required new functions exist but the details of who, how, what, and when need to be worked out.

Example Building Blocks
<ul style="list-style-type: none">• DOCSIS• Open cable• DVB-MHP• Packet cable• Java• X.509• IETF

Example Issues
<ul style="list-style-type: none">• Cost/benefit versus feature/performance tradeoffs• Specific standards• Provisions for flexible evolution• Intellectual property agreements• Optional versus mandated components• Business models support (e.g. retail sales)• Timing of implementation• Migration plans and legacy support



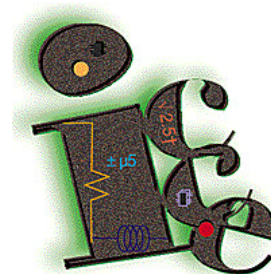
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Moderator & Organizer: Stuart Lipoff, IP Action Partners
Newton, Mass (www.lipoff.org)

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Thank You and GOOD NIGHT

