



W3C

THE WEB AND TV

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HOSTING AND MAJOR UNDERWRITING
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THE WORLD WIDE WEB CONSORTIUM



- Lead Web to its Full Potential
- 330 Members (70 Full Members)
- Web ecosystem: users, developers, browsers, etc.
- 60 staff in US (MIT), France (ERCIM) and Japan (Keio)

TIM BERNERS-LEE

WEB INVENTOR AND W₃C DIRECTOR



W3C #1 OUT OF MIT150

“Tim Berners-Lee, the soft-spoken Briton who invented the Web in 1989 while working at a particle physics lab in Geneva, came to MIT in 1994 to help create the World Wide Web Consortium, to help spread technical standards for building websites, browsers, and devices **(like televisions)** that offer access to Web content.”

Boston Globe, 15 May 2011



HOW DOES W3C WORK?

- Focus is to create standards that lead to commercial benefits
- W3C accepts inputs from all and provides outputs to all
- Each company brings their expertise, perspective
- Work organized into 4 “Domains” *Interaction, UbiWeb, Accessibility, Technology and Society*
- 50 Working Groups. Each has engineers from member companies with staff support
- Liaisons with many organizations: IETF, OMA, DLNA, [ISO JTC1/SC 29/WG11 \(MPEG\)](#), [ITU-T Group 16 IPTV](#), [Open IPTV Forum](#), [SMPTE](#), more.
- W3C Recommendations under Royalty-Free Patent Policy
- W3C is ISO/JTC-1 PAS Submitter



OPEN WEB PLATFORM

A platform for innovation, consolidation, and cost efficiencies.

- Web pages are more beautiful, interactive and intelligent
- HTML5 provides cross-browser interoperability and all major browser vendors plan to support it
- Video is a first-class citizen
- Simplifies data integration
- Numerous devices
- Tools for social networking (privacy, security, identity)
- The most interoperable platform in the industry



A NEW WAVE of TRANSFORMATIONS

Just as the Web has transformed everything...

...It will transform everything



NEW MEMBERS IN LAST 18 MONTHS

LG
NEC
Sony
KDDI
Baidu

Comcast
Facebook
China Unicom
Motorola Mobility

Mstar
Zynga
Netflix
Rakuten
SanDisk

Devices
Storage
Semiconductors
Broadcasting

Telco
Games
Mobile
Search

Social Networking
On-line Marketplace
Consumer Electronics



THE WEB TRANSPORTS AND ENHANCES TV

- Analog-to-digital conversion is nearly complete
- User generated content commonplace on Internet
- Convergence has started, but where will it take us?
 - User content and premium content
 - How much integration of Web content into programming?
 - Internet, wireless, or conventional distribution
 - Device: TV, laptop, handheld
- Different stakeholders have different perspectives
 - Traditional broadcast
 - Telecoms
 - Content providers
 - New entrants (YouTube, Netflix, Hulu, Pandora, ...)
 - Device manufacturers



THREE KEY MESSAGES

1. Television and entertainment industries being transformed

- How will the experience change?
- What will consumers see differently?
 - Lower cost? Selection? Better viewing? Interactive?

2. Open Web Platform is the platform to support the transformation

3. After the Workshop, W3C Members will begin the process of designing what is needed to support convergence

- What are the specific elements to be standardized first? A year later?



WHY THIS WORKSHOP?

- W3C Asked to Get Involved as Web and TV Converge
- Three Workshops in Three Regions because TV is huge but also regional:
 - Asia
 - Europe
 - US
- W3C Launched Web and TV Interest Group in February
 - Review progress: [Web and TV Interest Group Report](#)
 - Confirm right direction
 - Identify missing pieces



HIGHLIGHTS FOR THIS WORKSHOP

- Goal: Make Video/TV First Class Web Citizen
- Focus of Workshop III: Content Providers (session 1)
- Hot Topics on Agenda:
 - Multiscreen
 - Synchronized Metadata/Subtitles
 - DASH and codecs
 - Content protection and DRM
 - Home networking
 - Accessibility



KEY PARTICIPANTS

BROADCASTERS

BBC, ESPN, Fuji Television,
HBO, MTV Networks,
NBCUniversal, NHK, TBS
Television, Tomo-Digi,
Turner Broadcasting,
WOWOW,...

BROWSER VENDORS

ACCESS, Apple, Espial,
Google, Microsoft, Mozilla,
Opera, ...

CABLE OPERATORS

CableLabs, Comcast, Cox
Communications, Time
Warner Cable, ...

CONTENT CREATORS

Disney, Movielabs, Netflix,
Universal Pictures,
Warner Bros.,...

AUTHORING TOOL VENDORS

Adobe, ...

TELECOM OPERATORS

AT&T, Deutsche Telekom,
France Telecom, Rogers,
SK Telecom, ...

TV MANUFACTURERS

LG, Technicolor,
Panasonic, Samsung,
Sony, Toshiba ...

INFRASTRUCTURE PROVIDERS

Akamai, Canon, Cisco,
Ericsson, Harmonic,
Huawei, Intel, Motorola,
MStar, NDS, Neulion,
Neustar, Nokia, Oracle,
Qualcomm, Sony Ericsson,
ST Microelectronics, Texas
Instruments, Zixi, ...

SET-TOP MANUFACTURERS

EchoStar, ...

RESEARCHERS

ETRI, Fraunhofer, ITRI,
KAIST, Telecom ParisTech
...

The major players are in this room!

INTERNATIONAL PARTICIPANTS

Brazil

Germany

Norway

Canada

Italy

Sweden

China

Japan

Taiwan

Finland

Korea

United Kingdom

France

The Netherlands

United States



CRITICAL WORKSHOP SUCCESS FACTORS

- Have open dialog
- Have technical dialog
- Get to know each other
- Seek consensus

Discussion will fuel Web and TV Interest Group Meeting
that follows the Workshop.



W3C ROLE TODAY AND IN FUTURE

- We are here to help, and facilitate
- We want to get to know you – come see us at the breaks
- Our relationship (in some cases) starts here – but should continue for years to come
- Next big meeting: TPAC 2011
 - 31 Oct – 4 Nov in Santa Clara
 - Seeking breakout session topics!

