The Web:
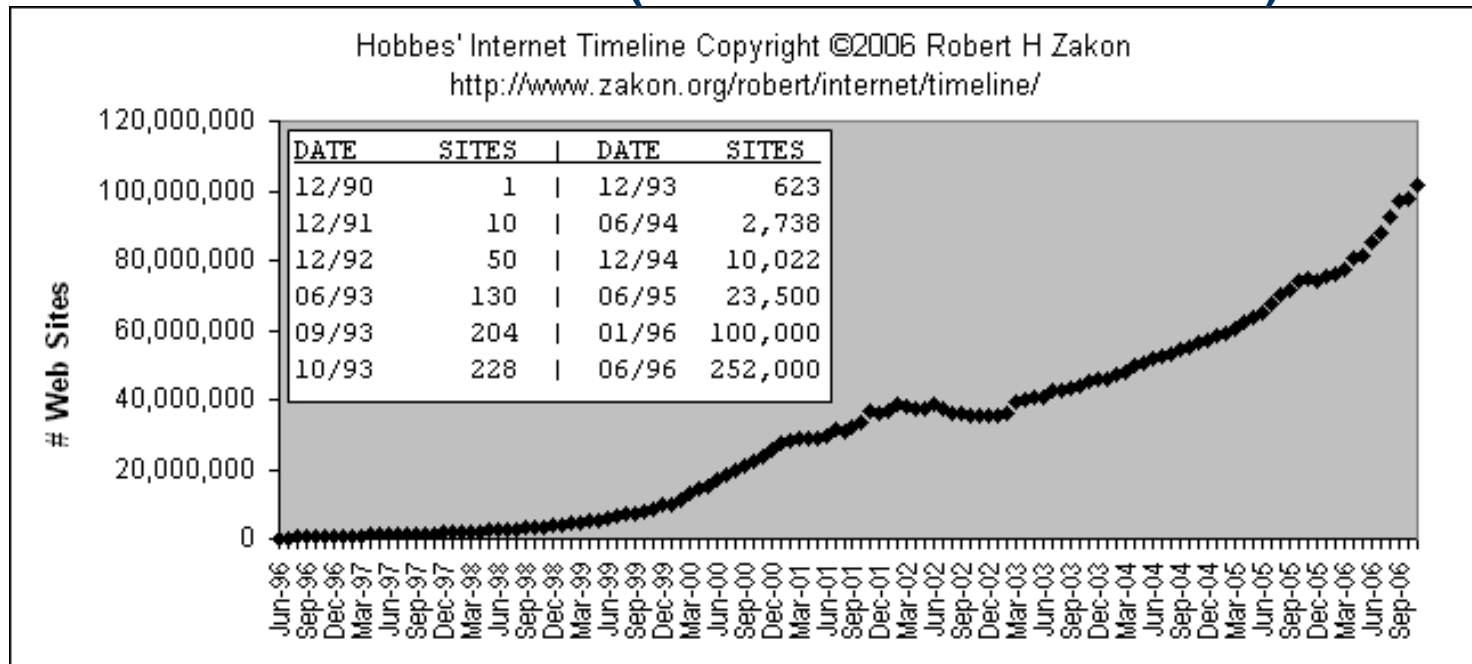# From Fixed to Mobile to Ubiquitous
Progress Report 2007

Presentation at CTIA Wireless 2007
Orlando, Florida, USA
26 March 2007

Steve Bratt (steve@w3.org)
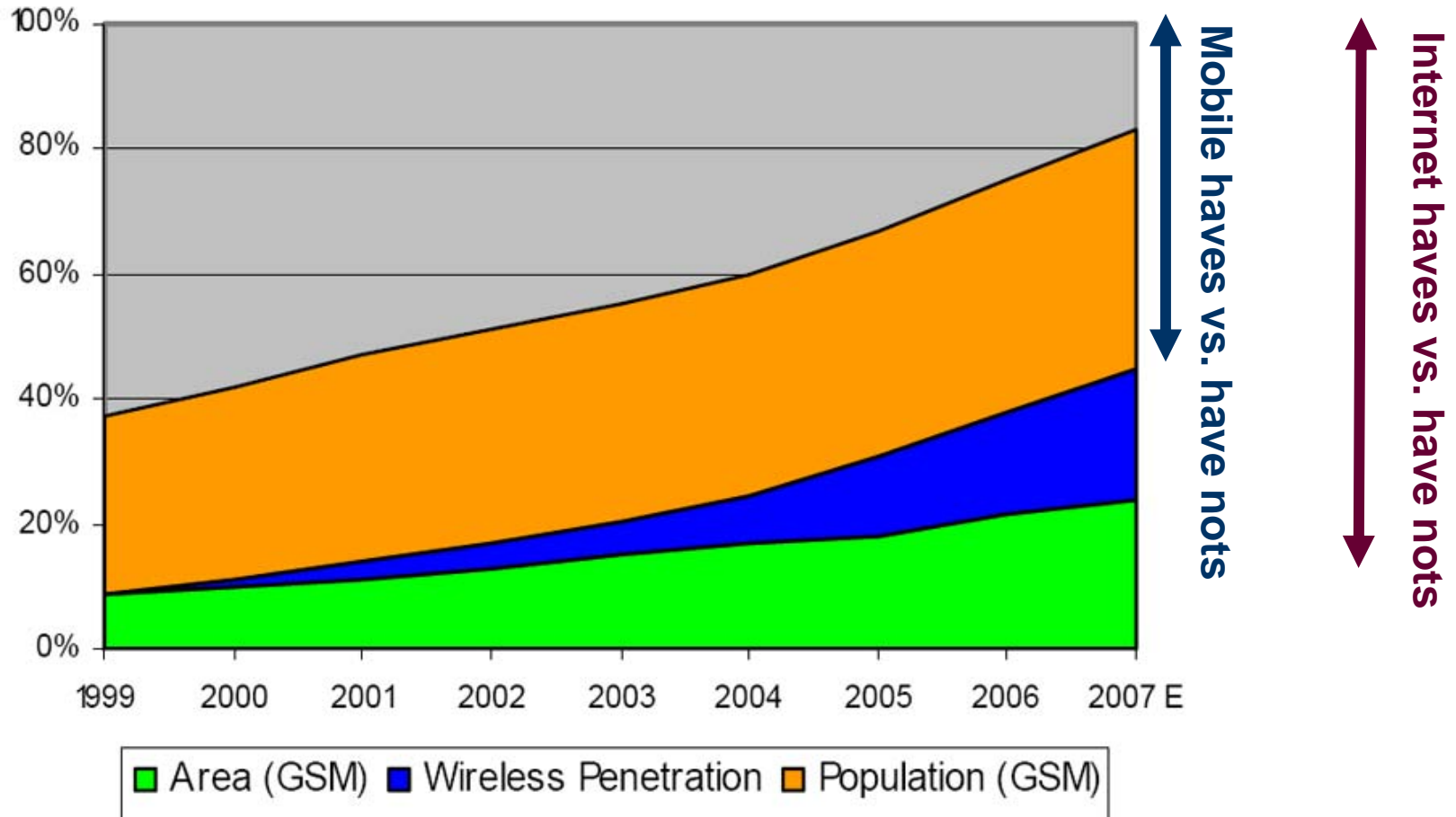**Chief Executive Officer**
World Wide Web Consortium
http://www.w3.org/

http://www.w3.org/2007/Talks/0326-sb-W3C-MWI/bratt-W3C-MWIp.pdf

Internet Growth Driven by Open Web

Number of Web Sites (domain names and content)

Hobbes' Internet Timeline Copyright ©2006 Robert H Zakon
http://www.zakon.org/robert/internet/timeline/

DATE	SITES		DATE	SITES
12/90	1		12/93	623
12/91	10		06/94	2,738
12/92	50		12/94	10,022
06/93	130		06/95	23,500
09/93	204		01/96	100,000
10/93	228		06/96	252,000

Internet Users in early 2007 ~ 1,100 mil

Sources: *http://www.zakon.org/robert/internet/timeline/*
               http://www.internetworldstats.com/stats.htm

Mobile Growth and Potential

http://www.gsmworld.com/documents/universal_access_full_report.pdf (2006)

Mobile Web Closes the Gap

Browser Phone Volume & Subscriber Penetration

Legend:
- WAP / xHTML
- Full Web
- WAP / xHTML % of Subscribers (right scale)
- Full Web % of Subscribers (right scale)

Source: Nokia

The Challenge …

- People want – *expect* – no-hassle, Web access across all of their devices … including their phones

- This requires:
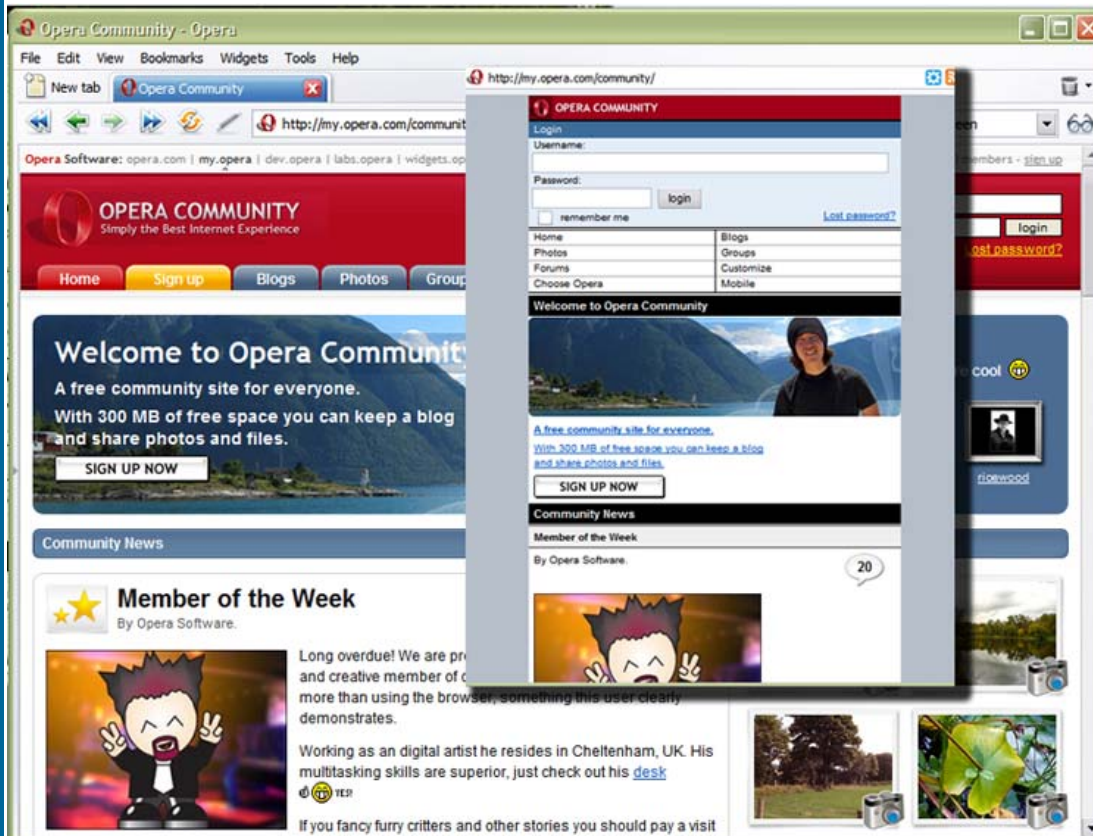 - Seamless interoperability
  - Ease of use
  - Safety

W3C Standards Address Challenges

User Requirements	W3C Solutions
User-friendly content	**Mobile Web Best Practices***
Effective adaptation	**Device Description*** **Ubiquitous Web***
Child protection, labeling	**Protocol for Web Description***
Ease of discovery, trust	**mobileOK***
Voice, stylus, keys	VoiceXML, Multimodal
Universality	WAI, I18N, **Developing World***
Security	Browser Security Context
Interoperability	Web standards: XHTML, CSS, Graphics, Forms, AJAX, Widgets, **Ubiquitous Web***, etc.

Mobile Web Initiative

- Mobile Web Best Practices 1.0
  - Authoring content for **good user experience**
  - Effective delivery to and display on mobile devices
  - Leveraging existing Web standards

- Informed by existing guidelines
- Checker: http://www.w3.org/Mobile/check
- New Browser Test Suites Working Group

60 Mobile Web Best Practices

- Thematic consistency:
    - One Web (URIs)
- Layout
    - use CSS; no tables or frames
    - Small (text, pics) is beautiful
- Navigation:
    - important info at top
    - access keys
- Users on the go
- Summary

MWI Best Practices in Practice

- Recommended in developer material
  - Google mobile Webmaster FAQ
  - Orange Partner Program
  - .mobi "switch on" guide

- Integrated into development tools
  - Wordpress plugin for BP-ok blogs
  - Mobisitegalore

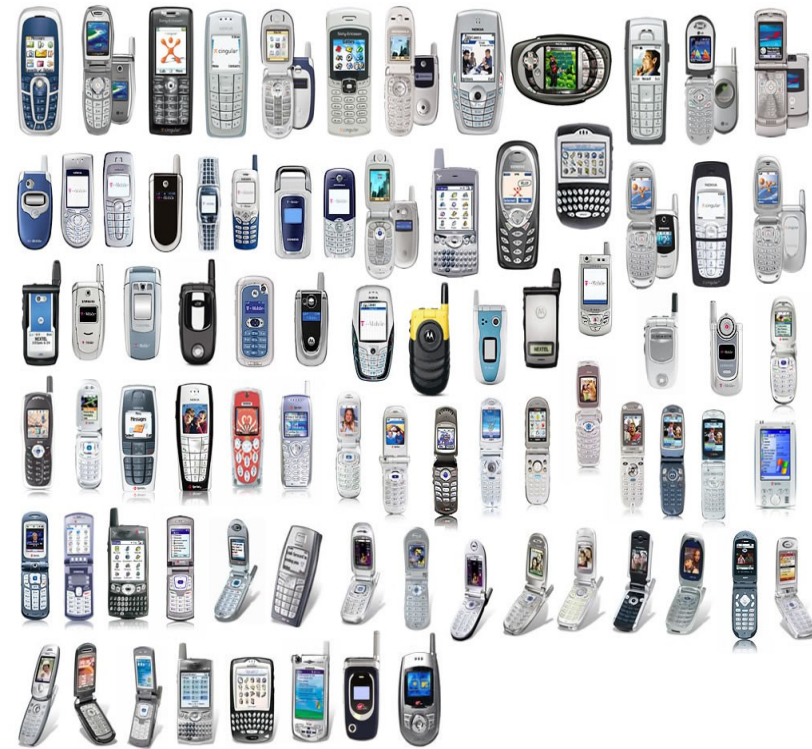# MobileOK Trustmark & Discovery

- mobileOK Basic
  - Defines tests for Web content
  - Subset of Best Practices
  - Machine-testable
- mobileOK full (under development)
  - Includes non-machine testable tests
- Third-party or self-certification
- Metadata for consumption by search engines, filters, etc.

Mobile Web Device Description

- Content adaptation requires knowledge about device, environment, preferences

- Completed:
  - Landscape and Ecosystem
  - Requirements for open Device Description Repositories

- Started in Dec 2006:
  - Core and API for Repository
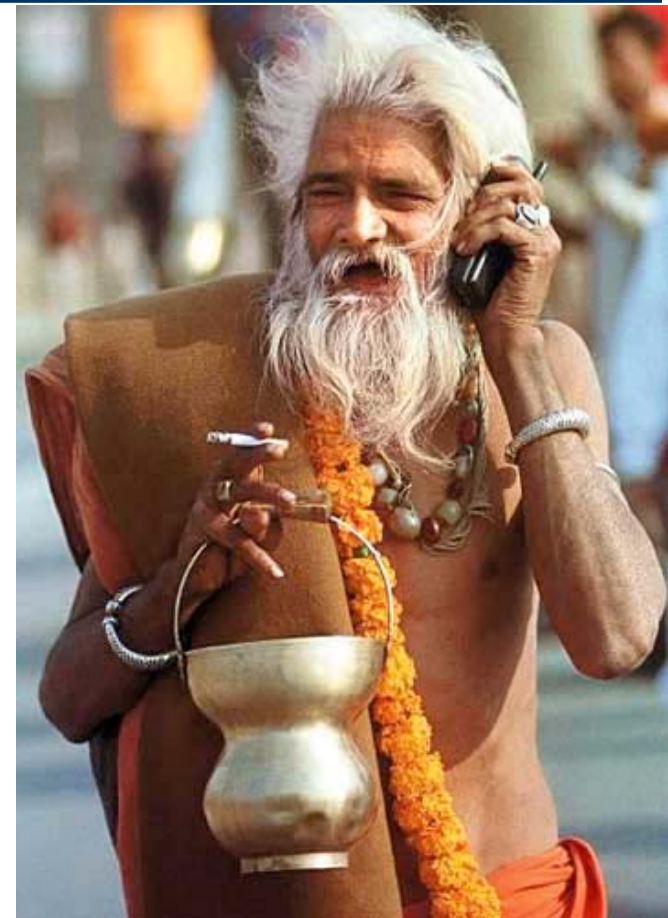 - Key device properties, vocabulary, method for extensions

Content Labeling

- Started Feb 2007: <u>Protocol for Web Description Resources (POWDER) Working Group</u>
  - Web-wide, structured, descriptive metadata
  - Supports authentication
  - Can get description resources separate from Web resources they describe
- Application areas of initial interest:
  - mobileOK, child protection, accessibility, search, etc.

Web Mobility = Web for Emerging Economies

- **The Mobile Web will accelerate Internet access around the world by solving the "last kilometer" problem**

- Commerce, healthcare, education, eGov, communication ... [ex: der Spiegel]

- W3C Workshop on the Mobile Web in Developing Countries, Dec 2006, Bangalore

What's Next?
Ubiquitous Web Applications

- Enabling Web applications to interact across wide diversity of devices:
  - Computers, equipment, media, appliances, mobile devices, physical sensors, effectors, consumer electronics

- Deliverables … standards for:
  - Device independent authoring
  - Delivery contexts
  - Remote eventing, device coordination

- Under consideration by Members

Sponsors and Supporters of Mobility and Ubiquity Standardization @ W3C

Additional, Key Participants: Alcatel-Lucent, AOL, AT&T, BT, Citigroup, El Mundo, FOSI, Google, Hutchinson 3, IBM, Intel, Microsoft, OMA, Openwave, Samsung, Siemens, SK Telecom, Sun, T-Online, Telefonica, many others.
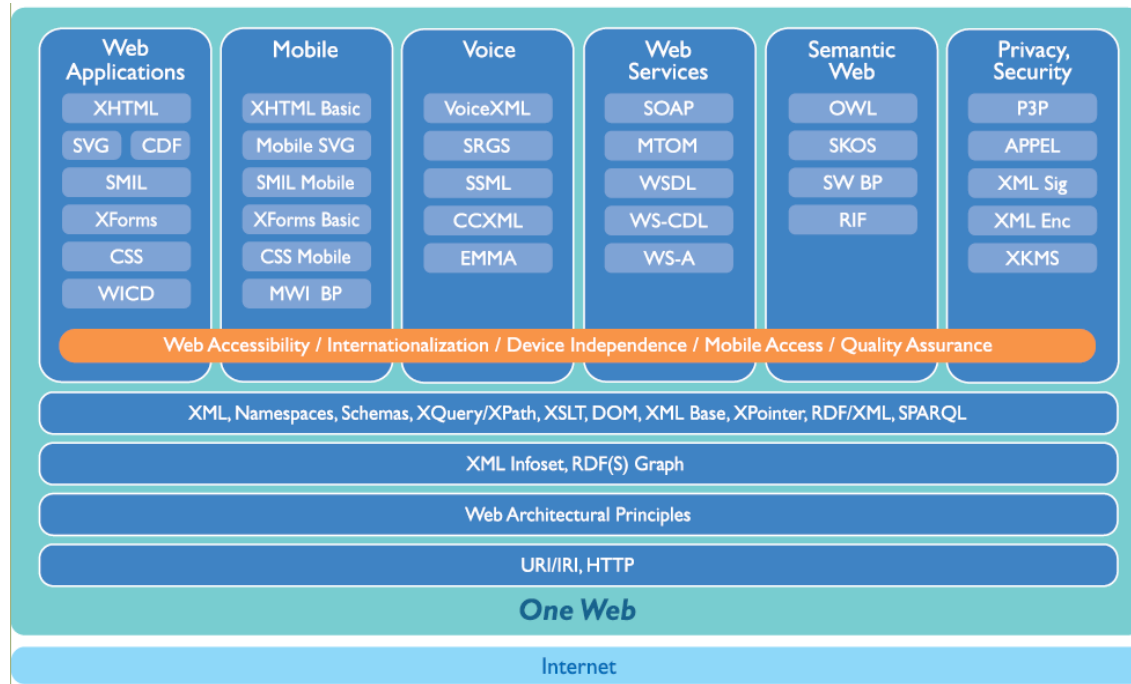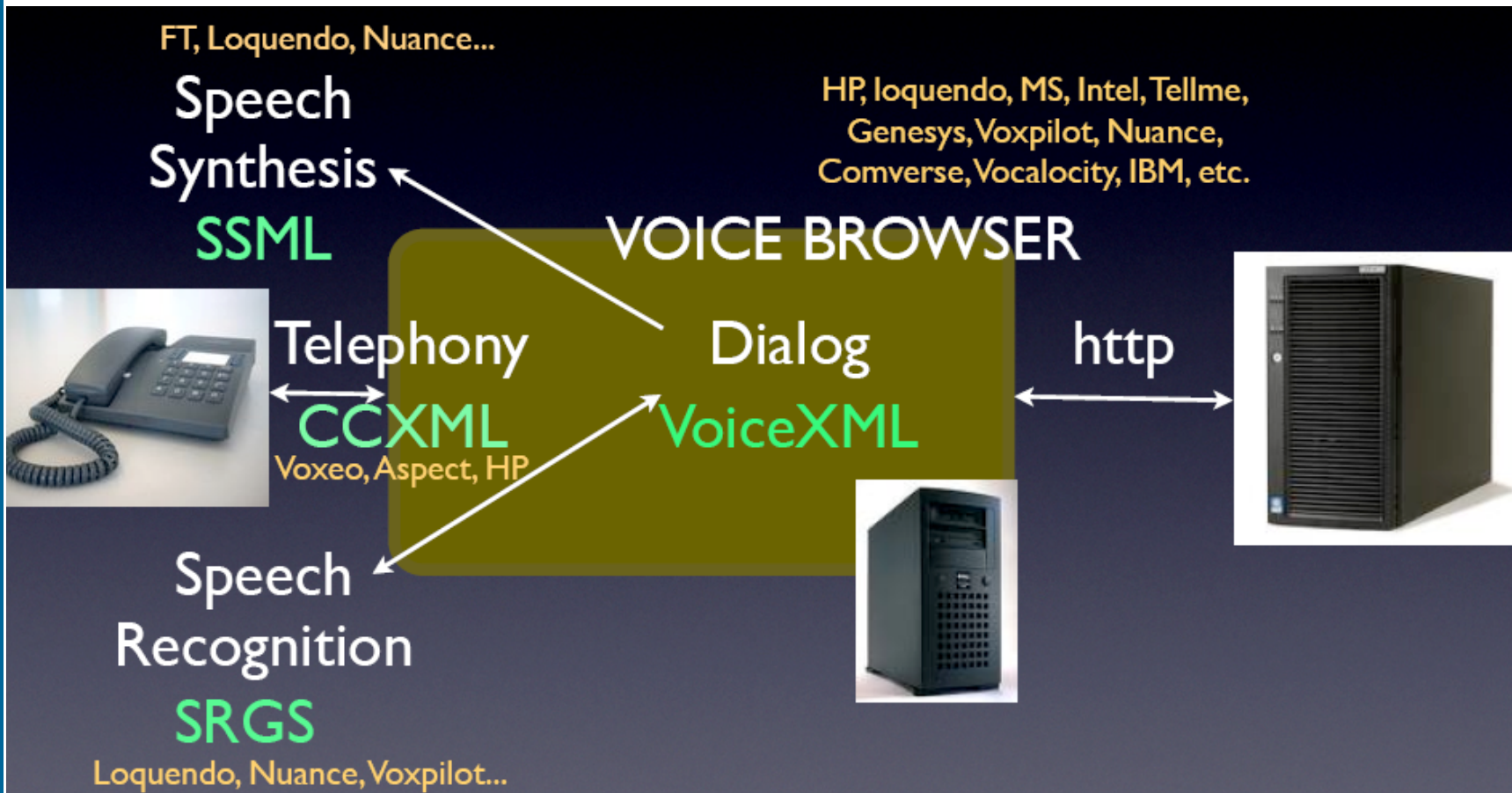
The Leading Web Standards Organization

- Engineering the Web's foundation
  - (x)HTML, XML, CSS, VoiceXML, Web Services, Semantic Web, Security, Accessibility, Internationalization, Privacy, Architecture

- 440 Members
- 40+ Liaisons
- 20 Offices
  - Newest: India, China, S. Africa

http://www.w3.org/

Voice Browser @ W3C

Accessibility @ W3C

- **W3C's Web Accessibility Initiative**
  - Multi-stakeholder development of int'l standards
  - Content, authoring tools, user agents
  - Education and outreach to organizations, govts.
- **Web Content Accessibility Guidelines 1.0**
  - W3C standard since 5 May 1999 (Quicktips)
- **Web Content Accessibility Guidelines 2.0**
  - Standard planned for completion in next 6 -12 mo.
  - Broader range of Web technologies. More testable.

Security @ W3C

- **W3C's Security Activity**
  - Seeking practical standards to address most pressing problems
- **New Web Security Context Working Group**
  - Planned during workshop w/ major browser, security, financial services companies
  - Usable, mutual authentication
  - ... e.g., "secure letterhead", "petname", padlock use, certificates, etc.
  - Forms annotation (in HTML WG) = important complement
  - Starting to gather use cases
- **New Maintenance Group?**
  - for core Web security standards for signature, encryption, key management

Rich Web Clients / Web 2.0 @ W3C

- Mature W3C standards (plus javascript) enable Web 2.0
  - New <u>HTML</u> WG bringing most important spec up to date
  - <u>DOM</u>, <u>CSS</u>, <u>SVG</u>, etc.
- New <u>Rich Web Clients Activity</u>, is standardizing:
  - AJAX (<u>XMLHTTPRequest object</u>), and other JS features, libraries
  - Languages to support app development (e.g., <u>Widget packaging and delivery format</u>)
- Coordinating with browser developers to enable more secure application environment
  - e.g., <u>standard</u> for site to declare that its data are available to any javascript application (or not)

(little AJAX/SVG-based demos: <u>XMLHTTPRequest playlist</u>, <u>fatcats</u>, <u>cubes</u>)

Selected References

- W3C: http://www.w3.org/
- Mobile Web: http://www.w3.org/Mobile/
- Ubiquitous Web: http://www.w3.org/2006/10/uwa-activity-proposal.html
- Labeling: http://www.w3.org/2007/powder/
- Voice: http://www.w3.org/Voice/
- Multimodal: http://www.w3.org/2002/mmi/
- Accessibility: http://www.w3.org/WAI/
- Internationalization: http://www.w3.org/International/
- Developing Countries: http://www.w3.org/2006/12/digital_divide/public.html
- Security: http://www.w3.org/Security/