UNIVERSITY OF
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The Web Standards Process

COMP3220 Web Infrastructure

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How are web standards made?

Who makes web standards?

What counts as a Web standards organisation?
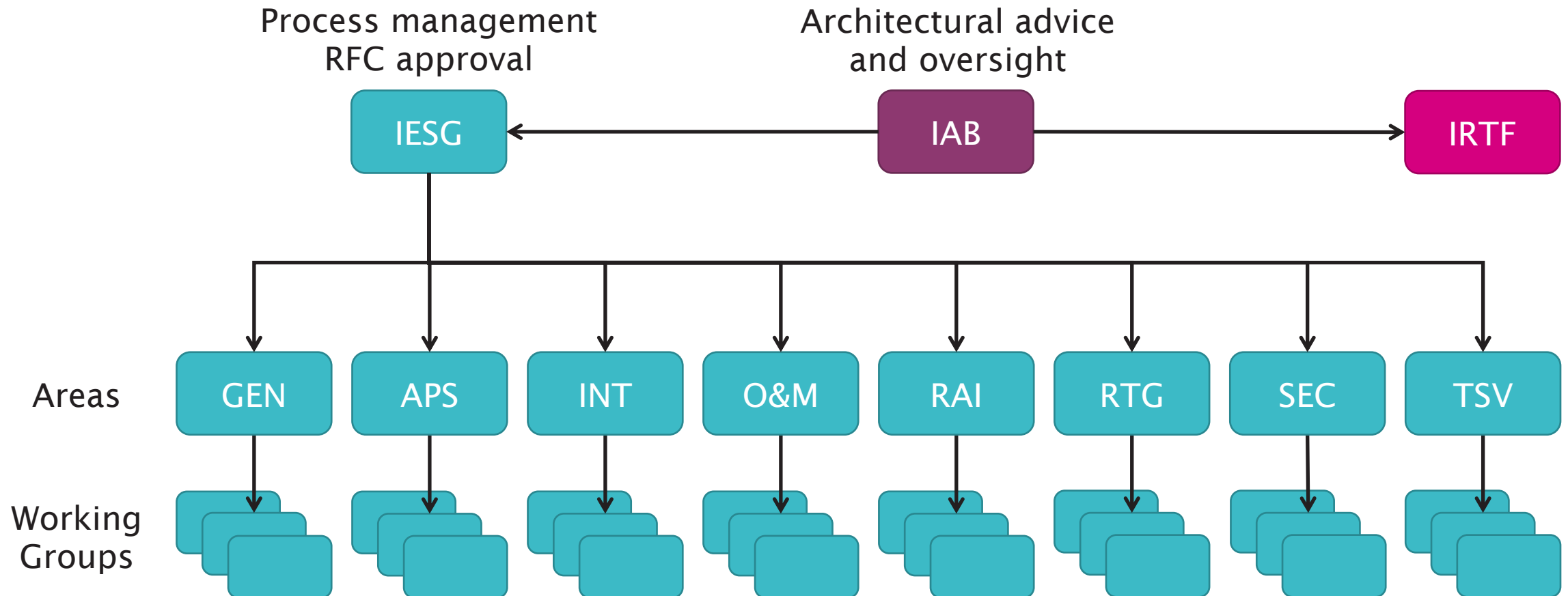
IETF Structure and Process

The Internet Engineering Task Force

We reject: kings, presidents and voting.
We believe in: rough consensus and running code.

David Clark

Be conservative in what you send and liberal in what you accept.

Jon Postel

IETF Structure

Process management
RFC approval

Architectural advice
and oversight

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IESG  ←————————  IAB  ————————→  IRTF
```

Areas: GEN | APS | INT | O&M | RAI | RTG | SEC | TSV

Working Groups

IETF Document Types

Requests for Comments (RFC)

- Started as informal notes
- Some are Internet standards documents (STD)
- Some give policies or procedures (Best Current Practice – BCP)
- Some are informational
- Others are more whimsical (April Fool's RFCs)

A Standard for the Transmission of IP Datagrams on Avian Carriers

Status of this Memo

This memo describes an experimental method for the encapsulation of IP datagrams in avian carriers. This specification is primarily useful in Metropolitan Area Networks. This is an experimental, not recommended standard. Distribution of this memo is unlimited.

Overview and Rational

Avian carriers can provide high delay, low throughput, and low altitude service. The connection topology is limited to a single point-to-point path for each carrier, used with standard carriers, but many carriers can be used without significant interference with each other, outside of early spring. This is because of the 3D ether space available to the carriers, in contrast to the 1D ether used by IEEE802.3. The carriers have an intrinsic collision avoidance system, which increases availability. Unlike some network technologies, such as packet radio, communication is not limited to line-of-sight distance. Connection oriented service is available in

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Internet Drafts

- Preliminary technical specifications
- Only valid for six months, unless updated
- Removed from official repository on expiry

W3C Structure and Process

The World Wide Web Consortium

A membership organisation - must join in order to participate*

Key players:

- Director (TimBL)
- Team: Permanent staff, support workings of W3C
- Advisory Committee (AC): Contains a representative from each member organisation. Reviews proposals from Director
- Advisory Board (AB): Guides W3C in non-technical matters
- Technical Architecture Group (TAG): Coordinates cross-technology architecture developments

* with some exceptions

W3C Structure

Working Group
- Chartered for a specific duration to deliver a particular standard
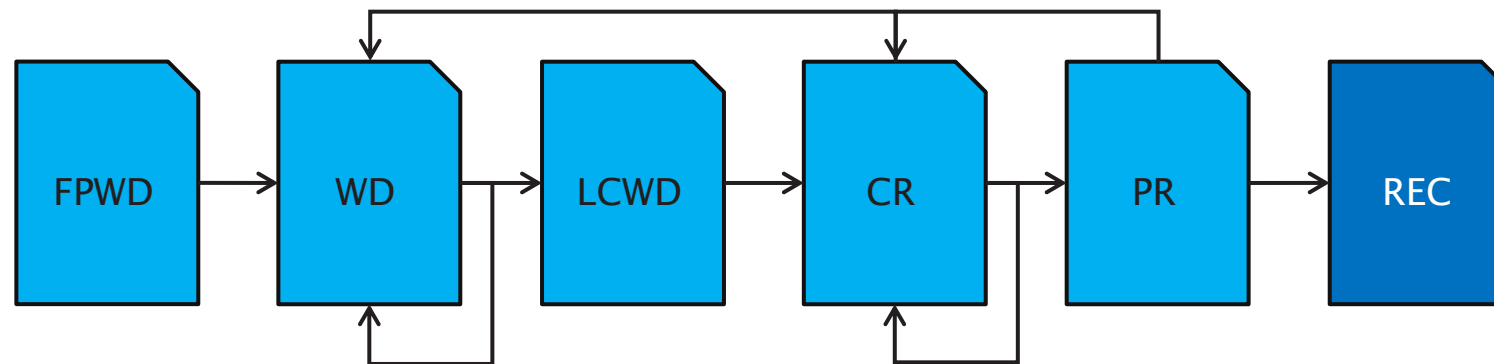
Interest Group
- Chartered discussion forum

Community Group
- Discussion forum open to non-members
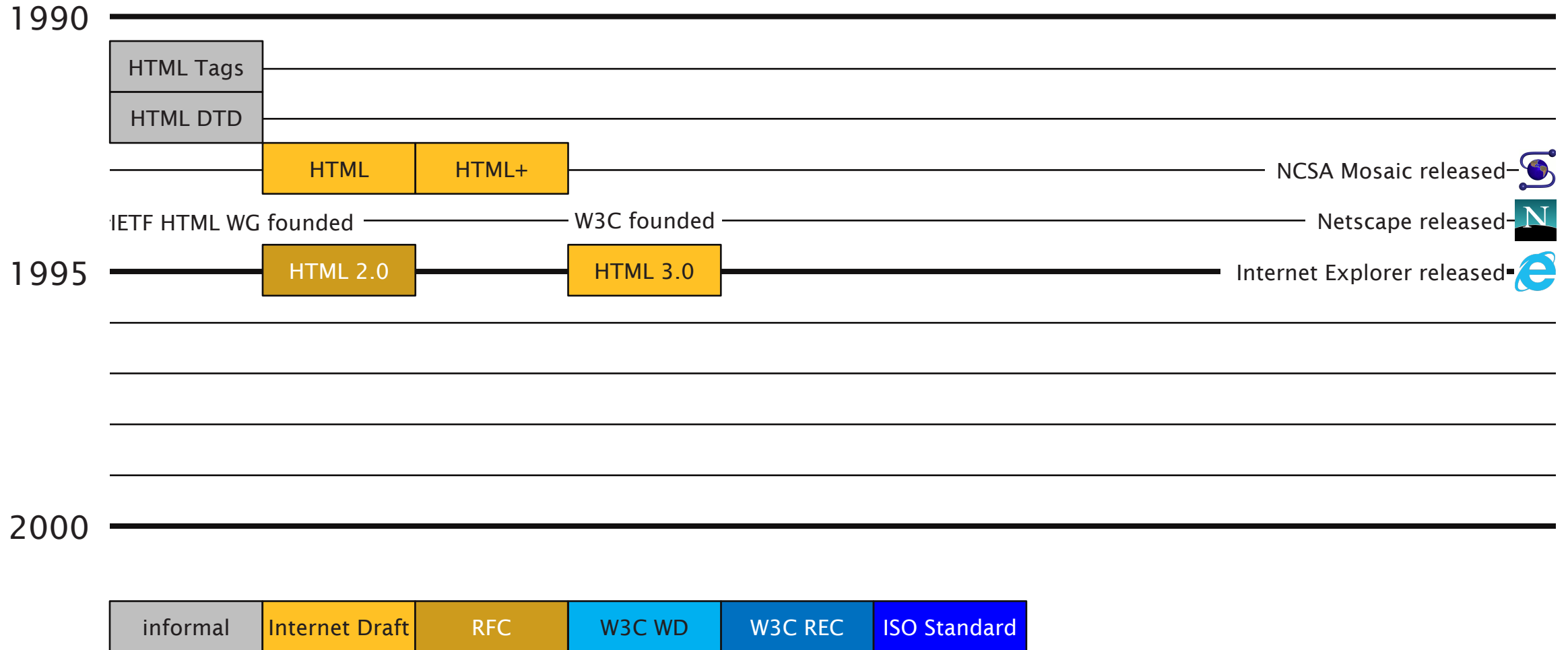
W3C Technical Report types

- Recommendation
- Proposed Recommendation
- Candidate Recommendation
- Working Drafts
  - First Public Working Draft, Last Call Working Draft
- Notes
  - Member Note, Working Group Note

FPWD → WD → LCWD → CR → PR → REC

Case Study: HTML

The Evolution of HTML: 1991-1995

1990			
HTML Tags			
HTML DTD			
	HTML	HTML+	NCSA Mosaic released
IETF HTML WG founded		W3C founded	Netscape released
1995	HTML 2.0	HTML 3.0	Internet Explorer released

2000

| informal | Internet Draft | RFC | W3C WD | W3C REC | ISO Standard |

Trouble in the Working Group

IETF HTML WG formed in September 1994

By 1995, the IETF HTML WG had grown unwieldy
- Over 100 members in the group
- "I came back after just three days away to find over 2000 messages waiting"

Disbanded in December 1995

W3C HTML Editorial Review Board formed in February 1996
- Became W3C HTML WG in December 1996

Embrace and Extend

"To a certain extent, Microsoft built its business on the Web by extending HTML features."

Dave Raggett

By the mid-90s, Netscape and Microsoft were creating their own proprietary extensions to HTML

- `<font>`
- `<marquee>`
- `<blink>`

"This page is best viewed in browser X"
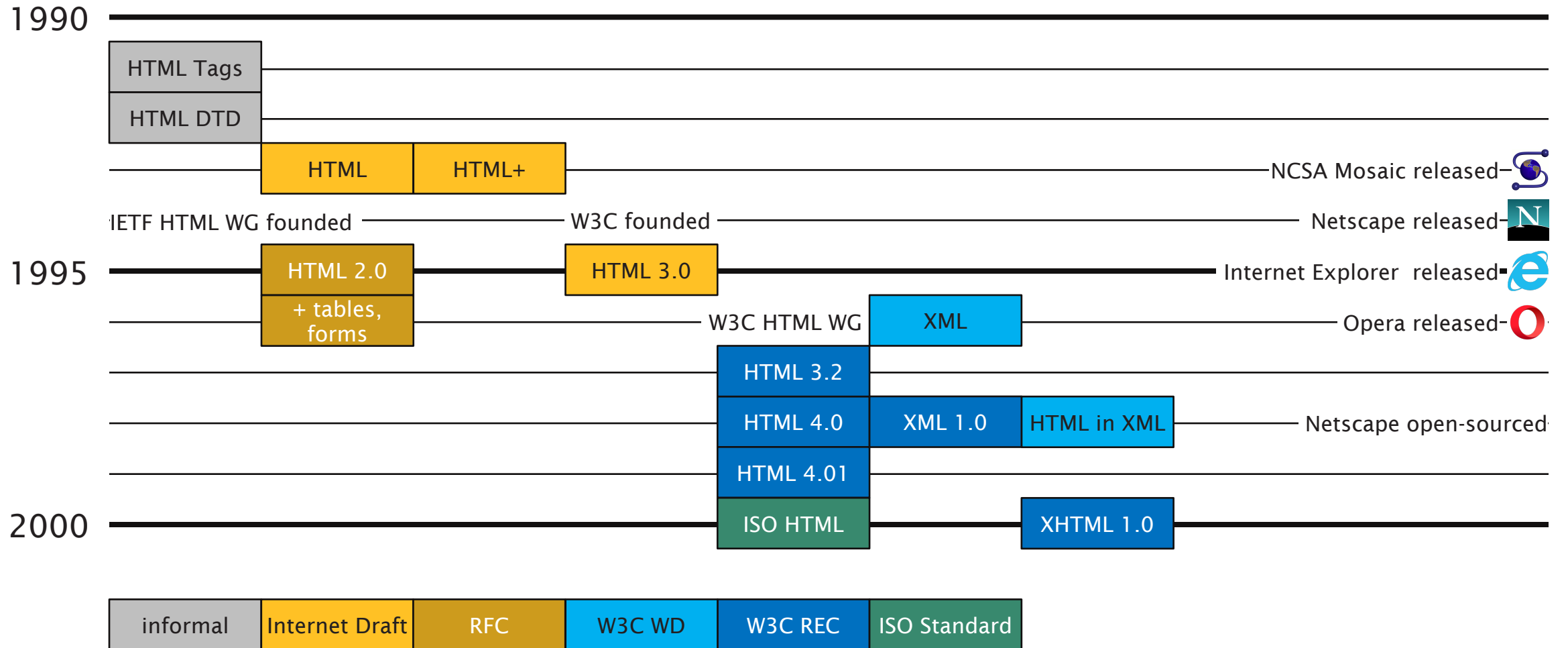
De Jure versus De Facto Standards

De Jure: "according to law"

- De jure standards created to *extend* existing practice
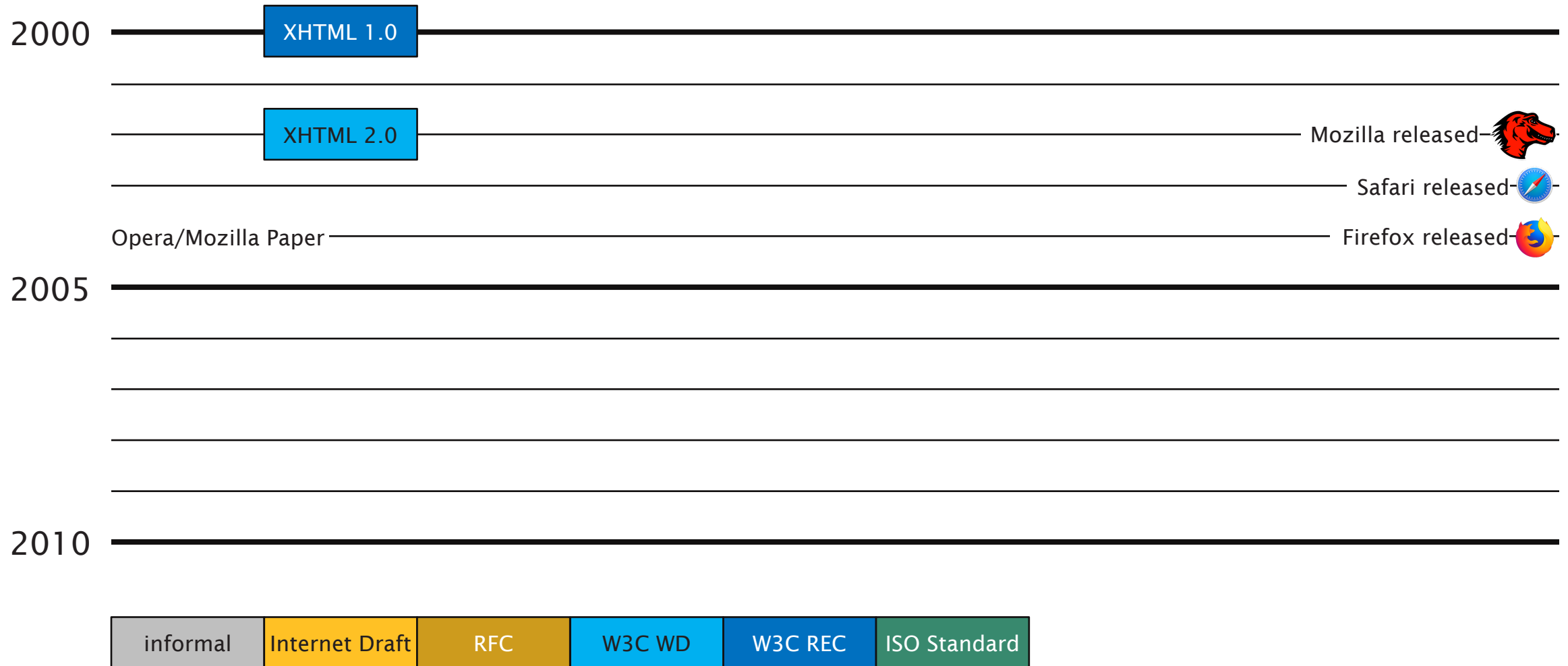- HTML 3.0, HTML 4.0, XHTML 1.0

De Facto: "as a matter of fact"

- De facto standards created to *codify* existing practice
- HTML 2.0, HTML 3.2

The Evolution of HTML: 1995-2000

The Evolution of HTML: 2000-2005

2000 — XHTML 1.0

XHTML 2.0 — Mozilla released

Safari released

Opera/Mozilla Paper — Firefox released

2005

2010

| informal | Internet Draft | RFC | W3C WD | W3C REC | ISO Standard |

Opera/Mozilla Paper

Position Paper for the W3C Workshop on Web Applications and Compound Documents

Critical of official W3C direction for HTML (i.e. XHTML)

Seven principles:
- Backwards compatibility and clear migration path
- Well-defined error handling
- Users should not be subject to authoring errors
- Practical use
- Scripting is here to stay
- Device-specific profiling should be avoided
- Open process

Web Hypertext Application Technology WG

Formed in 2004 in response to perceived slow HTML standards development in W3C
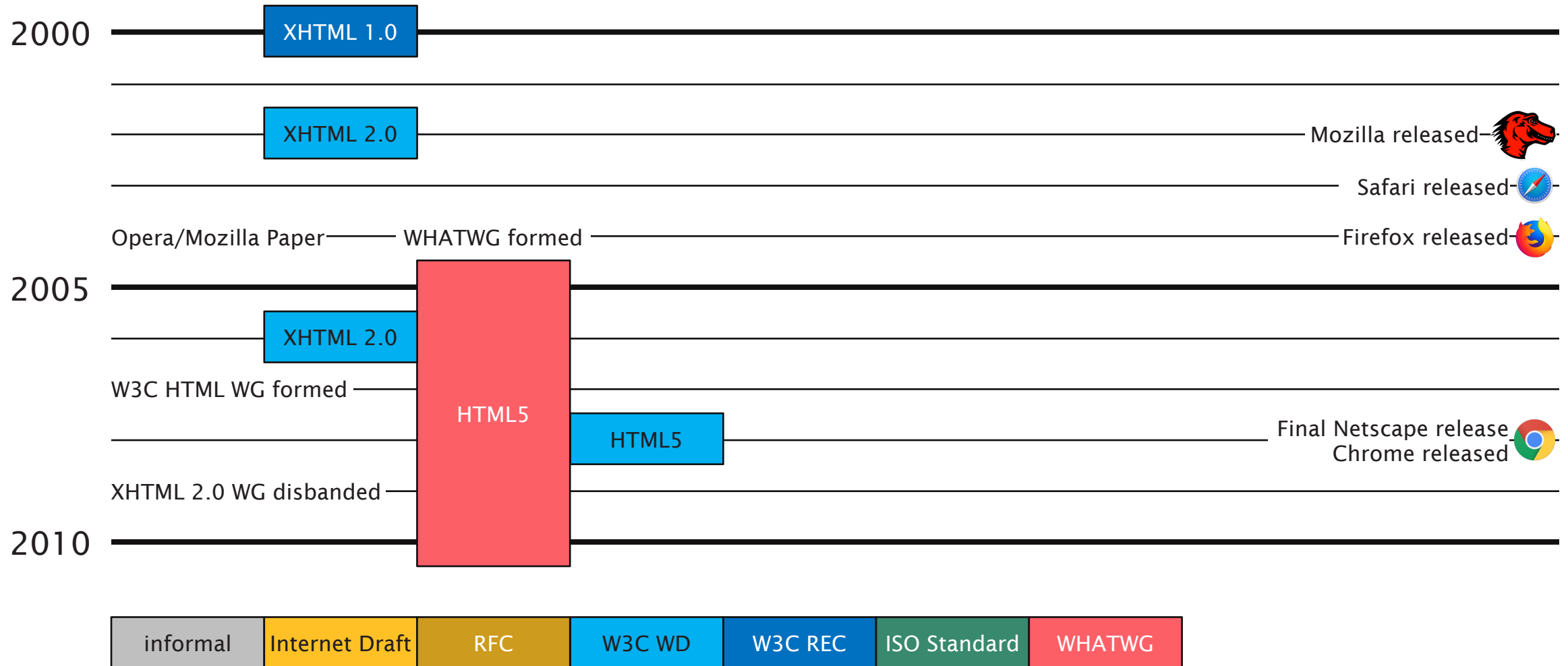
Founder members: Apple, Mozilla and Opera

- Now includes Google (with move of HTML5 editor Ian Hickson)

Treats HTML 5 as a "living standard", maintained by an "informed editor"

Membership types:

- Invitation-only Members
- Open Contributors

The Evolution of HTML: 2005-2010

The Evolution of HTML: 2010-
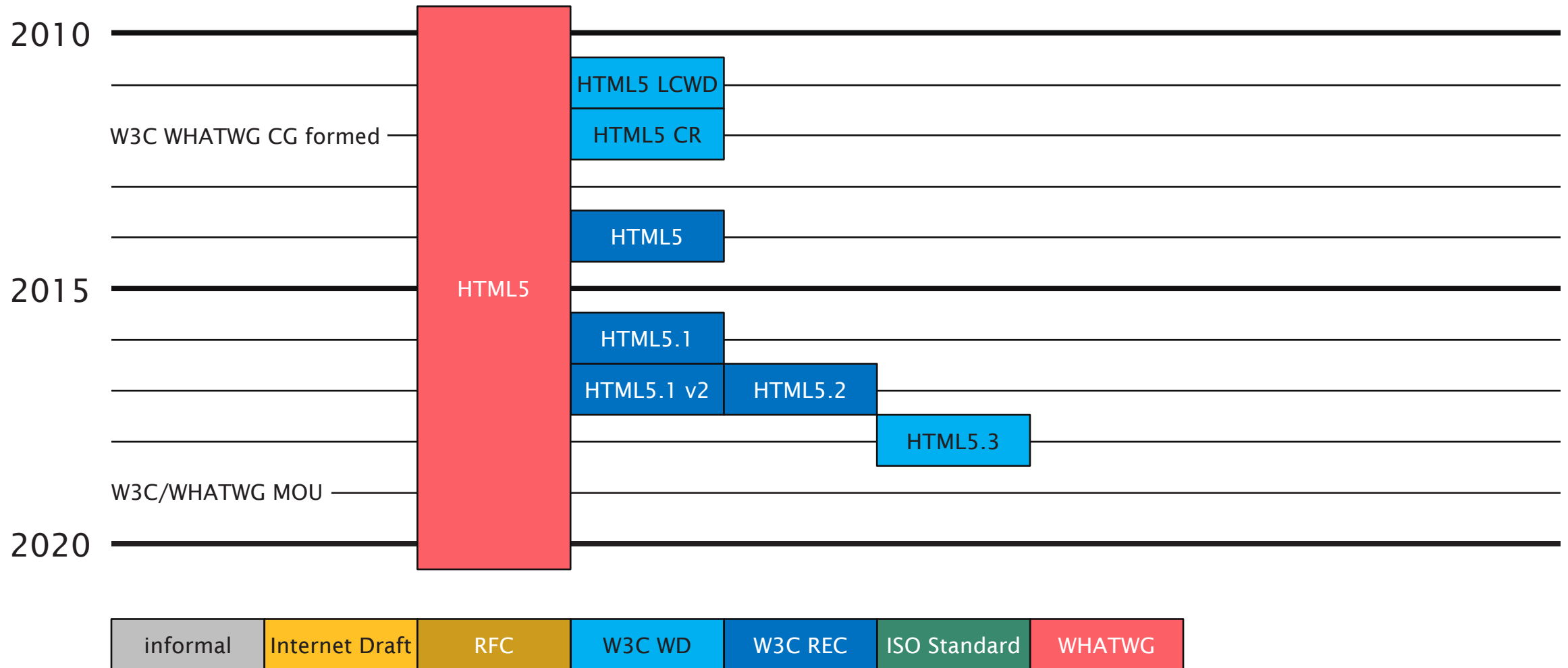
Further Reading

Internet Engineering Task Force (IETF)
> http://www.ietf.org/

The Tao of IETF
> http://www.ietf.org/tao.html

World Wide Web Consortium (W3C)
> http://www.w3.org/

W3C Consortium Process Document
> https://www.w3.org/Consortium/Process/

Memorandum of Understanding Between W3C and WHATWG
> https://www.w3.org/2019/04/WHATWG-W3C-MOU.html

A History of HTML (1998). From *Raggett on HTML 4*
> http://www.w3.org/People/Raggett/book4/ch02.html

Next Lecture: Cascading Stylesheets