Adaptive HTTP Streaming Standardization

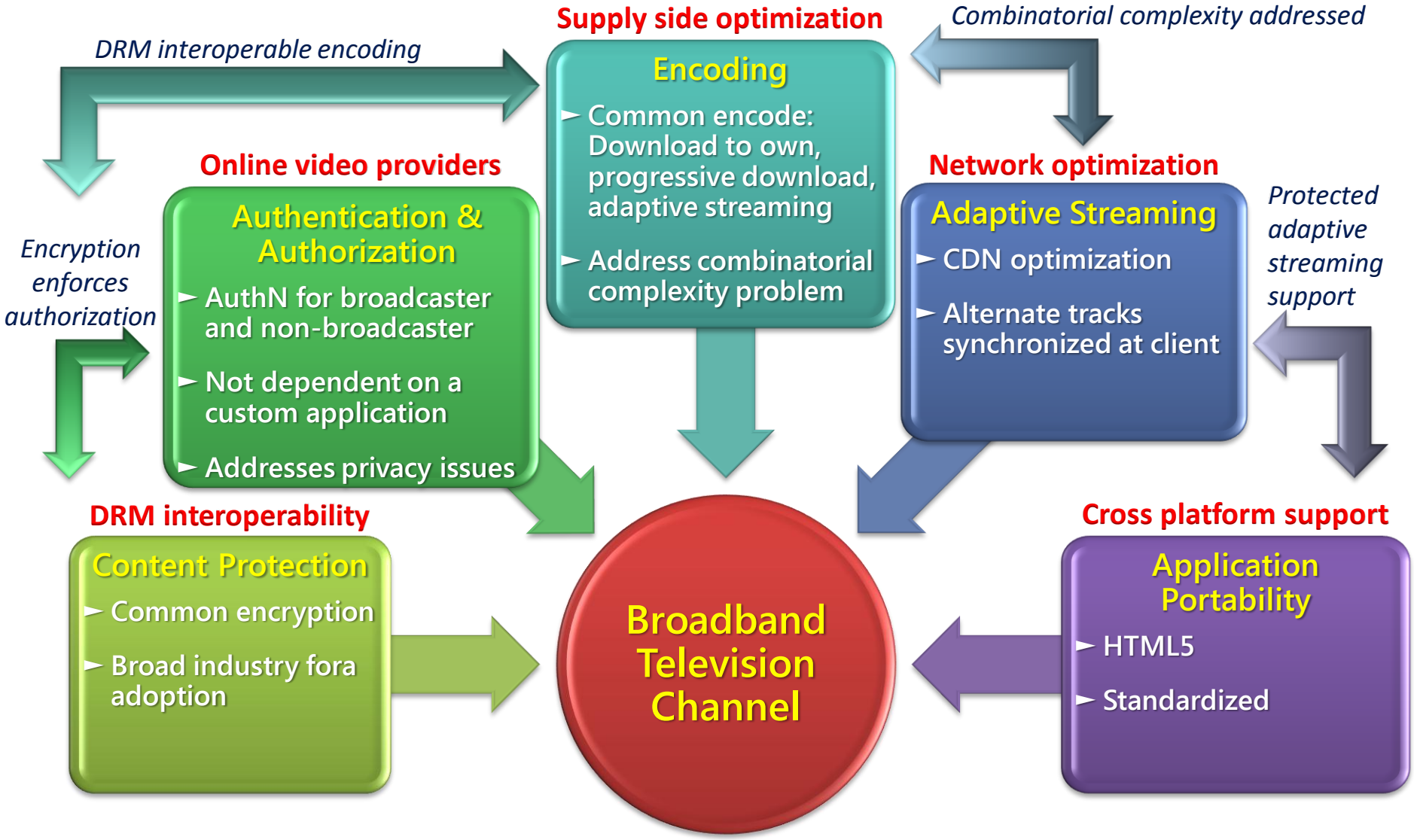
The role of adaptive streaming standardization activities in defining broadband television standards

W3C Web and TV Workshop

8 February, 2011

John Simmons
Media Platform Architect
Microsoft

Broadband Television Standard Elements



Encoding & Adaptive Streaming Standardization

HTTP Live Streaming (HLS)

Publish

IETF TOOLS

First Informational Draft
May 2009

IIS Smooth Streaming

Microsoft

Publish
Under Community Promise (royalty free)

Smooth Streaming Transport Protocol
Protected Interoperable File Format
Sept 2009

Microsoft Interoperability

Contribute

Digital Entertainment Content Ecosystem

Liaison relationship

IPF OPEN IPTV FORUM

Publish

HTTP Adaptive Streaming (HAS)
Sept 2010

Adaptive HTTP Streaming (AHS)
March 2010

Publish

3GPP A GLOBAL INITIATIVE

Liaison relationship

ISO International Organization for Standardization

Liaison relationship

Liaison relationship

UV NA

Publish

Liaison relationship

MPEG - ISO/IEC JTC1/SC29 WG11

Publish

Dynamic Adaptive Streaming over HTTP (DASH)
Draft International Standard – February 2011

Common File Format
Estimated. Q1 2011

14496-12 ISO Base Media File Format
Draft Amendment - February 2011

Microsoft & MPEG DASH Licensing

- For conformant implementations of the final MPEG DASH specification, Microsoft plans to make its necessary patent claims available under the MPEG patent policy's royalty-free RAND licensing option.
- Any patent licensing commitment to MPEG DASH implementations will not interfere with or change the terms of any other licensing programs.

Adaptive HTTP Streaming Standardization

Adaptive streaming standardization activities and their importance to broadband television

THANK YOU

Digital Rights Management Standardization

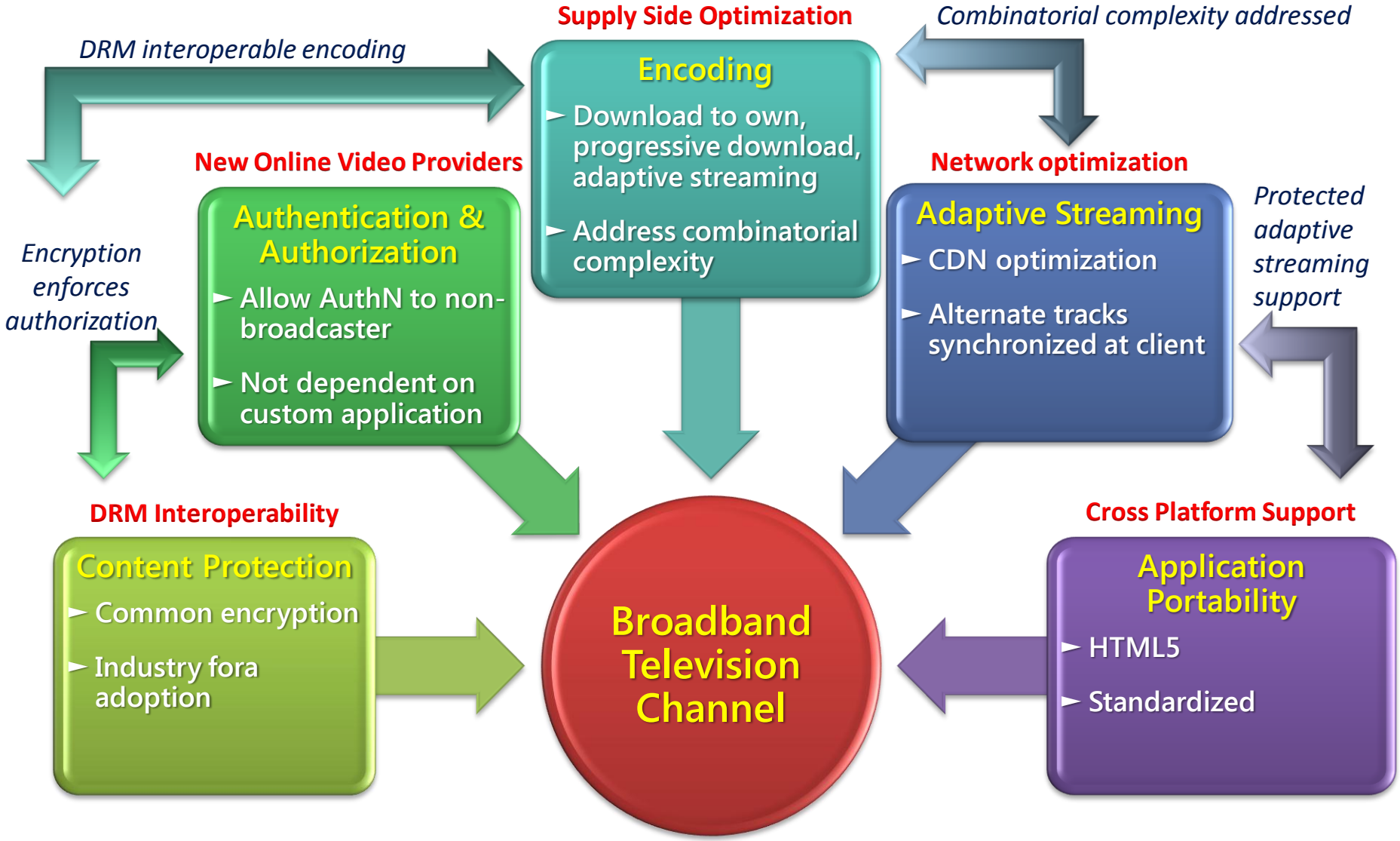
The role of DRM interoperability schemes in defining broadband television standards

W3C Web and TV Workshop

8 February, 2011

John Simmons
Media Platform Architect
Microsoft

Broadband Television Standard Elements

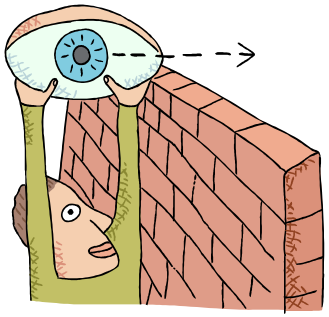


Digital Rights Management Standards

The problem space

- Non-interoperable ecosystems
- Encoding inefficiencies
- DRM-free not an option for high value video
- Industry will not settle on a single DRM

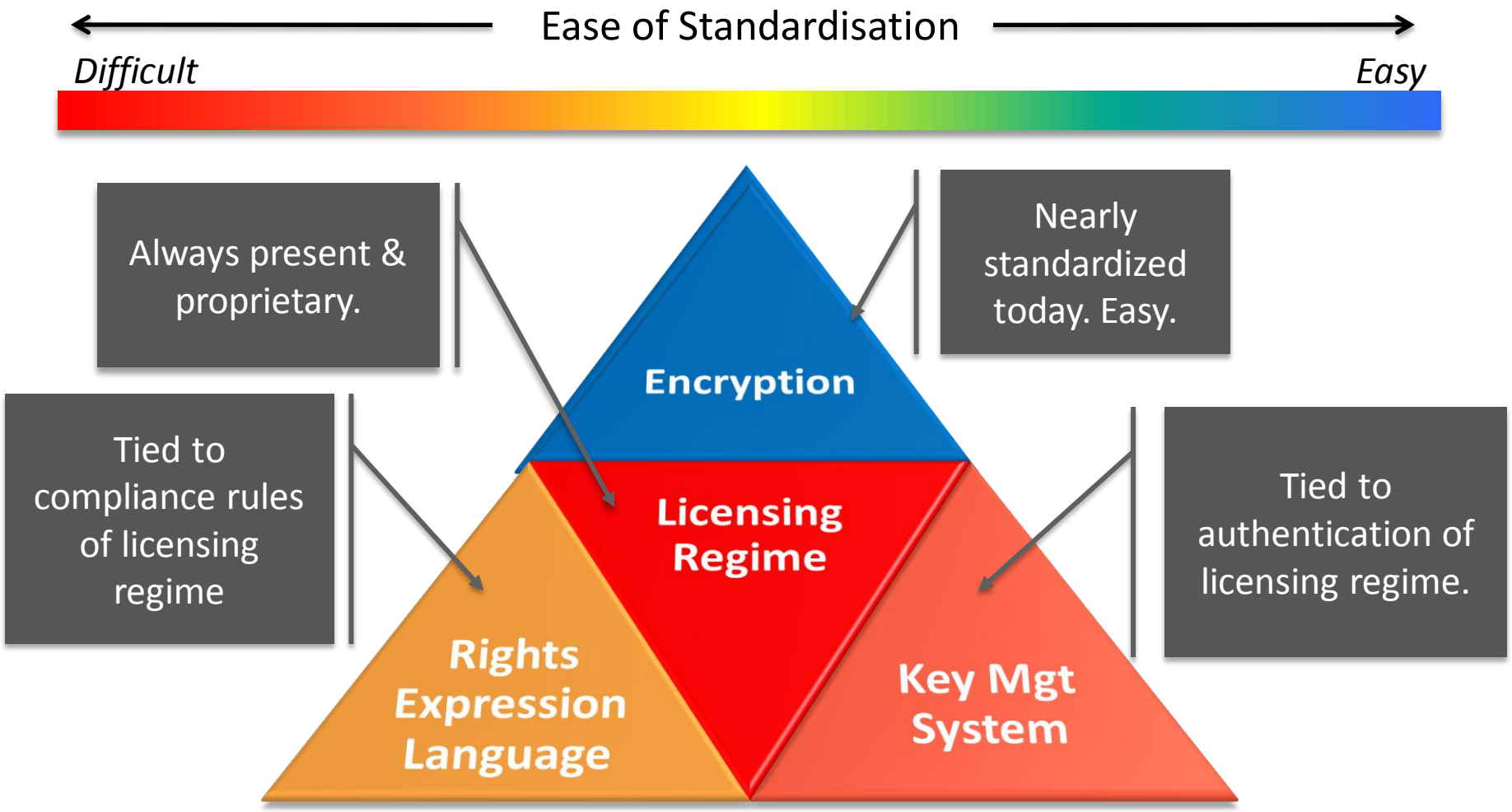
Solution attributes



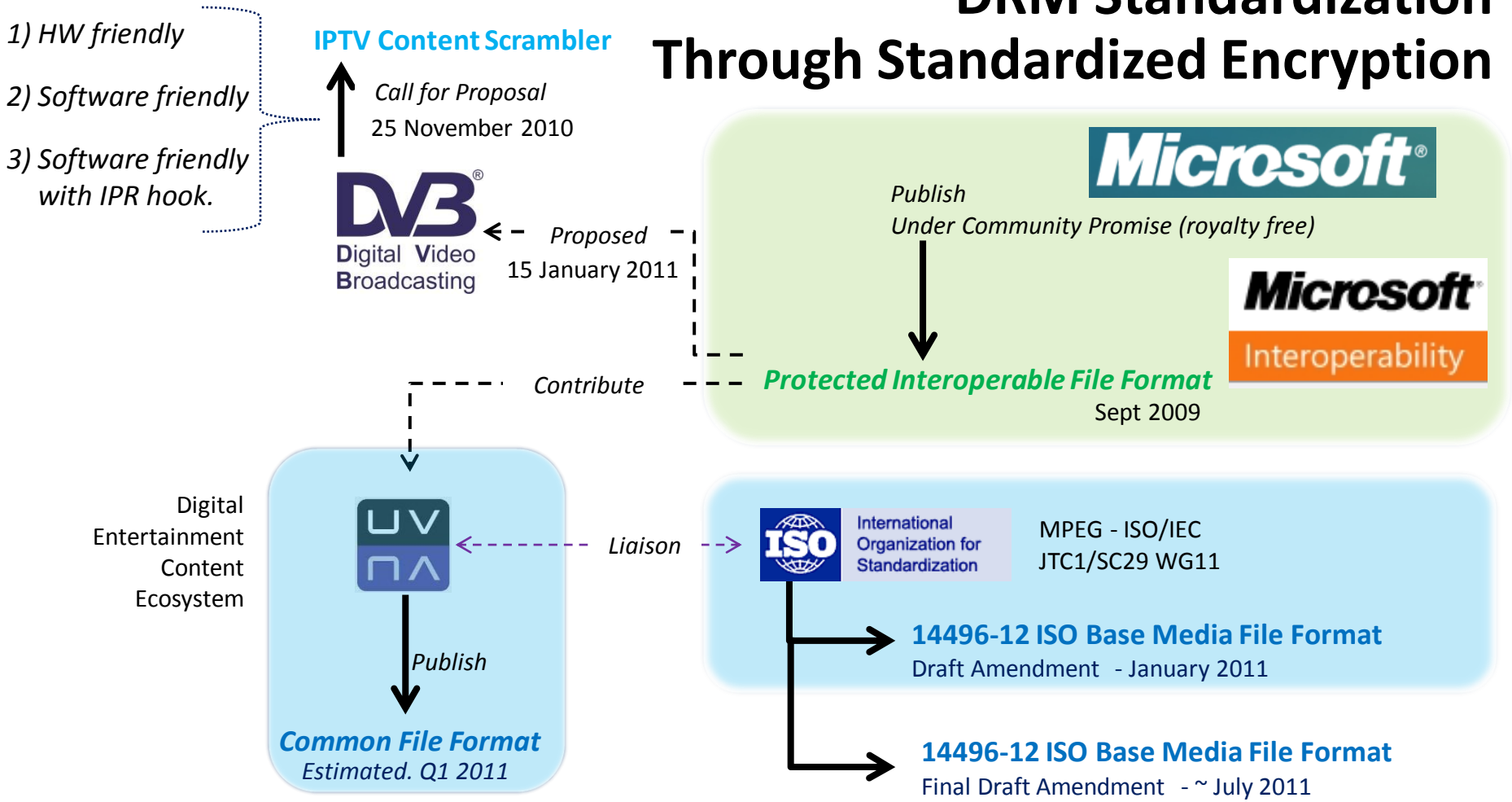
- Protected adaptive bitrate streaming
- DRM interoperability
- Common three- (multi-) screen support

Why is DRM Standardization so Difficult?

Implementations are always proprietary, so how to make interoperable?



DRM Standardization Through Standardized Encryption



- A standard encryption algorithm is the best way to achieve DRM-interoperability. This leaves the business decision of the DRM technology to use outside the standard.
- For broadband television, this standard needs to be compatible with an adaptive streaming standard.

Digital Rights Management Standardization

DRM interoperability and its importance to broadband television

THANK YOU