

# Microsoft PlayReady



# Microsoft PlayReady

PlayReady Overview for  
DSTAC

September 11<sup>th</sup>, 2015

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Microsoft



# Agenda

1 Media and PlayReady

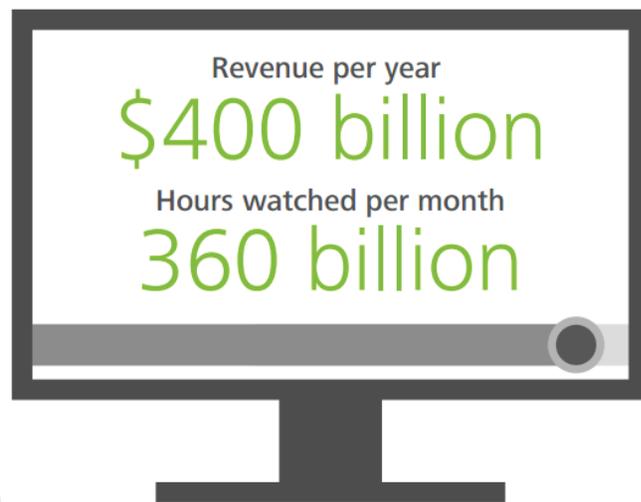
2 PlayReady Product Suite

3 PlayReady Governance

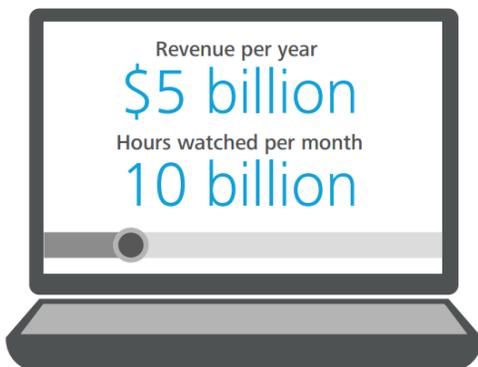
4 Ecosystem Foundations

# Media and PlayReady

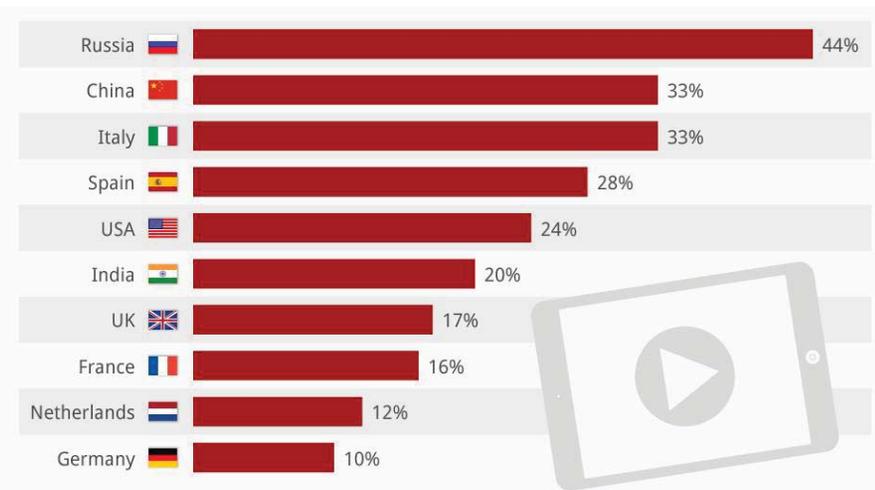
# Worldwide move to video is occurring



Source: Deloitte 2015



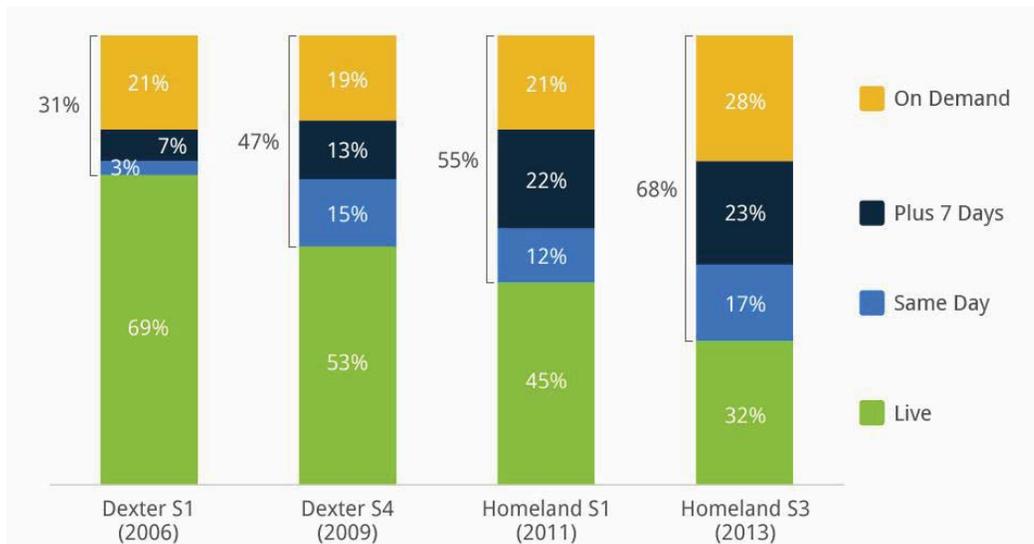
## % of internet users watching online videos every day



Source: Statista 2015

# We're in a major historical shift

## TV Watching Has Evolved over the past 8 years



Source: Statista 7/14

## Media is consumed on various devices

Web and broadcast media will become relatively **indistinguishable to consumers.**



Mobile-connected devices will exceed the number of people on earth, and by 2017 there will be nearly **1.4 mobile devices per capita.**

source: Cisco VNI

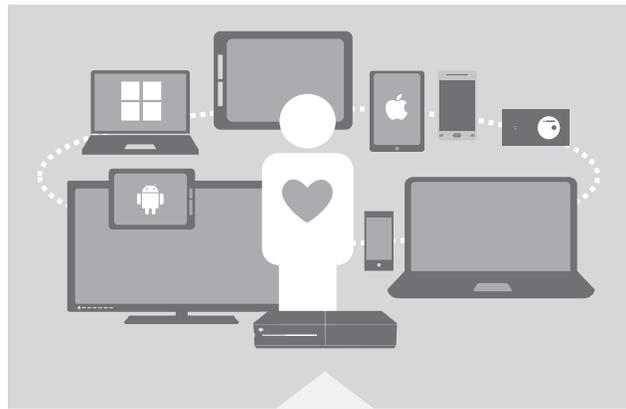


# Media is complex



## Content Owners

Require the highest level of robustness and reliability



## Customers

Want their content on their devices, at their convenience



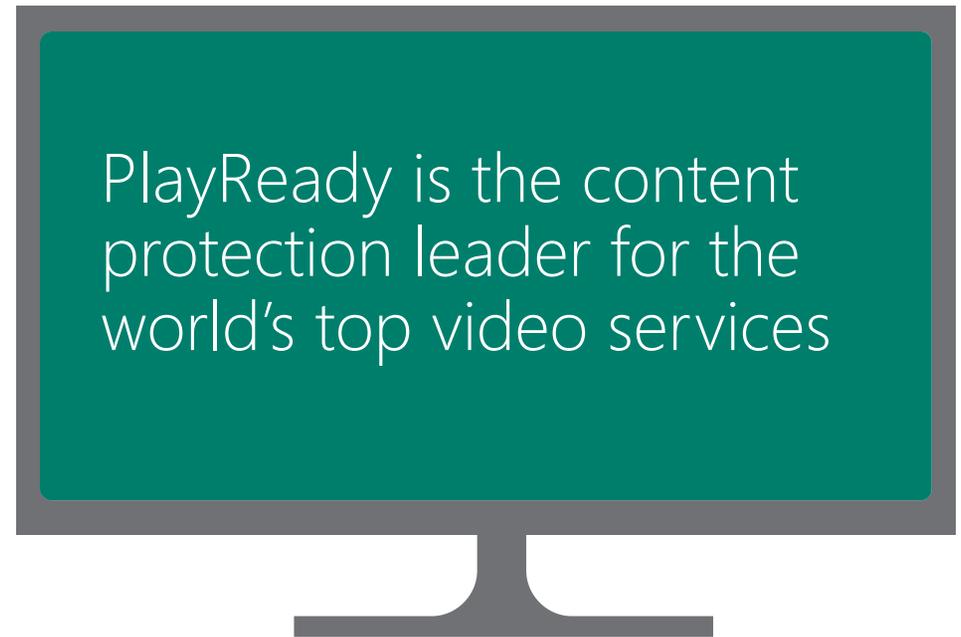
## Infrastructure

Must deliver quality experience through a scalable, interoperable ecosystem

Microsoft

# PlayReady

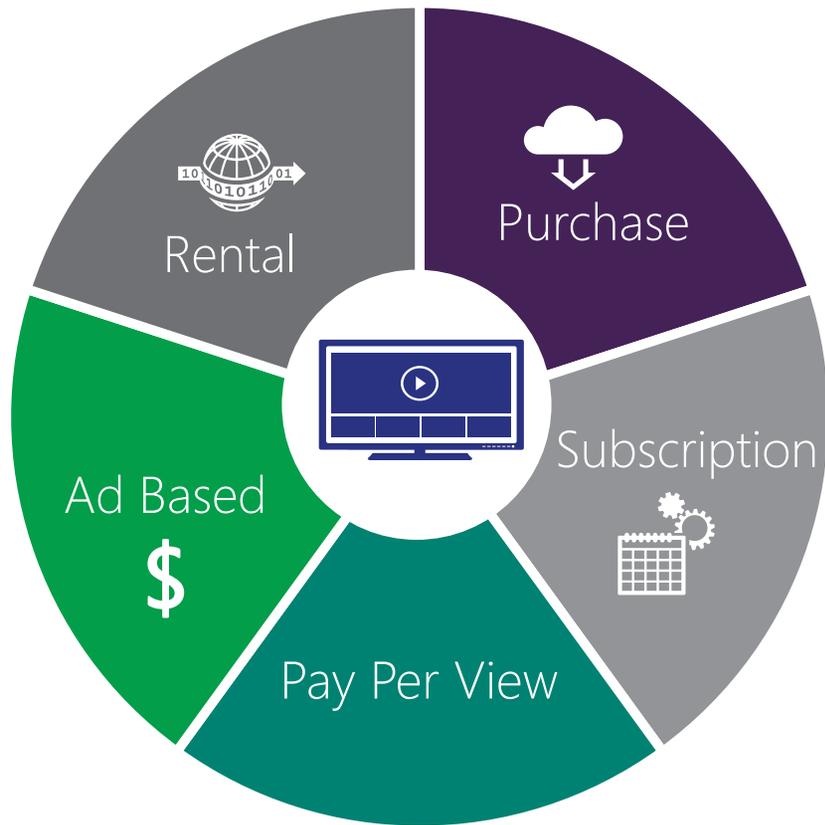
Digital media is the customer scenario for the application of technology across **devices**, screens and powered by the **cloud**.



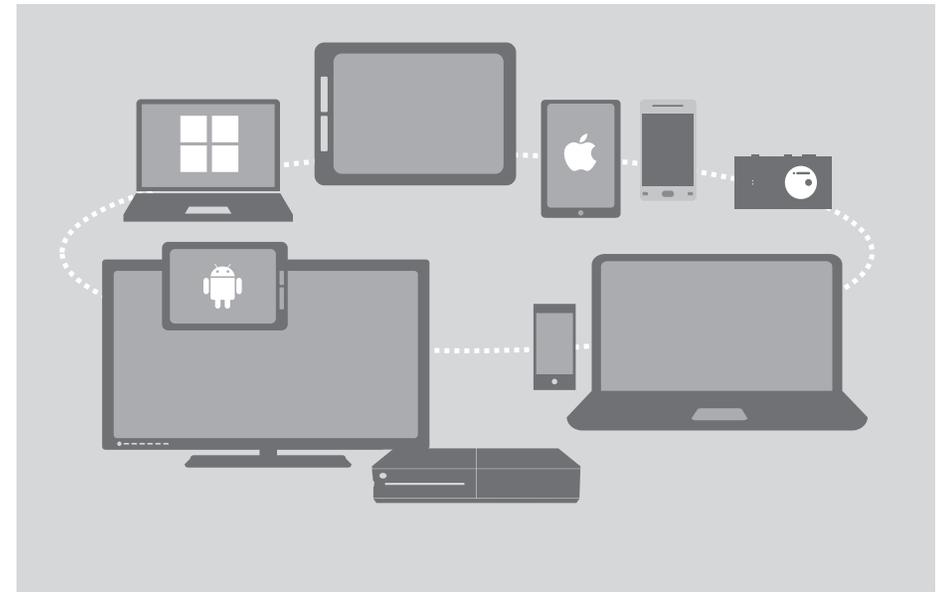
Top service brands **trust PlayReady**

# PlayReady Business Scenarios

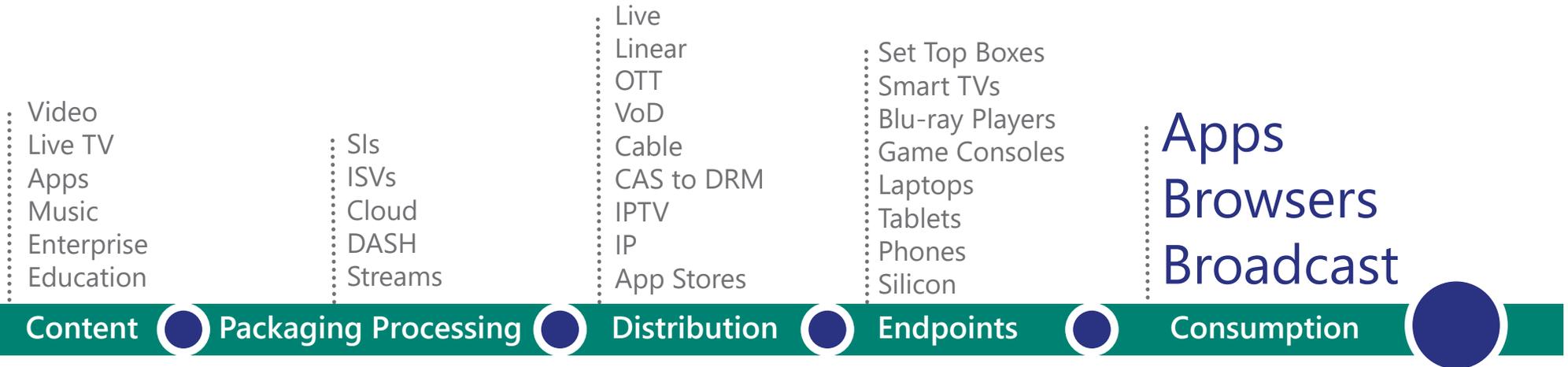
supports a variety of business models



on a variety of devices



PlayReady enables the ecosystem end to end



REACH

# PlayReady Scenarios

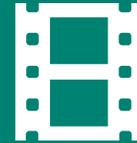
## Live TV



Monetize Live TV content OTT

Key Rotation  
Blackout Signaling  
Ad insertion

## Video on Demand (VoD)



Easy to deploy, pervasive device support

Output protection enforcement and flexible export mechanisms for Miracast, MHL, Airplay, etc.

## ND streaming



Cost-effective solution for in-home distribution across all end-points

Best end-user streaming experience

# PlayReady Product Suite

# PlayReady Product Suite

PlayReady Server

PlayReady Server SDK



PlayReady License Server



PR Domain Controller



PR Metering Server



PlayReady Clients

PlayReady Device Porting Kit

Includes PlayReady ND



PlayReady Android and iOS SDKs



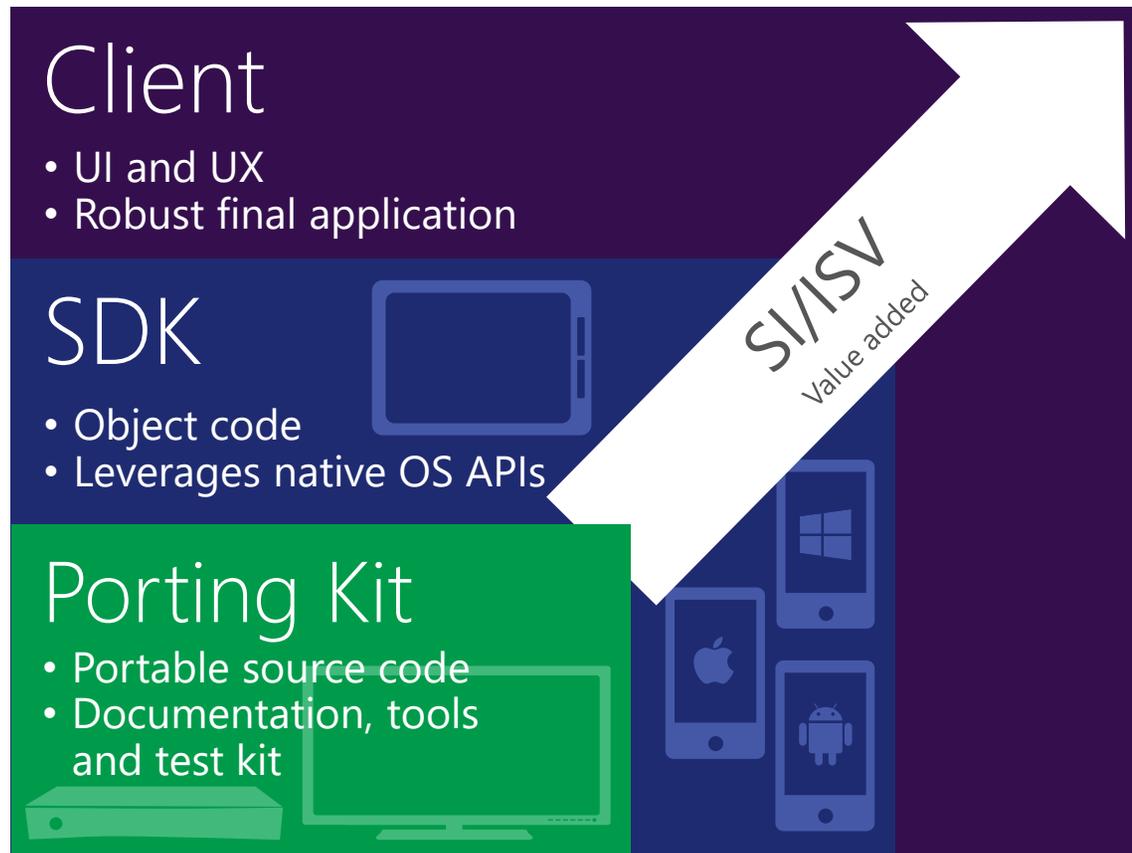
EME and Silverlight for Mac, Windows



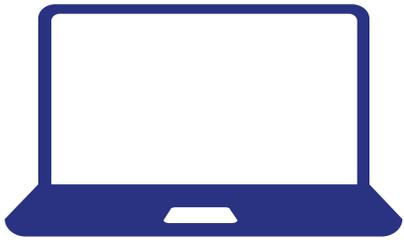
PlayReady SDK for Windows and Xbox



# PlayReady Client Options



# PlayReady on Microsoft Platforms



Windows XP,  
Vista and 7



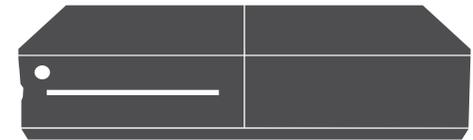
Windows 8.1

Supported on  
applications and in  
IE11 via EME/MSE



Windows  
Phone

Supported on  
applications



Xbox

Xbox360, Xbox One  
Supported on  
applications

Coming soon on Windows 10.....

# PlayReady Client SDKs for Android and iOS



Designed to create  
Android apps

## Dev tools

- Android SDK + Eclipse IDE
- Sample player application provided

## PlayReady SDK features

- Supports Android 4+, 5
- Live TV, including Key rotation, blackouts & ad insertion
- ND-Receiver functionality



Designed to create  
iOS apps

## Dev tools

- OSX 10.7 (Lion) +
- Xcode 4.5.2 +
- Sample player application provided

## PlayReady SDK features

- Supports iOS 6.0 +
- Support for HLS on iOS (VoD & Live)
- Live TV, including Key rotation, blackouts & ad insertion
- ND-Receiver functionality

# PlayReady Porting Kit

- Enables 3<sup>rd</sup> parties to port PlayReady stack on a variety of devices
- Standard C, compiler agnostic
- Scenario based
  - No general purpose methods
  - Fine grain modularization
- Used by dozens of companies to creates PlayReady implementations across device categories

# PlayReady Releases

## Live TV

PlayReady 2.0  
Premium Live TV

Premium TV content and policies such as frequent key rotation & blackout

OTT distribution for mobile and tablets

Scalable Licenses

## ND

PlayReady 2.5  
ND Streaming

In-home streaming via ND

- For CAS to DRM
- For OTT to mobile devices in home

## Client SDKs

PlayReady Client SDKs for Android & iOS

Supports MPEG-Dash & Smooth Streaming

Recent Updates:  
HLS on iOS– VOD & Live  
Arm64 on iOS  
Support for Android 4.4+ and 5

## Modern Web

Supporting HTML based app platforms

WinRT JavaScript Apps for Windows and Xbox One

PlayReady via EME supported in-browser via new Media Foundation APIs

## PK 3.0

Enhanced Content Protection

Very Soon

PlayReady Server SDK 2.9 for .NET 4.0

Android & iOS Client SDKs v1.0(Smooth Streaming & DASH)

PlayReady Server SDK for ECP

# PlayReady Governance

# PlayReady Trust Management



**Compliance and  
Robustness Rules**



**Breach  
Management**



**Certificate Chains  
and Revocation**

Ensure secure implementations across the ecosystem

# Compliance and robustness rules

## Compliance rules

### **Specify the required behavior of implementations**

Describe how content may be accessed and passed using specific rights and restrictions

## Robustness rules

### **Ensure that implementations are designed to sufficiently protect content**

Specify different requirements to protect each asset type at each security level



<http://www.microsoft.com/PlayReady/licensing/compliance/>

# What is a breach

## **Breach (brēch) *n.***

A breach is a circumvention or non-compliant implementation of a Microsoft content protection technology that puts content at risk by allowing users to bypass restrictions on content usage, or strip protection entirely.



In other words, not all non-compliance events are classified as “breaches”. The key measure is the extent to which content is at risk.

# Microsoft breach response – best of breed

## Commitment to breach response

A decade of diligence and experience

Dedicated full-time resources

Contractual obligations to the industry

Application conformance test program

Continuous monitoring and investigation

## Proven track record

Continuously increasing platform robustness

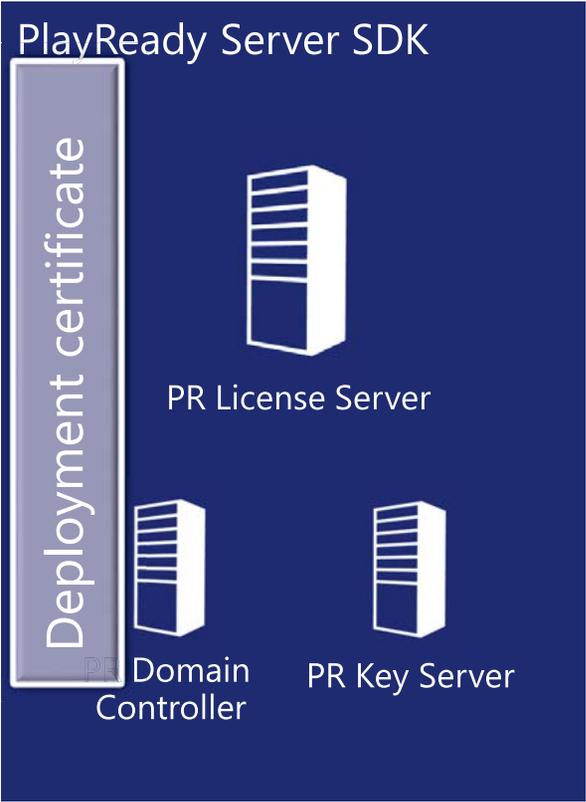
Effective discovery, containment and communication

Significant reduction in circumventions

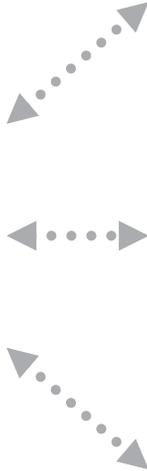
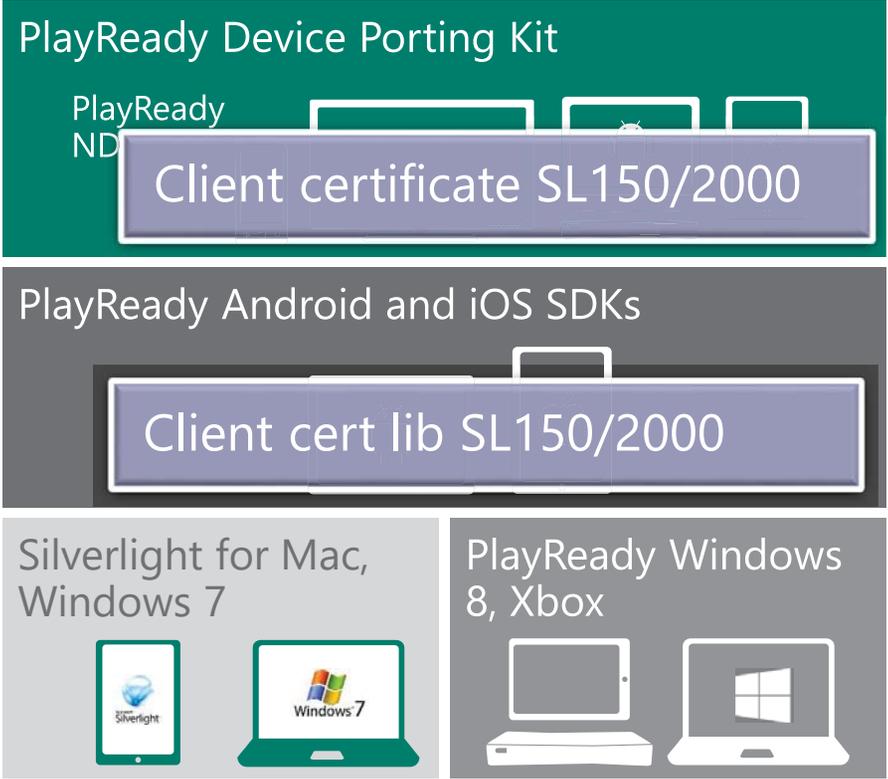


# Certificates for PlayReady Products

## PlayReady Server



## PlayReady Clients



# Ecosystem Foundations

# Business Trends

## Today

SW based security  
Application Model  
VOD  
Managed Network  
On premises  
HLS/SS



## Next

HW based security  
HTML5 Model  
VOD + Live  
OTT  
Cloud  
DASH

# Microsoft is Driving Industry Standards

**Microsoft believes media growth will occur only when there is an open, interoperable ecosystem.**

# Microsoft's Role in An Open, Interoperable Ecosystem

## Core Standards

Microsoft has made significant contributions to core spec standards

MPEG-DASH  
Common encryption  
ISO Based Media File Format  
W3C HTML5 MSE/EME

## Consortia Adoption

Microsoft is driving adoption and alignment through consortia

DASH IF  
Ultra Violet (DECE)  
HD-Forum            DLNA  
HbbTV                DVB  
Digital TV Group    ATSC

## Building Ecosystems

Microsoft is working with partners on an interoperable standards-based ecosystem

Encoding and Ingest  
Analytics and Big Data  
CDNs  
Embedded Devices

# HTML5 app and DASH media frameworks enable interoperable commercial media applications



## What's happening:

Emergence of standards  
HTML5/MSE/EME,  
DASH/CSF/CFF/CENC

Enhanced content (4K)  
requires enhanced content  
protection (ECP)



## What's next:

ECP requirements will raise  
the bar for all commercial  
content

HTML5 apps and DASH will  
enable interoperable media  
distribution



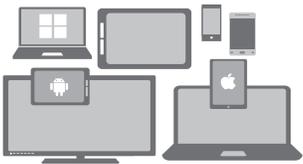
## Solution:

HTML5 + DASH integrating  
DRM support via an open  
interface and fulfilled by  
Common Encryption

# HTML5/MSE/EME

- W3C open standard to play protected content inside a browser without plugin
- MSE supports various formats most notably Dash.js
  - <https://w3c.github.io/media-source/>
  - <https://github.com/Dash-Industry-Forum/dash.js/>
- Released for Windows 8.1
  - <http://ie.microsoft.com/testdrive/HTML5/eme/>
- Snapped to EME draft 2013-05-10.
  - <http://www.w3.org/TR/2013/WD-encrypted-media-20130510/>
- Will update to the latest EME in the near future

# PlayReady is ahead of the evolution:



Moving ahead  
with hardware  
security requirements



PlayReady enables more than just  
content protection, delivers premium  
services across devices and platforms



Pivotal role in standards that  
unlock the potential of digital  
media for everyone



Enabling partners of all sizes to monetize premium content  
across devices and platforms

# PlayReady

Questions?



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