

Microsoft®

Mediaroom™



# Module:

## About Microsoft and the Digital Lifestyle

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**Microsoft®**

# Enabling A Digital Lifestyle



# Microsoft Enables the Digital Lifestyle

High Definition Experiences  
Gaming  
Movies and television  
Digital entertainment anywhere



Always Connected  
Sharing and publishing  
Family calendars and scheduling  
Powerful portable devices

# The Digital Work and Lifestyle Is Supported By A Rich Ecosystem Of Software, Services, Partners, and Technologies



Music

Memories

TV & Movies

Games

Education

Productivity Communication

## Platforms



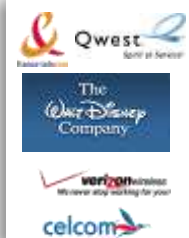
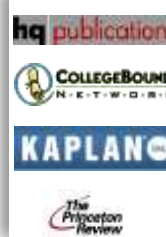
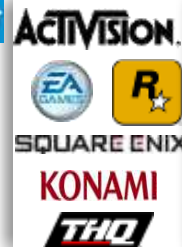
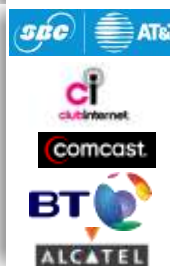
## Software



## Services



## Partners



## Technologies

Windows Media Technologies  
(Windows Media Connect, Media Center  
Extender, MTP, Windows Media Codec's, DRM)

Game  
Services

Application, File, and  
Transfer Protocol Standards  
(APIs, Office Formats, Web  
Standards, Active Sync)

Connected  
Services  
Framework



# The Value Of Connected Services



# Key Developments



Performance  
of “Wintel”  
hardware



Wireless,  
Portable,  
Tablet, Phone



Service  
Oriented  
Architecture



Digital  
Lifestyle



Digitization  
of the  
Economy



Software  
Breakthroughs

# Microsoft Assets

Multimedia/DRM

Dynamic Systems Initiative

XML/Web Services

Vision


Translation

Mapping

Technologies

Machine learning

Speech/Ink

 **Windows Mobile**

 **Windows**

 **XBOX**

Microsoft  
**Mediaroom**



 **Microsoft  
Dynamics**

 **Microsoft  
Office**

Products

 **Microsoft  
Visual Studio**

**msn**

**Microsoft  
SQL Server**

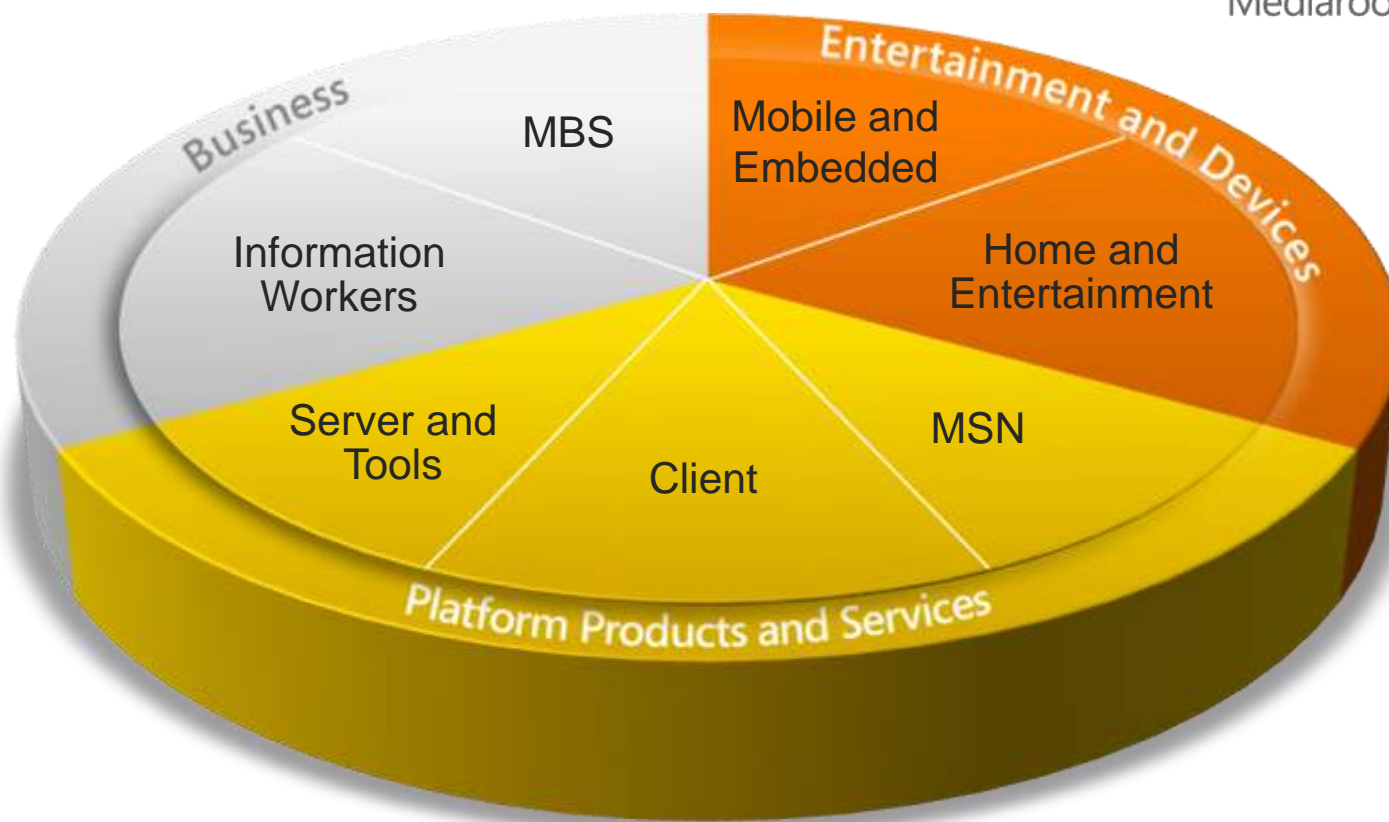


# Big Dreams



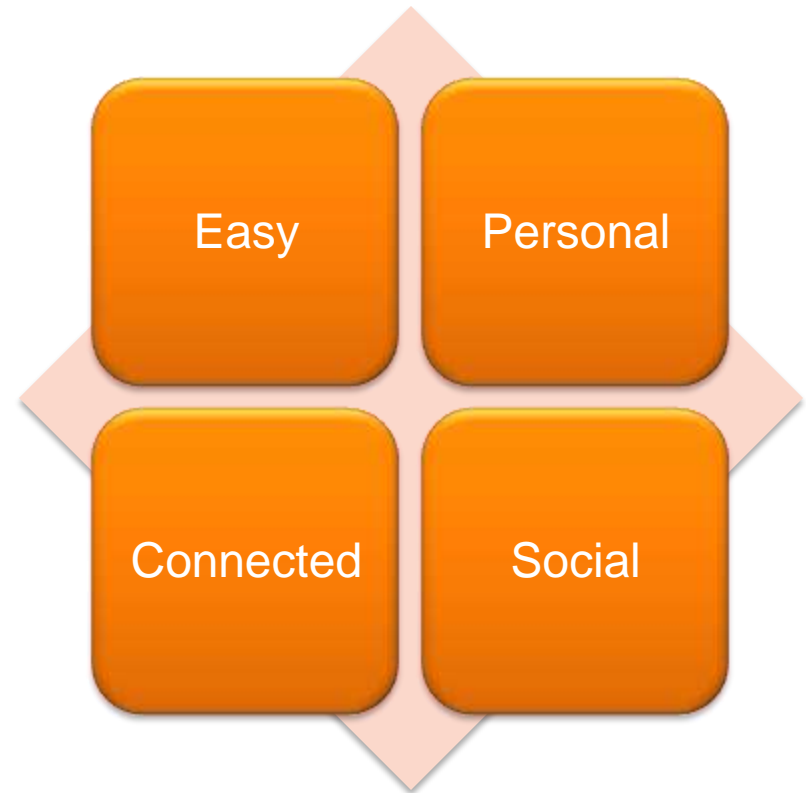


# Multiple Divisions Working Together to Create a Connected Work, Home, and Mobile Experience



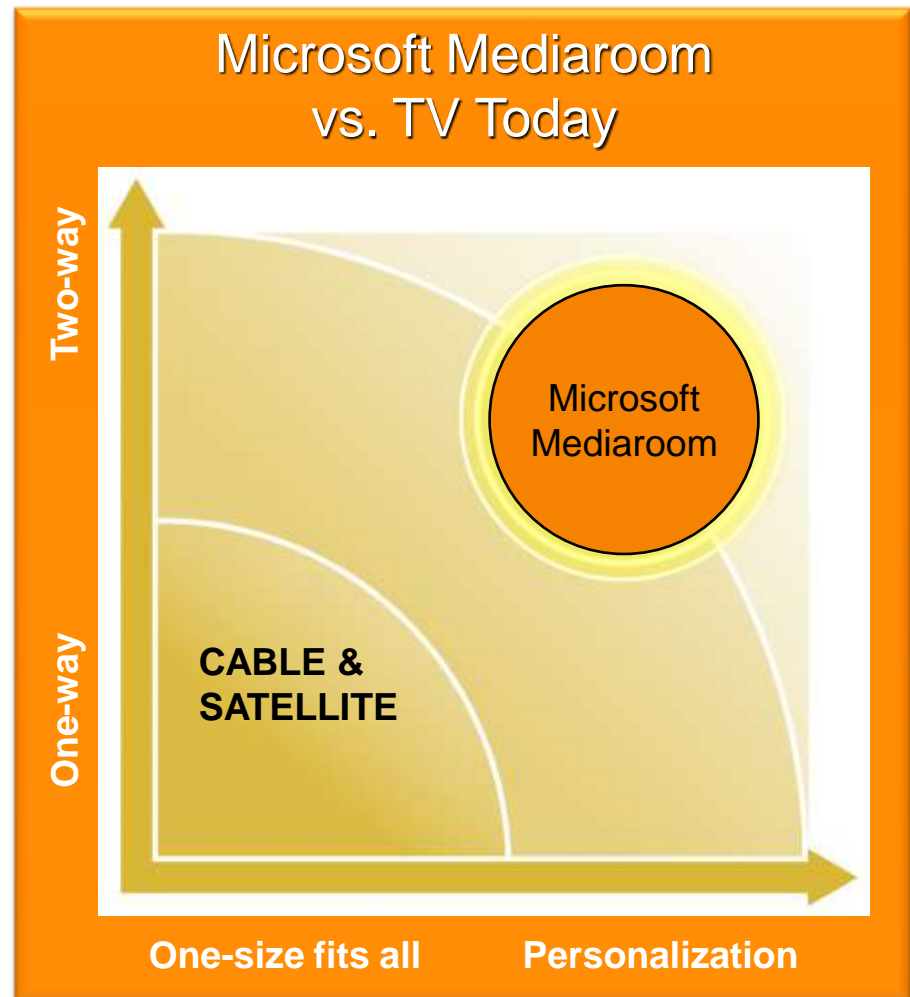
# Microsoft Mediaroom Delivers the Best in TV Plus All Your Media in One Place

- Microsoft Mediaroom is transforming *two* industries at once: entertainment and telecommunications
- TV will change more in next 5 years than first 50 – *it becomes connected and personalized*
- Sit back – or lean forward – and enjoy!



# TV's Potential Today is Limited; ...Tomorrow It Is Unlimited

- Imagine the PC and gaming without the Internet
- TV today is where the PC was in the '80s
- With Mediaroom, TV becomes a full-class citizen in the digital age
- You can take your living room to the world, and everything will change again.



# Television Today and Tomorrow

## Today

Mostly Analog

One-way



Limited Channels

Piecemeal Applications



Limited Search



One Size Fits All

## Tomorrow

All Digital

Connected, Two-way



Unlimited Channels

Integrated (VOD, DVR, HD, PIPs)



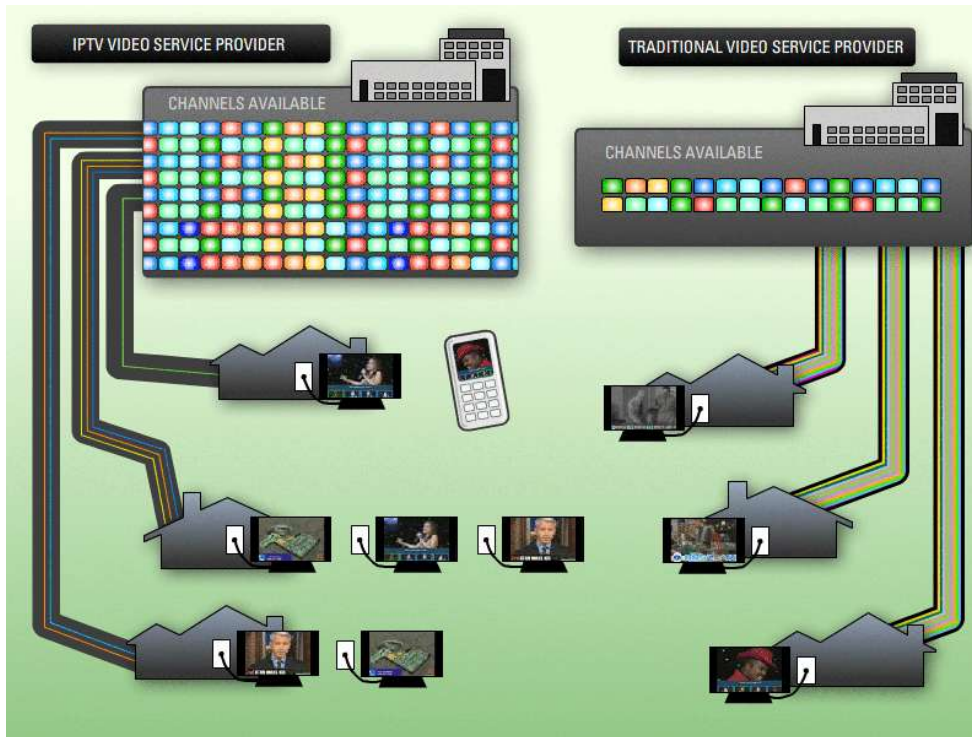
Deep Search, Discovery



Personalized



# Evolving the Future of TV



- Pick from a wider array of channels than a Traditional Service Provider
- No wasted bandwidth and clogged pipes
- Faster two way signals upstream and downstream
- Signals to multiple devices such as TV's, phones and more

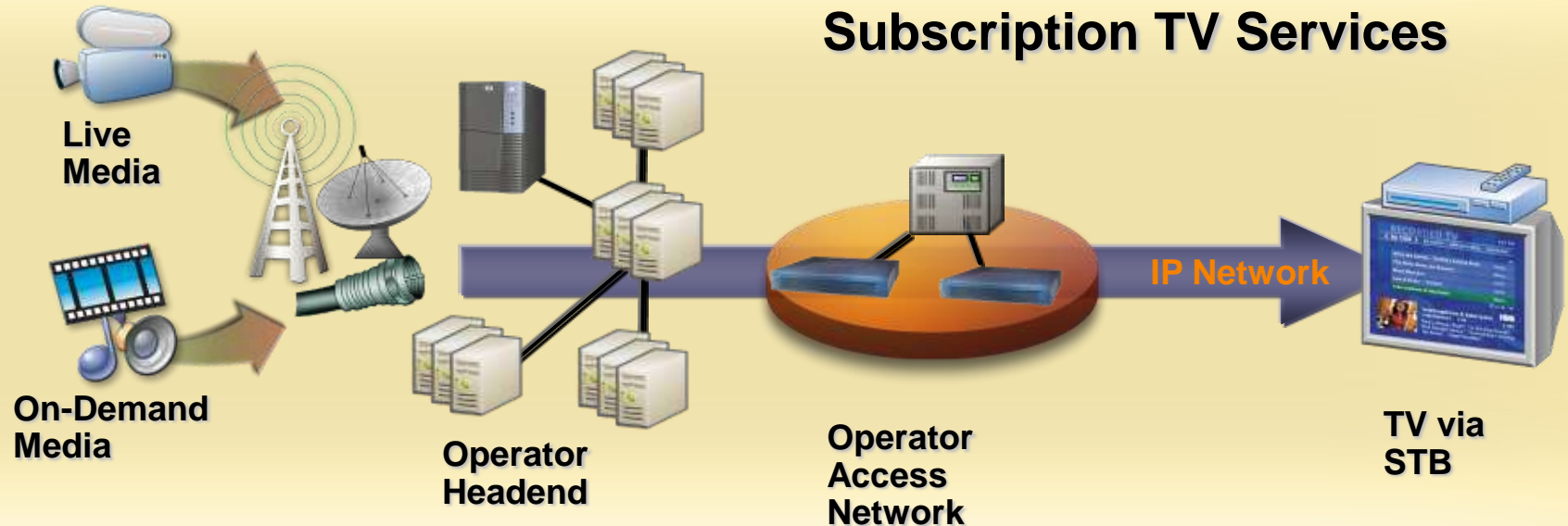
# A Changing Landscape

- Shift in Impression avails from traditional broadcast to On Demand and DVR
- Shift equates to change in the way ads are delivered, targeted and measured
- Requires a dynamic and integrated software platform taking advantage of new technologies, as well as a user experience that can accommodate change

From the 30  
second spot to...

Bumper Ads | Book Ends | Speed Bumps  
Telescoping | Ads in DVT | Search Ads  
Ads in VOD | Microsites | RFI Sponsored Portals  
Targeted Ads | Interactive

# Microsoft Mediaroom - Next Generation Television



- **What Microsoft Mediaroom is not:**
  - Video streaming over the Internet
  - Watching TV on your PC
  - Best-efforts video services
  - Based on unproven business models

- **What Microsoft Mediaroom is:**
  - Competitive TV services over managed IP networks
  - Broadcast television
  - All forms of on-demand
  - Connected entertainment services

# Connected Entertainment



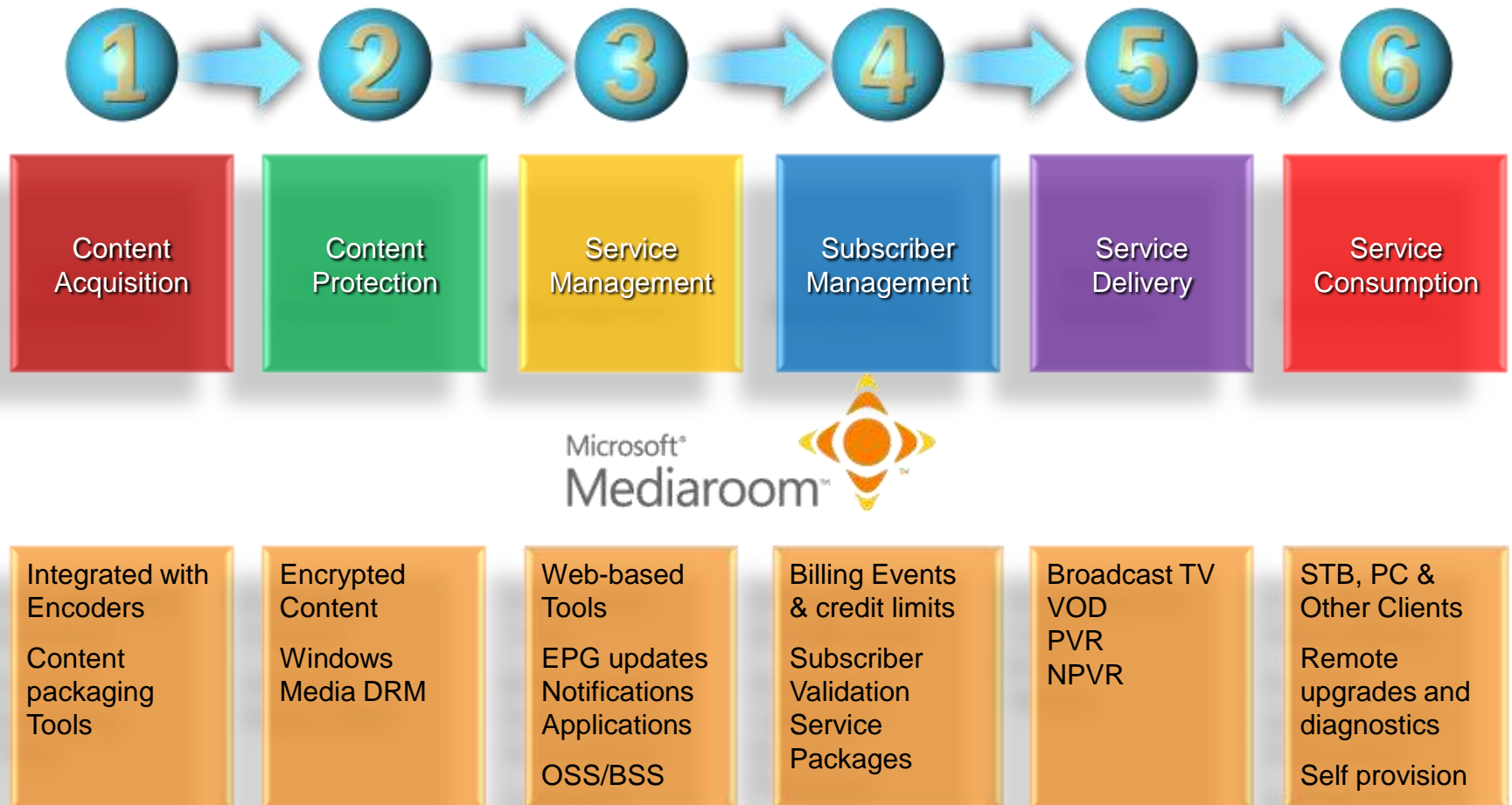




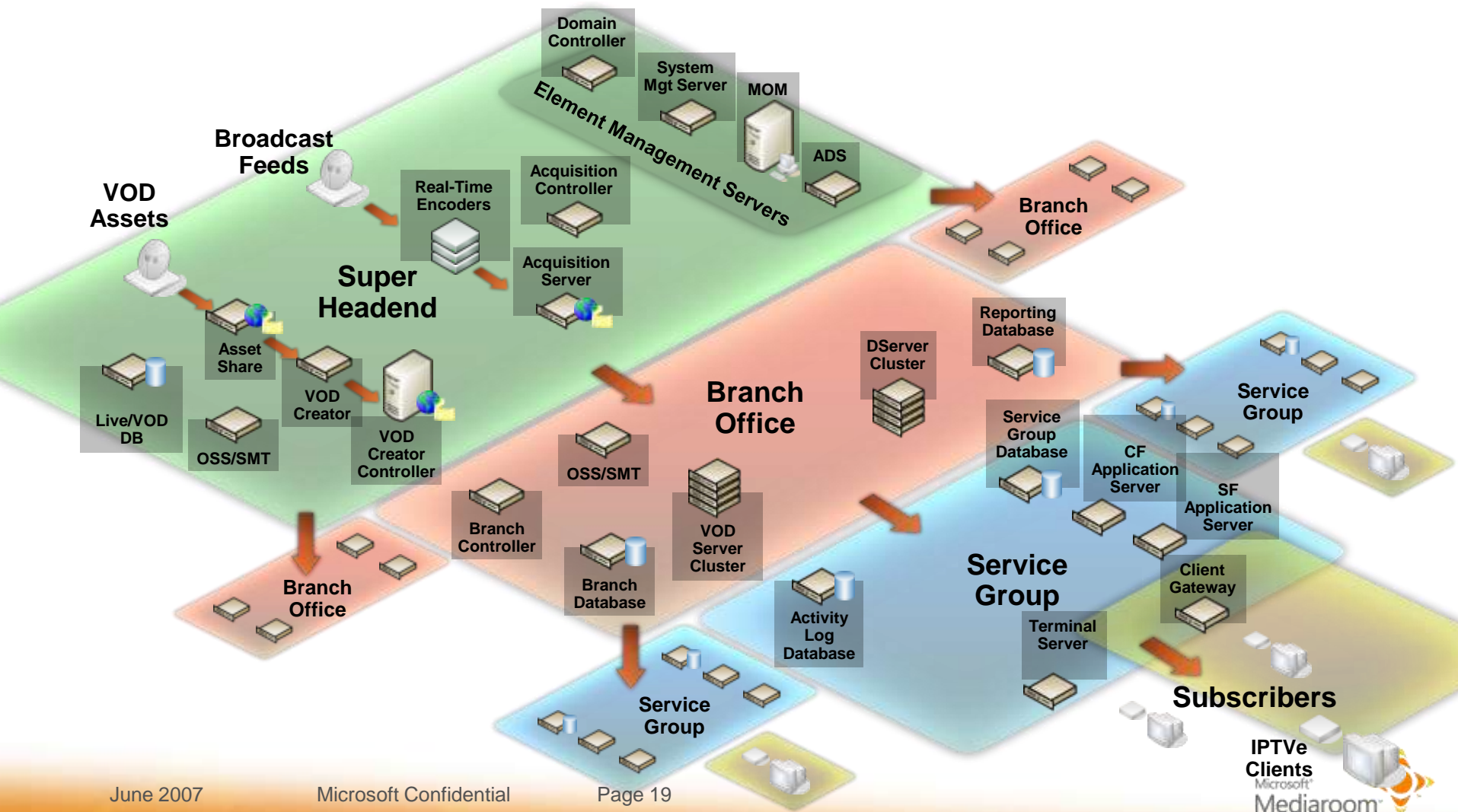
# A Flexible, Scalable Architecture



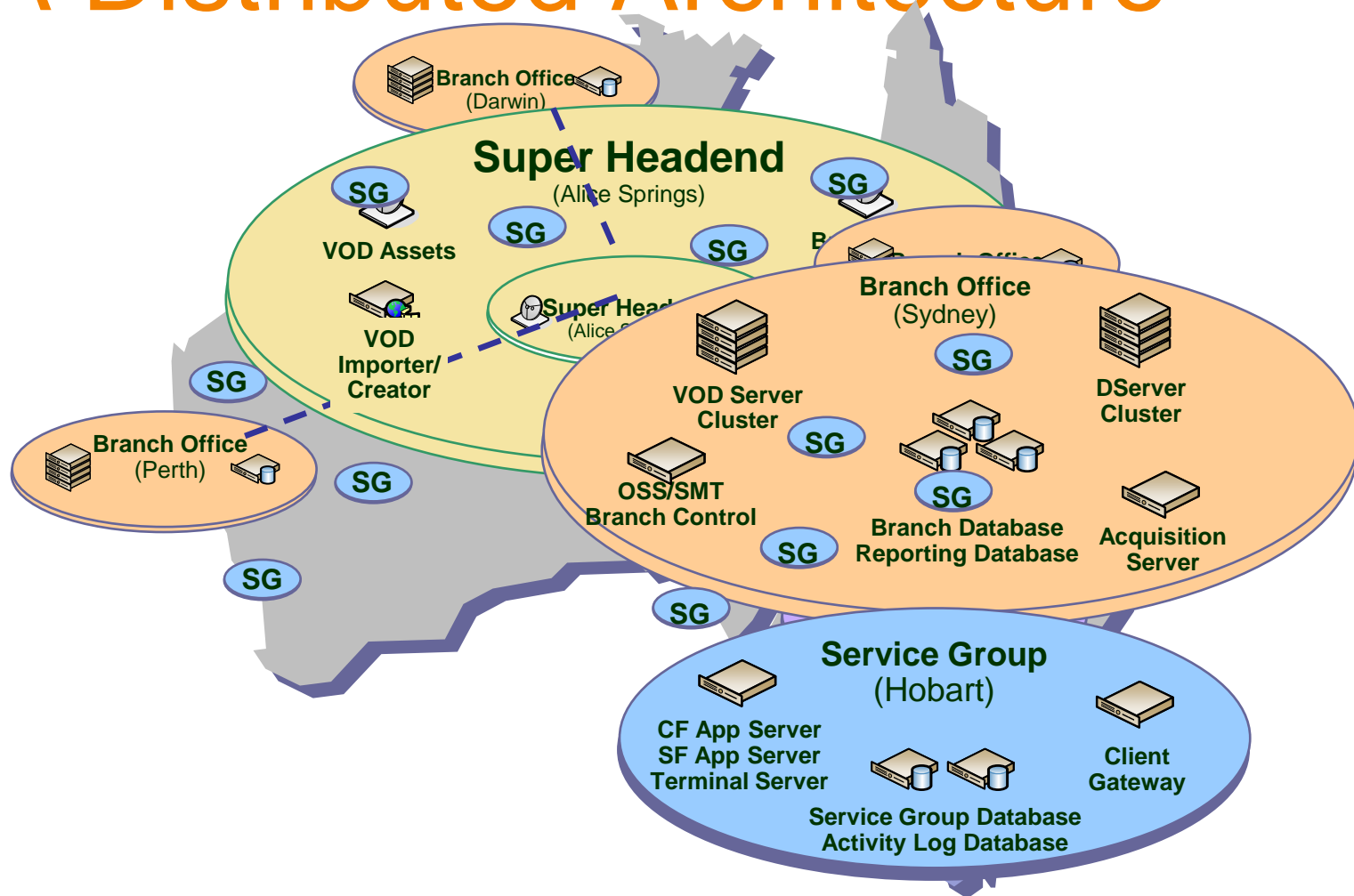
# Microsoft Mediaroom: A Comprehensive Solution



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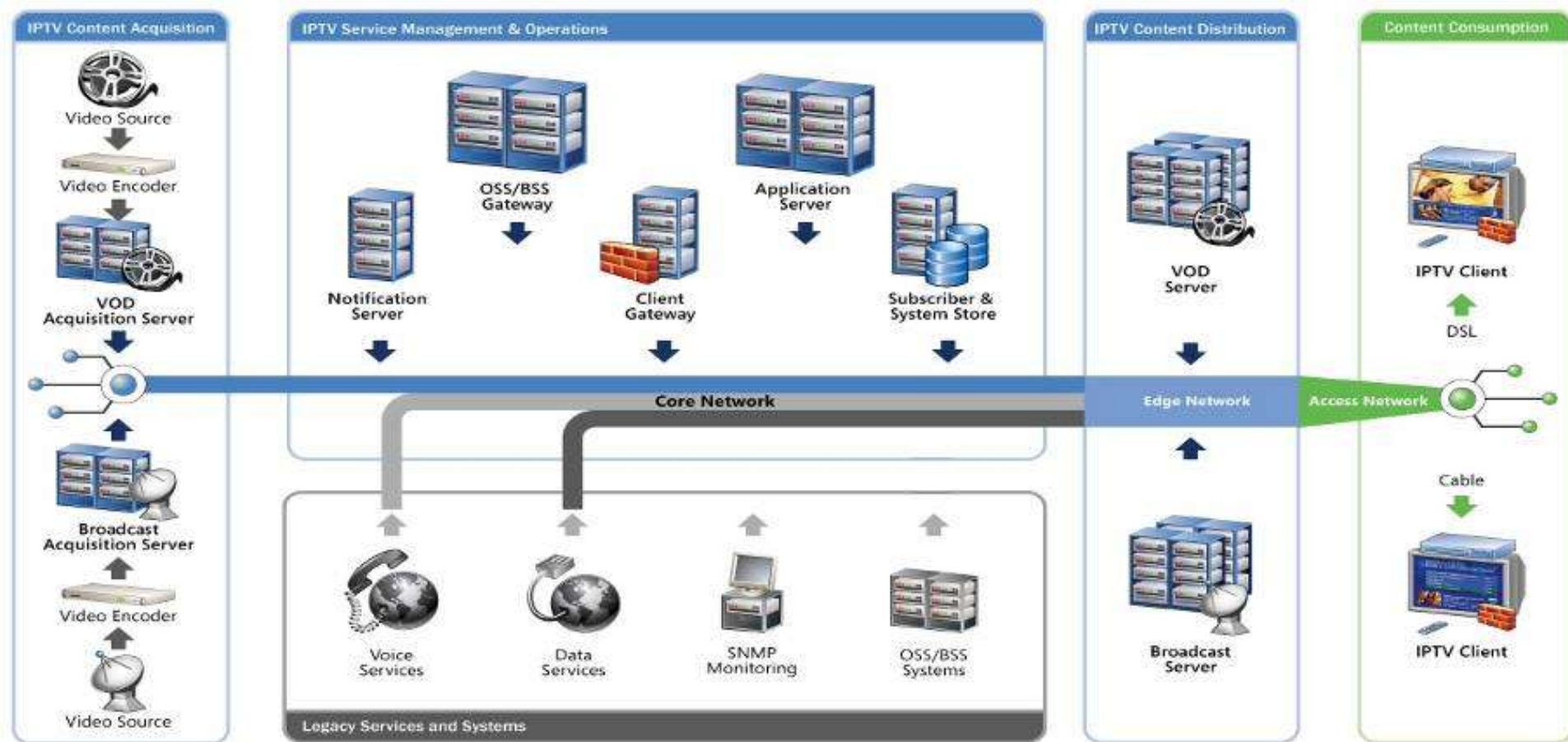


# A Distributed Architecture





# A Comprehensive Platform



**TANDBERG**  
Television

**Harmonic**

**ALCATEL**

**SIGMA**

**ST**  
STMicroelectronics

**THOMSON**

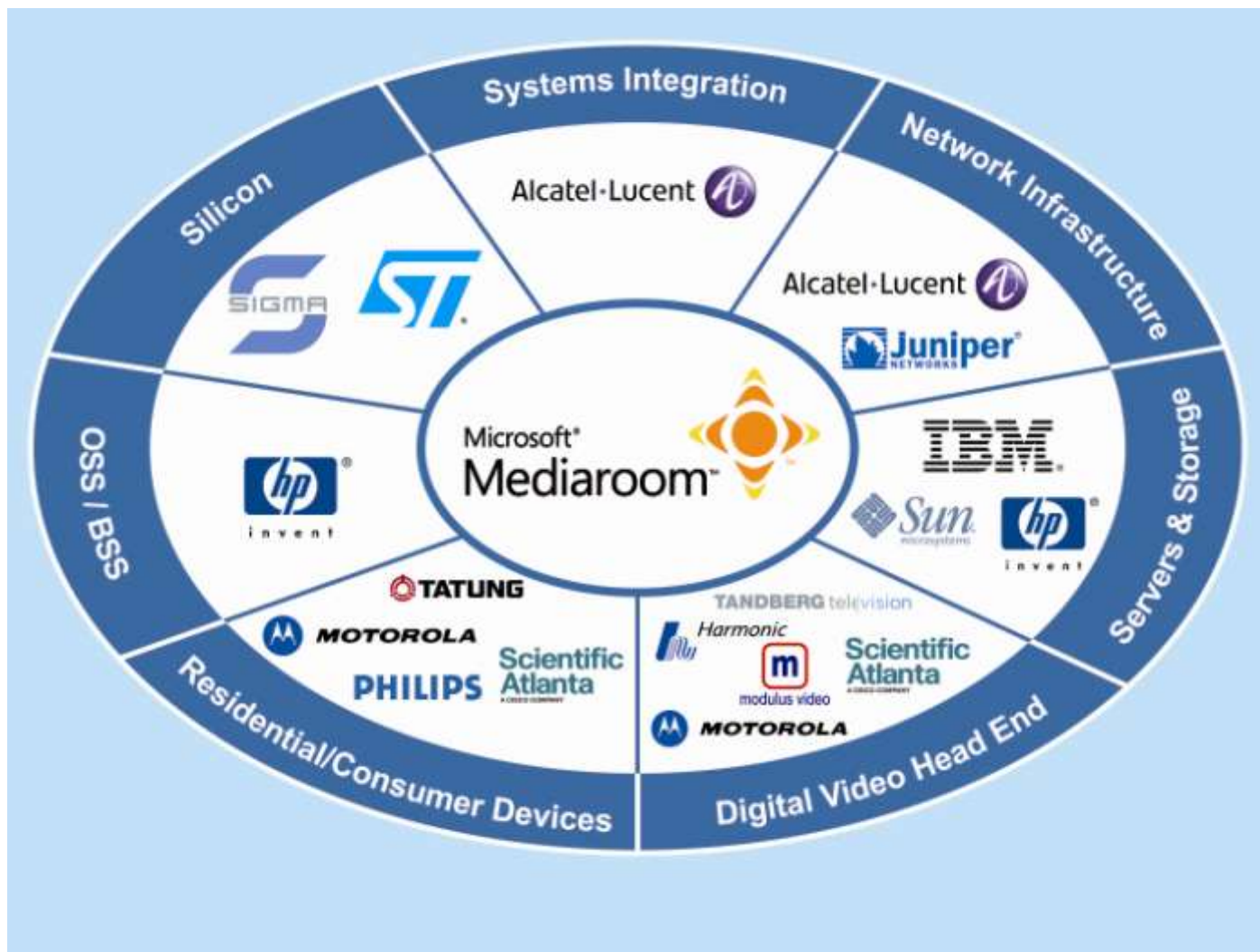
**intel**

# A Validated, Pre-Integrated Ecosystem

- System on a Chip (SOC) Vendors
- Set-top Boxes and other CE Devices
- Encoders for Standard and High Definition
- Network Equipment: Access, Routes, Switches
- High Availability Blade Servers
- OSS/BSS Applications
- System & Network Integrators
- Content Providers & Broadcasters



# The Ecosystem



# Application Platform and Tools



# Vision

- Provide a consistent application platform for the Microsoft TV product line based on the .NET Compact Framework
- Provide a full-featured platform that brings TV to .NETCF and enables rich applications across multiple platforms
- Provide a tool suite containing an SDK and authoring tools targeted at designers and developers

# Application Platform

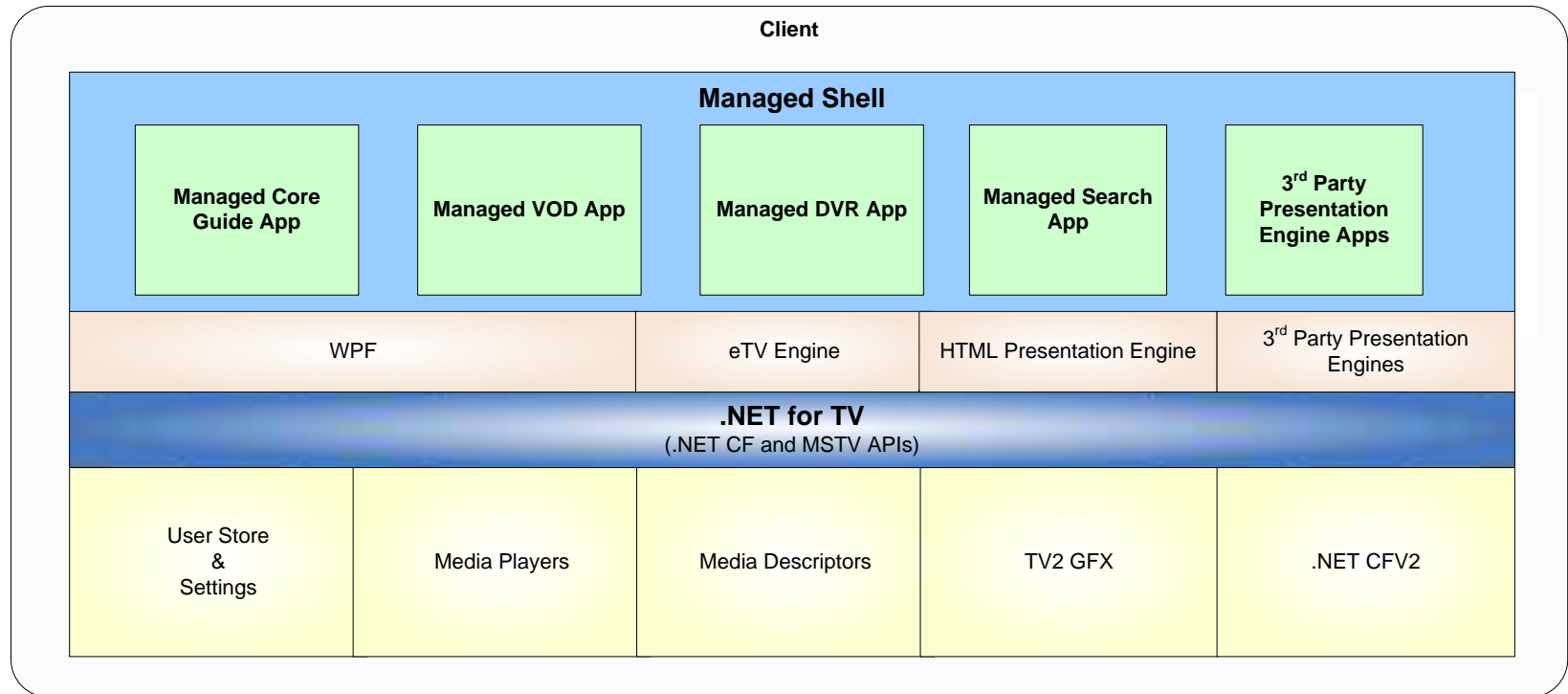
Enables the creation of interactive applications:

- Server-based applications
- STB-based applications
- Enhanced-TV applications

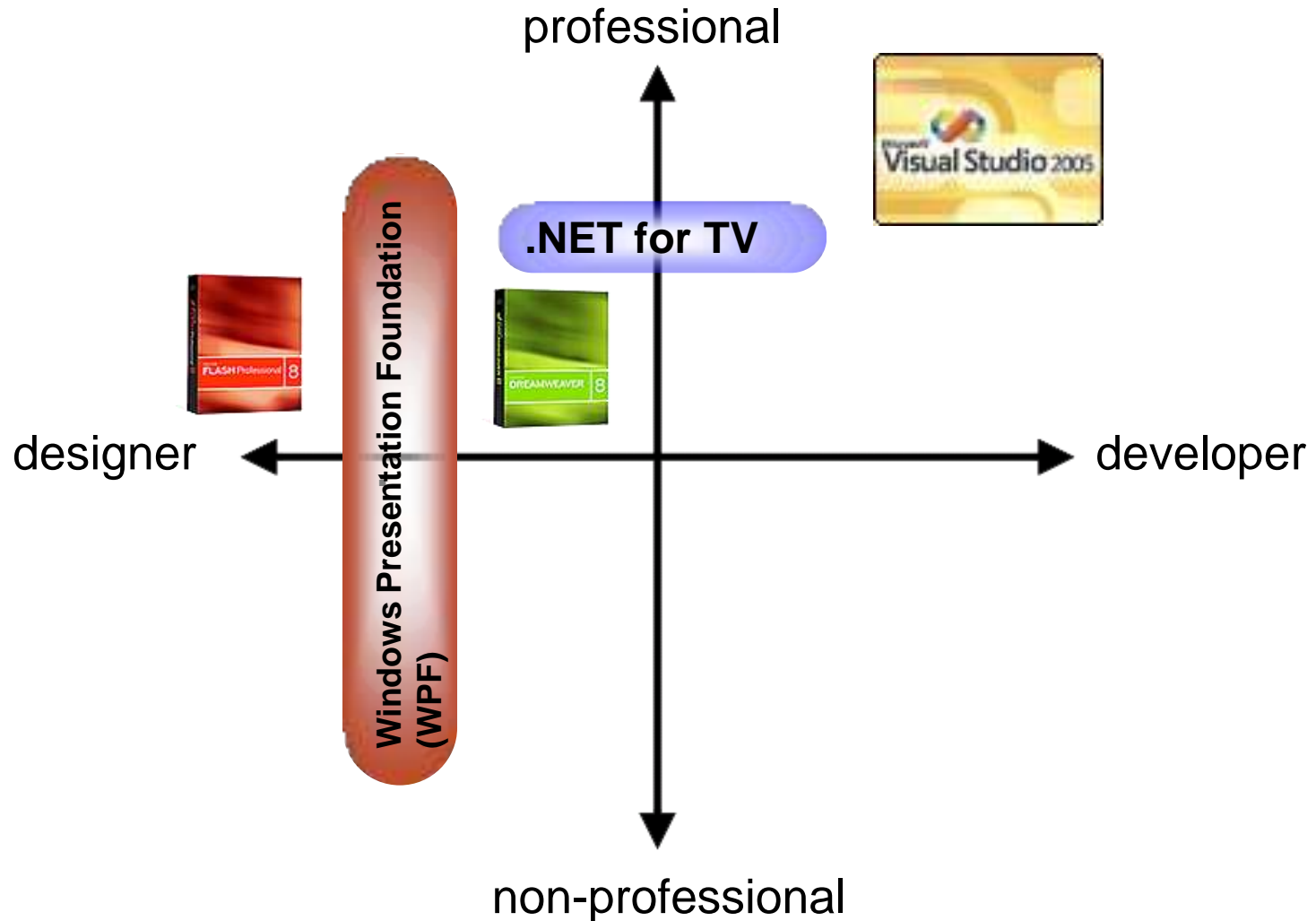
The application platform includes:

- .NET for TV
- TV APIs
  - A set of APIs that allow managed .NET applications to interact safely with IPTV Edition services.
- IPTV Edition browser
  - A low footprint browser, based on XHTML 1.1
  - Allows interaction with video objects and IPTV platform services via a .NET bridge to TV APIs

# Microsoft TV Managed Application Framework



# Tools Landscape – The High Level View



# IPTV Edition CDK

- Integrated with Visual Studio 2005, providing developers with a familiar development environment
- Includes a set of libraries for developing managed TV applications
- Documentation including API reference guide and developer guidelines
- IPTV Edition Platform Simulator
  - Runs on Windows and simulates the experience of running managed applications on a STB.
  - Includes STB specific profiles to simulate the capabilities of each box



# TV Application Scenarios



<b>Games</b>	Casual Extreme
<b>Content Services</b>	News/Info Services Portals/Start Page Mosaics
<b>eTV Applications</b>	Voting Hot Spots Ads Play Along
<b>EPG Enhancements</b>	UI Features UI Customizations
<b>Convergence Applications</b>	Video Conferencing Caller ID Media Sharing

# .NET for TV Full Profile

- Full-featured application platform for enabling rich applications across Hybrid and IPTV platforms
  - Based on .NET Compact Framework 2.0
  - Supports high-end functionality of the hardware
  - Full set of TV-specific features
  - Compelling games
- Common application development environment
  - C# support
- Provides capability for customization of the TV experience
  - UI Customization
  - Convergence applications
- Provides access to the TV subset of WPF

# Tools

## ➤ Platform Simulator

- Windows-based managed application simulator
  - Emulates application runtime
  - Simulates events and STB-specific functionality
- Includes .NETCF 2.0 runtime
- Platform-specific Profiles (STBs)
- Supports connection to web services
- Stand-alone for application testing
- Integrated with Visual Studio and eTV designer for application development

# Tools

## ➤ Visual Studio integration

- Plug-in for Visual Studio 2005
- Support for common Visual Studio features
  - IntelliSense
  - Code templates
  - Support for standard watch windows
- Integrated Debugger support
  - Within the Simulator
  - On a set top box
- Automatically generates code that can run on the STB without modification
- Designer support with common design-time controls

# eTV Designer

- Simple design tool for eTV application creation
- Auto-generate end-to-end code/assemblies
- Server Integration for testing
- Templates
  - Common application types
    - Voting/Quiz
    - Interactive Advertisement
    - Request for Information/T-Commerce
    - VOD Upsell Application
    - Application Launcher
- End-to-end Samples
- Ongoing enabling of scenarios as platforms evolve



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Mediaroom™



# Questions