Media & Entertainment

Windows Azure

Sales Scenarios

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Table of Contents

The Rise of Cloud Computing in Media & Entertainment

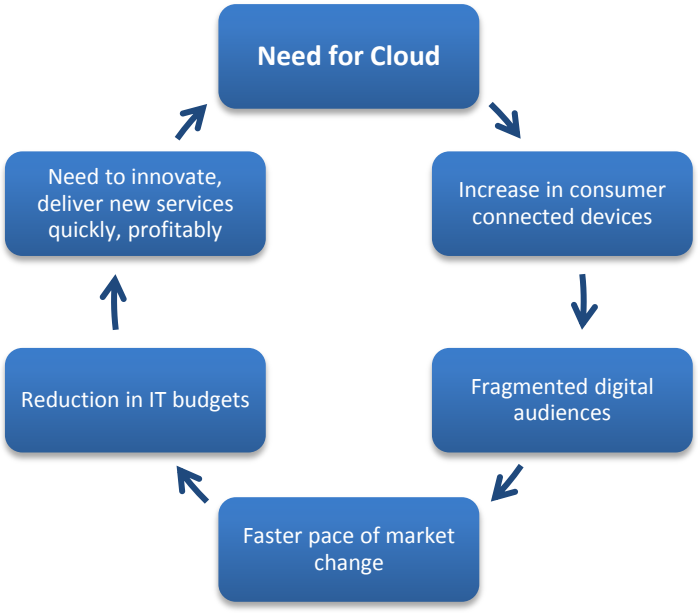
Digital media has reached the tipping point. Consumers are accessing digital content on a wide range of connected devices, and digital media are quickly becoming the preferred way to consume entertainment, video, music, news, and games. This is causing massive disruption in the industry as traditional media companies scramble to reach consumers on multiple screens, face steady decline in traditional business models, and fend off a growing number of new entrants threatening to steal critical parts of the media value chain away from the incumbents. At the same time, the proliferation of channels and the targeting abilities of online media drive fragmentation of audiences, and a fragmentation of the advertising business which is vital to most media companies.

IT has long been a "necessary evil" for media companies as the shift from analog to digital has been a reality for more than decade, but pressure to improve the bottom line has forced downward cost pressure on IT departments, not seen as strategic to media companies' core businesses. However, at the same time there is increasing pressure to innovate as the market becomes saturated with more and more competing content channels, diluting the parent brands of large media companies and forcing them to look for new ways to position their media brands above the noise in the marketplace. And with audiences and the advertising business becoming more fragmented, new levels of efficiency in content creation, content distribution, ad sales, and content sales are needed for business models to be profitable.

Huge investments on the behalf of media companies would need to be made to build out the infrastructure required to support a growing digital business, but this investment comes with no certainties about the return, often with a weak or even negative ROI, putting media companies in a potential death spiral over time as they must rely on third parties to help them deliver their content, but under threat of commoditization as the number of players and channels increase and compete for consumer audiences.

Forces Driving M&E Companies to Cloud

This diagram illustrates the business and consumer forces driving media companies to adopt cloud



Against this backdrop, the Cloud represents a Game Changer for the Media & Entertainment industry. The low cost, scalability and flexibility of cloud content delivery platforms offers the possibility of meeting growing consumer demand for digital content at a reasonable cost, and try out new business models without huge upfront investments. Migrating their business and content management systems to the cloud helps media companies to lower cost of infrastructure and operations, while at the same time enabling the collaboration across teams, sites, organizations, and geographies in content creation which is key for staying

competitive in a globalized media market. And leveraging cloud marketplaces like the Windows Marketplace will help them to reach their audiences, and cloud consumer services like Windows Live will help them to leverage the power of social media for their established brands and businesses.

In total, Cloud for M&E represents a $3B+ opportunity for Microsoft. We are uniquely positioned to offer platform (PaaS) and application (SaaS) services to M&E addressing the entire media value chain, supporting advertising sales and editorial collaboration, managing digital content, and creating compelling content experiences. In doing this, Microsoft has an opportunity to become the technology and IT services partner of choice for the media industry, helping our media customers to shape the future of the industry.

M&E Solutions for Cloud

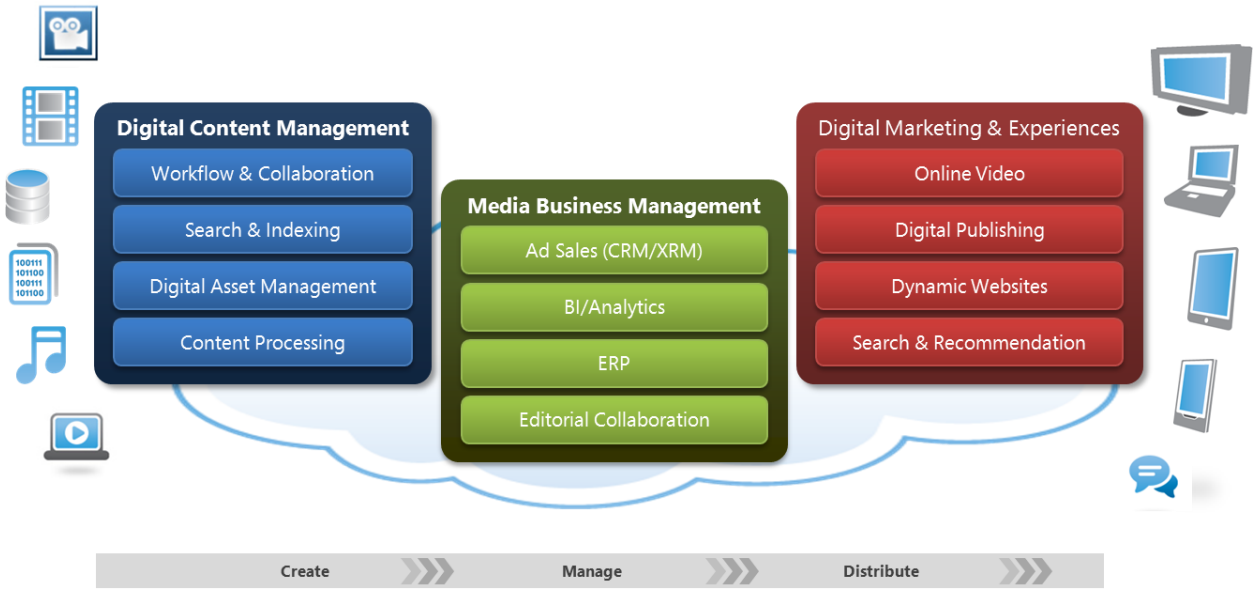
This document outlines our cloud platform value proposition and solution offering for M&E companies. Each scenario is described both by the solution, and by the industry and business conditions driving those solutions. The objective of this document is to present a brief guide on key insights and questions to be used as "conversation starters" in discussions with our customers in regards to Media & Entertainment "vertical" scenarios

At the end of the day, the cloud presents a business opportunity to our M&E and Telco customers, removing many of those "necessary evils" of IT that companies have had to adopt in order to compete in a new digital marketplace.

Microsoft is taking to market a wealth of "Cloud" offerings, including Platform as a Service (PaaS), and Software as a Service (SaaS) and a set of Consumer Cloud Services.

The focus of this scenario playbook is primarily on Windows Azure and Platform as a Service (PaaS). Software as a Service (SaaS) will be covered in a future document and/or as an addendum to this document.

Solution Areas for Media & Entertainment



For the M&E Industry, we have been focusing on developing a value proposition, industry partnerships and reference frameworks focusing on three key solution areas:

Digital Content Management

creating, storing, collaborating and distributing digital media and metadata

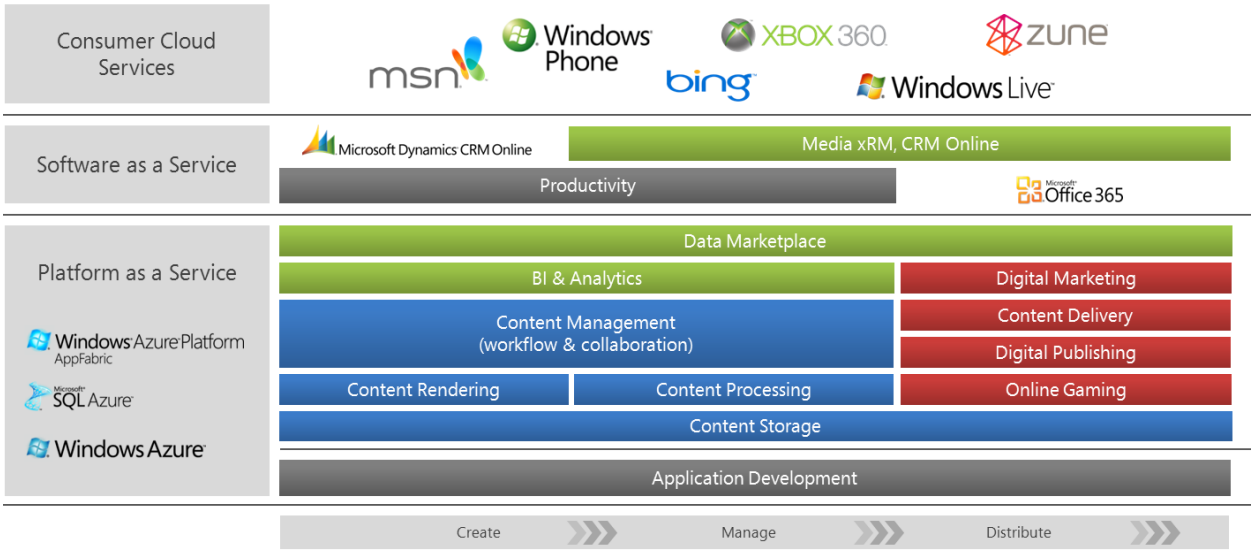
Media Business Management

Business applications supporting multi-channel media businesses from ad sales and programming to resource management, CRM and business intelligence

Digital Marketing & Experiences

Delivering compelling content experiences on multiple devices and gaining insight into consumer preferences to drive personalization and recommendations

If we combine the view regarding the above M&E Solution Areas and the Cloud offerings, we have developed a "mapping" of key Cloud scenarios, which are relevant for Media organizations. The chart below positions these top scenarios across the landscape of a Media organization, focusing on areas where M&E companies are most likely to invest in Cloud computing technologies.



The scenarios in grey represent "horizontal" capabilities which do not have specific vertical media content. The colors (blue, red, green) for the remaining scenarios are coded on the basis of the M&E solution areas presented early in the paragraph.

Top 10 Scenarios for Azure in M&E

A set of 10 key scenarios has been identified as relevant conversations for M&E accounts around Windows Azure. This list is preliminary and is based on current opportunity review and market relevance for cloud based technologies across the different verticals in Media & Entertainment (Film, Broadcast, Publishing, Ad Agencies and Gaming).

The intention here is to employ a Crawl, Walk, Run strategy where we can identify the low hanging fruit opportunities and then evolve the conversation towards a more workflow-oriented solution that may include one or more of the below scenarios in a complete solution. It is critical to understand that these scenarios should not be treated as mutually exclusive, and we illustrate how each scenario can be integrated with the other scenarios in this document.

1. Content Storage
   The penetration of high-definition television and video, along with the demand for multiple delivery formats and other bandwidth-intensive technologies provides an ideal situation for media companies to store their expanding volumes of digital media assets in the cloud.
2. Content Processing (Encoding/Transcoding)
   To meet the growing demand for broadband, mobile, IPTV, VOD and other delivery channels transcoding is an imperative work function in the distribution of content. The ability to leverage scalable, on-demand computing for processing large volumes of content makes transcoding optimal for cloud computing.
3. Content Rendering
   Rendering is a critical part of creative content production and animation. The ability of scalable, on-demand computing to create new digital content for movies and television enables a more efficient and cost effective way to render content.
4. Content Management (Workflow & Collaboration)
   As the amount of digital media increases, so does the management complexity. The ability to collaborate and manage content and metadata for downstream applications and distribution with cloud provides instant-on access to critical creative and business applications and lowers capital expenses.
5. Content Delivery (Online Video)
   With the rise of online content such as video streaming, Web TV, video on demand and music streaming there is a need to provide online services to effectively distribute this content via the cloud to anywhere in the world. Media publishers are faced with a challenge to manage quality of service and cost-effectiveness of their delivery platforms and cloud enables them with a solution.
6. Digital Publishing (e-Reading)
   Newspapers, magazines and other trade publications around the world are looking to move from traditional business models to digital media. Publishers are looking to deliver rich e-Reading experiences with text and video to multiple screens and cloud provides them an efficient way to do it.
7. Digital Marketing (Web Publishing)
   Media companies typically own premium web properties, which represent a new mainstream digital channel aimed at distributing digital content and creating digital marketing campaigns. With the cloud, web publishers can "build web experiences with reduced costs and set-up time allowing them to reach audiences on any screen in a scalable way.
8. Online Gaming
   It is not unusual for online/multi-player games to reach millions of users in a short period of time. There is a need to have capacity and a highly scalable infrastructure that can quickly scale up and down to respond to unpredictable game demand.
9. BI & Analytics
   The ability to track, analyze and report on online consumer behavior, sourcing and consolidating data from around the world is a key success factor in digital media. At the same time, scheduling cross-channel advertising campaigns is very compute-intensive. Globally accessible, cost-effective database analytics and reporting services that scale are important for these scenarios.
10. Data Marketplace
    Azure Data Marketplace allows Content owners to publish key data sets such as news feeds, sports statistics, video metadata, business or market data available for consumption by other cloud applications.

Scenarios applicability by M&E Vertical

This table captures the relevance of each scenario for each vertical media segment

		Available	Broadcast	Film	Publishing	Ad Agencies	Gaming
Digital Content Management	Content Storage	Now	●	●	●	◑	◑
	Content Rendering	H1/12	◔	●	○	◔	◕
	Content Processing	Now	●	●	◕	◔	◑
	Content Management	Now	●	●	●	◕	◑
Digital Marketing & Experiences	Content Delivery	Now	●	●	◑	○	●
	Digital Publishing	Now	◔	◔	●	○	○
	Digital Marketing	Now	●	●	●	◑	◕
	Online Gaming	Now	○	◔	○	○	◕
Media Business Management	BI & Analytics	H1/12	●	●	●	●	◑
	Data Marketplace	H2/12	◑	◑	◑	◑	◑

● High relevance ◕ Medium to high relevance ◑ Moderate relevance ◔ Low relevance ○ No relevance

Key Azure Workloads per scenario

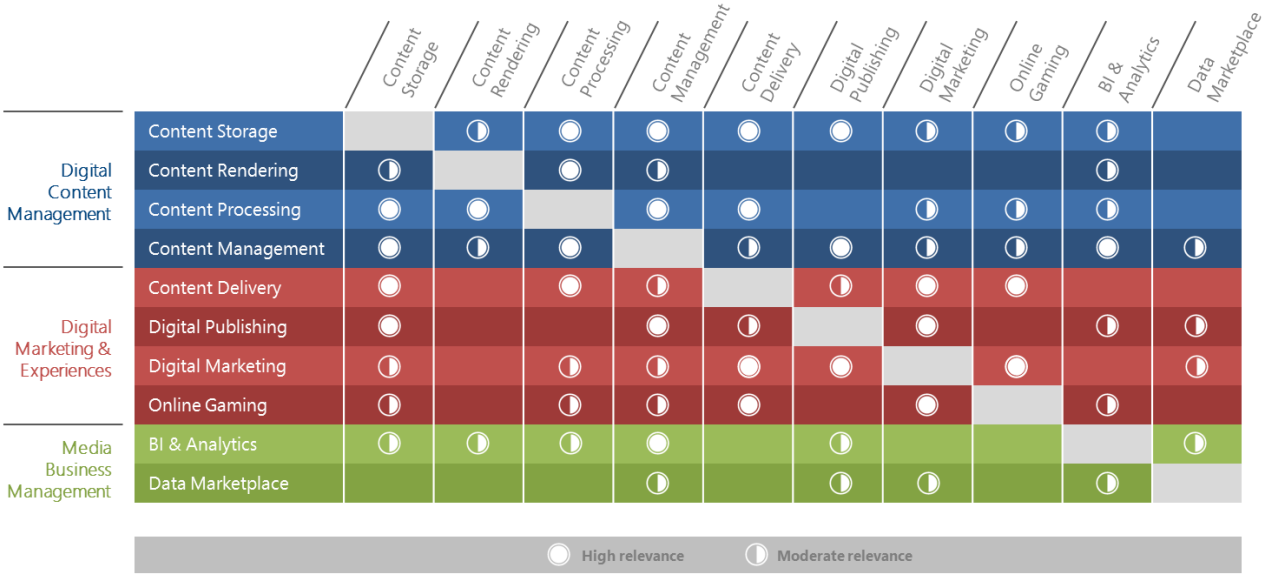
This table outlines the key Azure workloads employed or relevant per each scenario

		Storage	Compute	Database	Data I/O	CDN
Digital Content Management	Content Storage	●	○	◔	◑	◑
	Content Rendering	◑	●	◔	◕	○
	Content Processing	◑	●	◔	◕	○
	Content Management	●	◑	●	◕	◔
Digital Marketing & Experiences	Content Delivery	●	◑	●	◕	●
	Digital Publishing	●	◑	◑	◕	◕
	Digital Marketing	◔	●	◑	◕	●
	Online Gaming	◕	◑	●	●	●
Media Business Management	BI & Analytics	◑	◔	●	◑	○
	Data Marketplace	◑	◑	●	◑	○

● High relevance ◕ Medium to high relevance ◑ Moderate relevance ◔ Low relevance ○ No relevance

M&E Scenarios Integration Matrix

Typically different scenarios are involved in a Solution, the table below presents "affinity" between scenarios as they can be combined or integrated for more complete solutions.



It is important to note that due to a variety of factors (consumer behavior, business model disruptions, and cost pressures) M&E companies are going to aggressively leverage and adopt cloud services. Windows Azure represents a very compelling offering for M&E companies, given their need to host, replicate, distribute and execute distributed applications with heavy content workloads.

Scenario 1 – Content Storage

The penetration of high-definition television and video, along with the demand for multiple delivery formats and other bandwidth-intensive technologies provides an ideal situation for media companies to store their expanding volumes of digital media assets in the cloud.

Applicable Azure Services

	Storage	Compute	Database	Data I/O	CDN
Content Storage	●	○	◔	◑	◑

Business Scenario

Content storage is ideal for media companies looking to supplement or offload physical storage of digital media assets as a way to reduce their internal IT footprint and to increase flexibility and the ability to scale storage capacity up or down with changing business cycles. Content Storage on Windows Azure is ideal for media companies managing large volumes of digital assets like video, images or music. This solution would be applicable to a film studio, broadcaster, publisher, music company or video game company.

Solution

Use Windows Azure BLOB storage to store large media assets. The solution requires some basic application logic or ISV application (optional) for secure transfer of data in and out of Azure BLOB storage.

Industry Fit:

	Available	Broadcast	Film	Publishing	Ad Agencies	Gaming
Content Storage	Now	●	●	●	◑	◑

This solution can be combined or integrated with

	Content Storage	Content Rendering	Content Processing	Content Management	Content Delivery	Digital Publishing	Digital Marketing	Online Gaming	BI & Analytics	Data Marketplace
Content Storage		◑	●	●	●	●	◑	◑	◑	

Key Discussion Points

- How are you storing your digital assets and how are you dealing with scale over the long term?
- Are your storage needs cyclical or are you seeing steady or exponential growth?
- How does your storage solution interface with other applications for content management, content distribution, work-in-progress, etc.?

Applicable ISV Solutions

- Signiant Content Transfer Engine (H1/FY12)
- Aspera (TBD)

Customer Examples

TRIBUNE

Tribune quickly centralized the content in its many data centers into a single repository using cloud computing on the Windows Azure platform. Journalists and editors now have a single source for submitting and retrieving content, and the company can provide consumers with targeted content through online, mobile, and traditional distribution methods.

Case study

AP

AP wanted to broaden its reach by encouraging developers to incorporate AP content into their applications. Using the Microsoft-hosted Windows Azure™ platform , AP created a highly scalable solution that simplifies capacity planning and creates new business opportunities. A SQL Azure database stores news story metadata and content is stored in Windows Azure Blob Storage.

Case study

Scenario 2 – Content Processing (Encoding/Transcoding)

To meet the growing demand for broadband, mobile, IPTV, VOD and other delivery channels transcoding is an imperative work function in the distribution of content. The ability to leverage scalable, on-demand computing for processing large volumes of content makes transcoding optimal for cloud computing.

Applicable Azure Services

	Storage	Compute	Database	Data I/O	CDN
Content Processing	◑	●	◔	◕	○

Business Scenario

Content processing and transcoding involves large amounts of computing power used to transform (transcode) and process video files intended for distribution to different consumer or business channels. A broadcaster would need to transcode a live broadcast feed or episodic program into different formats to deliver to web-connected devices such as a set top box (like XBOX), PC or mobile device such as a slate or Windows Phone, Android or iPhone. Likewise, film studios have to transcode a single movie title into as many as 30 different formats, so this requires an enormous amount of computing and data center capacity. For most media companies, these activities could be constant and growing or cyclical with predictable or unpredictable spikes causing output constraints during spike periods and vast under-utilization in off-peak periods. This makes content transcoding an ideal candidate for the cloud.

By bringing transcoding and content processing onto Windows Azure, customers can use transcoding more like a utility and have the capacity when they need it and not have to pay for that capacity when they don't need it.

Solution

The solution is provided through ISV's who are offering their transcoding application on Windows Azure The initial approach would be to host the transcoding ISV engines on Azure VM roles, with native adoption these could evolve towards native Worker roles in the future.

Applicable ISV Solutions

Partners include Origin Digital (Accenture), Harmonic/Rhozet (H1/FY12), and Digital Rapids (H1/FY12).

Additional ISV's are under recruitment

Industry Fit

	Available	Broadcast	Film	Publishing	Ad Agencies	Gaming
Content Processing	Now	●	●	◕	◔	◑

This solution can be combined or integrated with:

	Content Storage	Content Rendering	Content Processing	Content Management	Content Delivery	Digital Publishing	Digital Marketing	Online Gaming	BI & Analytics	Data Marketplace
Content Processing	●	●		●	●		◑	◑	◑	

Key Discussion Points

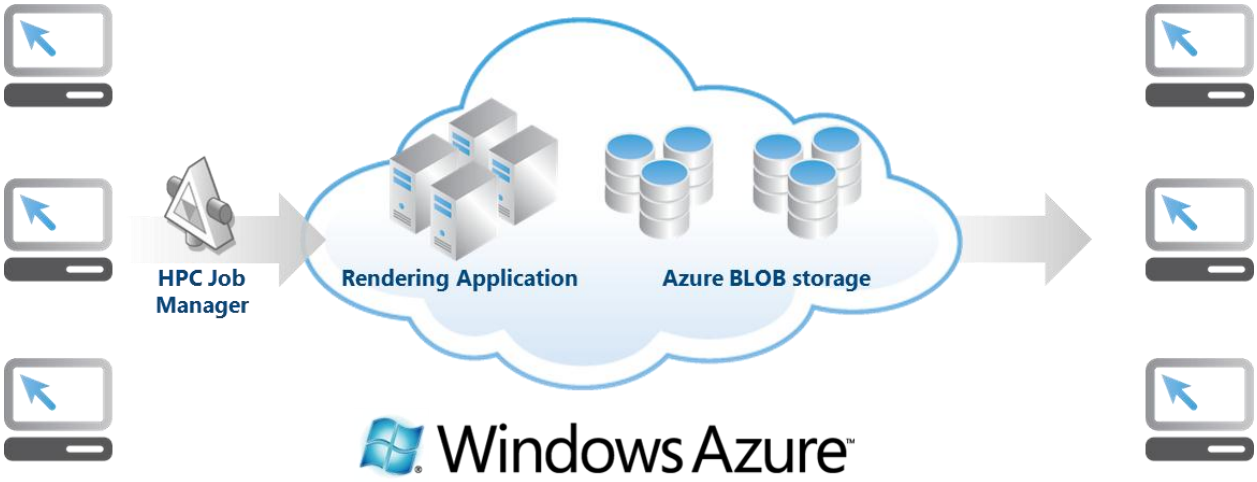
- How are you handling transcoding today? On-premise, outsourced, or a combination?
- Do you know what your cost-per-title is for transcoding?
- Are your transcoding resources over or under-utilized? Are there spikes in your resource demand for these services?
- How often are you adding or changing transcoding profiles to keep up with consumer or business demands?

Customer Examples

Origin Digital, a video application service provider, wanted to increase transcoding throughput without increasing capital expense. To gain dynamic scalability within a familiar development environment, the company built an innovative transcoding application called CloudCoder on the Windows Azure™ platform . The application will reduce compute costs and database administration time as well as expedite moves into new geographic markets
Case Study

Scenario 3 – Content Rendering

Rendering is a critical part of creative content production and animation. The ability of scalable, on-demand computing to create new digital content for movies and television enables a more efficient and cost effective way to render content.



Applicable Azure Services

	Storage	Compute	Database	Data I/O	CDN
Content Rendering	◑	●	◔	◕	○

Business Scenario

Movie and television production are using more and more digital effects (visual effects, or VFX) which require an artist on a powerful workstation to layer in digital elements to a live-action scene. In a television show there could be dozens of visual effects shots in an hour-long television show and literally thousands of these VFX in a feature-length movie. Movies like Avatar or Pixar's Toy Story are created almost entirely in a computer, which then needs to "render out" these shots into actual frames of video, which can be a 100MB or more for each frame making for over 10TB of data for a finished movie, and more than a petabyte over the course of the production.

By moving content rendering into Windows Azure, content creators have access to infinite computing power to generate and store these frames while freeing up other resources to continue working. This gets especially critical towards the last few months of a production where more and more data is being generated and rendered in order to make a deadline.

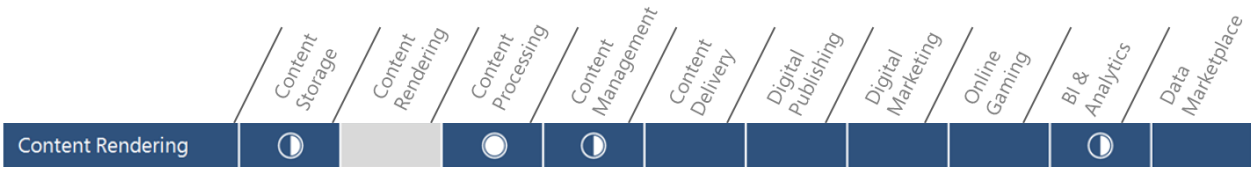
Solution

Pixar's RenderMan industry-leading rendering software allows digital content creators to harness the scalability and power of Azure giving them the ability to add additional resources when they are hitting peak periods during the production cycle. Also, by adding Windows HPC server, the customer can prioritize and manage their job queues allowing higher priority work to consume a greater share of resources at any given time.

Industry Fit:

	Available	Broadcast	Film	Publishing	Ad Agencies	Gaming
Content Rendering	H1/12	◔	●	○	◔	◕

This solution can be combined or integrated with



Applicable ISV Solutions

- GreenButton/Pixar RenderMan (TBD FY12)

Discussion Points:

- What is your average utilization of your rendering resources over a single year?
- Are you paying for under-utilized (idle) resources? How is IT overhead accounted for? Does it add to the overall production cost and/or cost of doing business?
- How large is the staff needed to "keep the lights on" for those computing resources?
- Do you ever find yourself resource-constrained when approaching a critical production deadline?

Customer Examples:

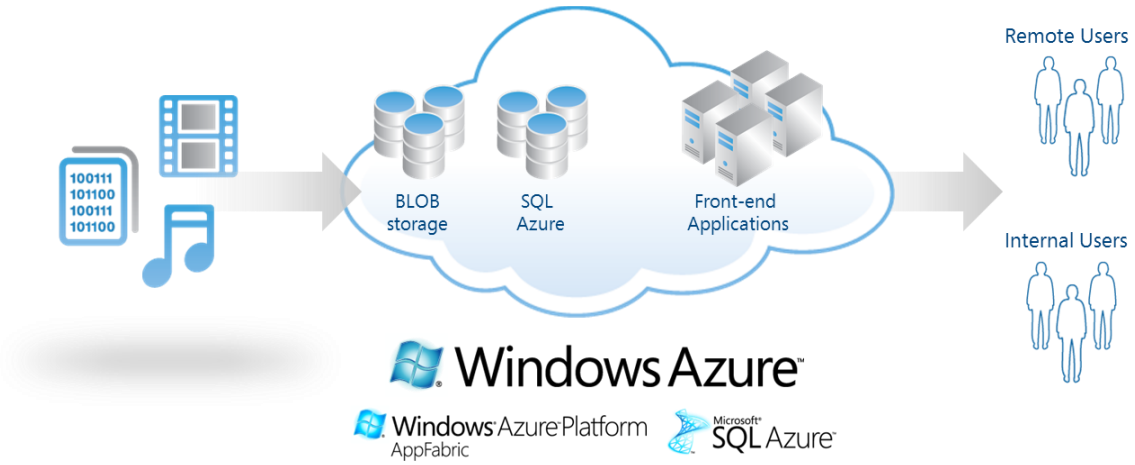
PIXAR

At Microsoft's Professional Developer Conference (PDC) held on October 28th 2010, Pixar's RenderMan team unveiled a proof of concept demonstration showing Pixar's RenderMan Pro Server running in the Cloud on Windows Azure. Though no decision has yet been made to proceed with any actual product offering on the Cloud, the proof of concept illustrates the potential impact of how the on-demand scalable resources of Cloud rendering might benefit digital content creators in future.

Press release

Scenario 4 – Content Management (Workflow & Collaboration)

As the amount of digital media increases, so does the management complexity. The ability to collaborate and manage content and metadata for downstream applications and distribution with cloud provides instant-on access to critical creative and business applications and lowers capital expenses.



Applicable Azure Services

	Storage	Compute	Database	Data I/O	CDN
Content Management	●	◑	●	◕	◔

Business Scenario

As media companies distribute more and more digital content, they must invest in applications and infrastructure to manage that content and the huge volumes of metadata that is used in downstream digital applications like broadcast, online news, eReaders, VOD, and online video distribution. Many versions of a single title must be managed along with descriptive and region or language-specific information, including language tracks, rights information or details about the author, or cast and crew. Media companies are continually challenged to deploy large-scale on-premise DAM solutions that often require significant customization to meet their business process requirements. As the amount of digital media increases, so too must storage, infrastructure and IT resources, further increasing business overhead costs.

Media companies also must collaborate on content both internally and across organizational boundaries. News organizations must quickly assemble global collaborative teams to develop a story, or an ad agency must continually meet creative milestones on a client's marketing campaign.

By moving content management and collaborative applications into the cloud, media companies can have instant-on access to critical creative and business applications that have a finite use and change yearly capital expenditures on application development and physical hardware to lower monthly operational costs. High-availability also ensures that content management and delivery processes are not interrupted by on-premise conditions such as unscheduled maintenance or outages.

Additionally, media companies can move their content and metadata closer to the points of distribution, creating a more efficient digital supply chain.

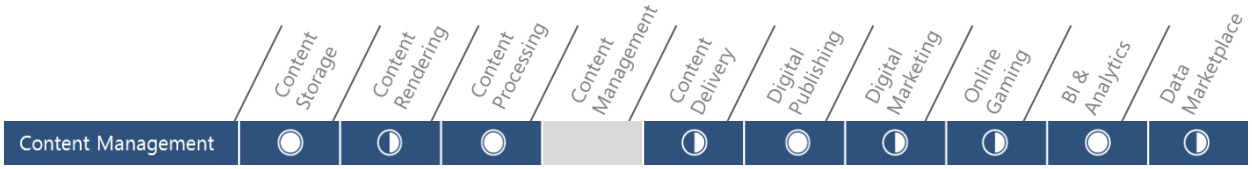
Solution

The solution includes moving content into Azure BLOB storage, metadata into SQL Azure, and a scalable front-end application hosted on Windows Azure to manage UI, search, collaboration, rough-cut editing, and workflows. The solution could also interface

with an on-premise DCM solution using Azure AppFabric. This solution can also leverage ASP.NET, Silverlight or other application languages supported on the Azure platform such as Ruby, Python and Java.

Industry Fit:

This solution can be combined or integrated with



Applicable ISV Solutions

- Harris Invenio
- Digital Rapids Transcode Manager (FY12)
- Signiant Content Transfer Engine (FY12)

Discussion Points:

- How are you managing digital assets and metadata today?
- Does your IT budget support the support and maintenance of the infrastructure needed to support those systems?
- How quickly is your digital asset catalog growing?
- How many of your digital assets are needed for collaboration or some downstream distribution

Customer Examples

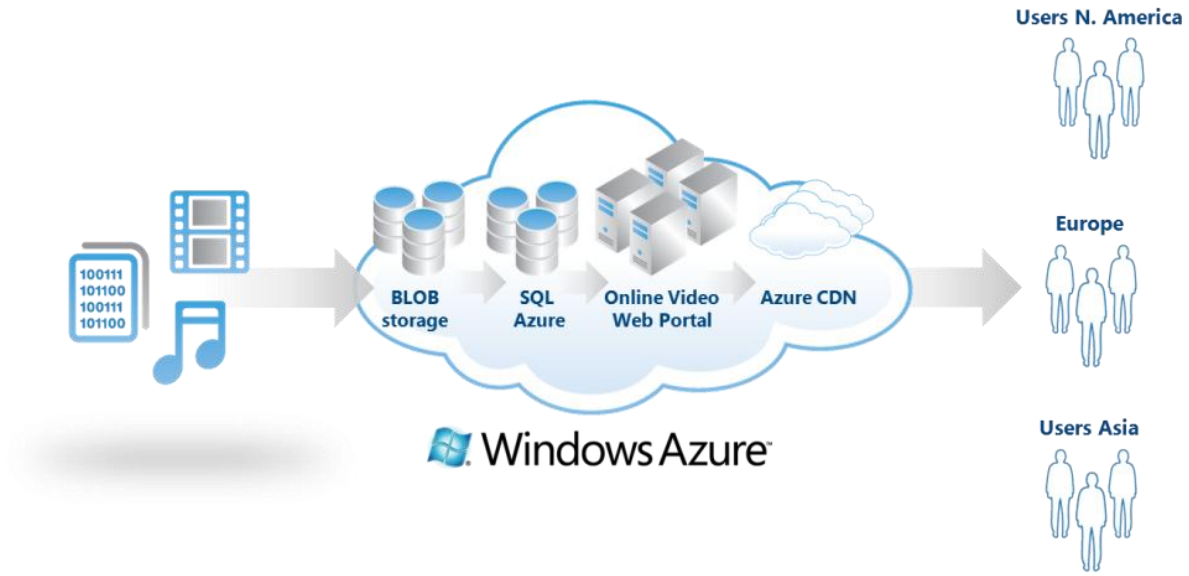
The AP chose to offer its Breaking News API to new customers by using the Windows Azure cloud services platform, and uses Microsoft development tools to innovate with new iterations of the product. In addition to the Windows Azure operating system, the AP development team uses a Microsoft SQL Azure database to store metadata on news stories.
Case Study

Arvato digital services are parented into Bertelsmann, Germany's largest media company and are providing digital content management services to Bertelsmann media companies like RTL Group (radio/TV), UfA (studio), and Gruner + Jahr (publishing). Historically, these have been home-grown, Unix-based solutions.

They recently have developed an Azure-based pilot solution called "Screener" which is used by UfA to review dailies from TV productions online and select the scenes that go into production.

Scenario 5 – Content Delivery (Video and Music)

Use cloud and CDN services to distribute IP-based video anywhere in the world. With the rise of online content such as video streaming, Web TV, video on demand and music streaming there is a need to provide online services to effectively distribute this content via the cloud to anywhere in the world. Media publishers are faced with a challenge to manage quality of service and cost-effectiveness of their delivery platforms and cloud enables them with a solution.



Applicable Azure Services

	Storage	Compute	Database	Data I/O	CDN
Content Delivery	●	◑	●	◕	●

Business Scenario

Online Video Delivery solutions include IP-based video streaming of live events, catch-up Web TV services and video on demand services delivered to multiple screens (desktops, notebooks, tablets, mobile phones) via the Internet. These solutions enable video content owners and distributors (studios, broadcasters, and to some extent publishers) to extend their reach across screens and platforms and to engage their audiences with compelling, personalized experiences. Building on Windows Azure for Storage, Database, Data I/O and CDN workloads, cloud-based Online Video Delivery solutions offer the following extra benefits over on-premise or hosted solutions: a) dramatically reducing the set-up cost for these solutions, b) scaling as the audience grows, c) being able to handle peak loads without upfront investments, and d) extending reach across the globe. Microsoft is uniquely positioned to help customers and partners create cloud-based Online Video Delivery solutions as we and our partners can not only provide the hardware and software for the end user experience, but also the cloud content delivery platform and the integration with our own and 3rd party communications services and social networks.

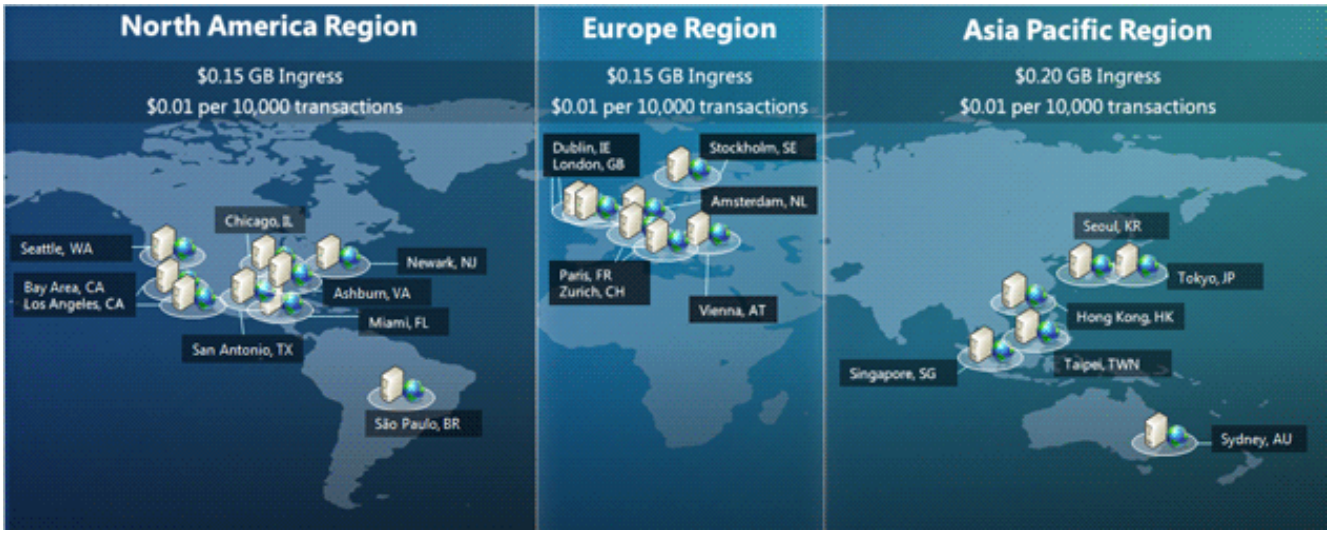
Solution

Offering one-click-integration with Windows Azure Storage, the Windows Azure content delivery network (CDN) enhances end user performance and reliability by placing copies of data closer to users. The Windows Azure CDN caches your Windows Azure blobs at strategically placed locations to provide the best experience for delivering your content to users. Benefits of the CDN include:

- Better performance and user experience for end users who are far from a content source, and are using applications where many 'internet trips' are required to load content, and

- Large distributed scale to better handle instantaneous high load, say, at the start of an event such as a product launch.

With 22 physical nodes globally with an average of 2 Tbps bandwidth (United States, Europe, Asia, Australia and South America), the Windows Azure CDN offers developers a global solution for delivering high-bandwidth content. The list of the physical nodes is as below:



The Windows Azure CDN can deliver content from public blob containers in Windows Azure Storage - content types can include web objects (e.g. JPG, CSS, and JavaScript), downloadable objects (media files, software, and documents), applications, real time media streams, and other components of Internet delivery (DNS, routes, and database queries). You can enable CDN delivery for any storage account via the Windows Azure Developer Portal

The Solution would include moving video content into Azure Storage:
1) directly, saved as pre-chunked content,
2) as a progressive video file
3) encoded on Windows Azure Compute and saving it to the Azure Storage
4) encoded in a VM using IIS-Media Server and/or
5) live streamlined into a VM using IIS-Media Server

Selecting options 1-5 as Public Content, and serving it through the Azure CDN to global users. The Azure CDN can also be used to cache the player (to speed up download delivery of the player to global users), as well as the media it is serving. The Azure CDN has been tuned to support adaptive bit rate media, but can also serve hosted websites, and progressive video.

Industry Fit:

	Available	Broadcast	Film	Publishing	Ad Agencies	Gaming
Content Delivery	Now	◉	◉	◑	○	◉

This solution can be combined or integrated with

	Content Storage	Content Rendering	Content Processing	Content Management	Content Delivery	Digital Publishing	Digital Marketing	Online Gaming	BI & Analytics	Data Marketplace
Content Delivery	◉		◉	◑		◑	◉	◉		

Discussion Points

- What is the cost for your current CDN transport?
- Are there synergies between your online Video platform and Web application
- Do you have a strategy to consolidate Storage, Content Management and distribution through an homogeneous cloud environment?
- What is the current solution in use for Adaptive Streaming and Content Protection?

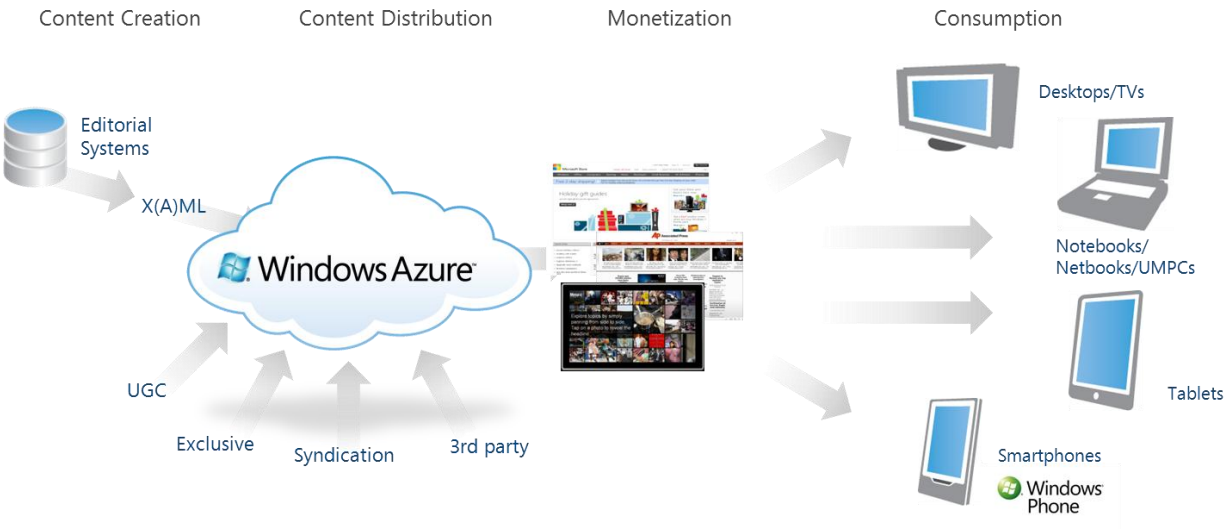
Customer Examples

The Windows Azure CDN today delivers many Microsoft products – such as Windows Update, Zune videos, and Bing Maps - which customers know and use every day. By adding the CDN to Windows Azure capabilities, we've now made this large-scale network available to all our Windows Azure customers
Azure CDN link

Kobojo is a gaming software development company that develops online, casual games for popular social networks, such as Facebook. Kobojo is using Windows Azure for its compute needs and as the hosting environment for its games, Kobojo also uses Blob Storage in Azure to store game assets, including images along with taking advantage of the Windows Azure Content Delivery Network, by caching its game content at strategically placed data centers around the globe. Case Study

Scenario 6 – Digital Publishing

Newspapers, magazines and other trade publications around the world are looking to move from traditional business models to digital media. Publishers are looking to deliver rich e-Reading experiences with text and video to multiple screens and cloud provides them an efficient way to do it, based on text and images and enriched with animated and rich media content, to multiple screens (TV, computers, mobile phones) via the Internet.



Applicable Azure Services

	Storage	Compute	Database	Data I/O	CDN
Digital Publishing	●	◑	◑	◕	◕

Business Scenario

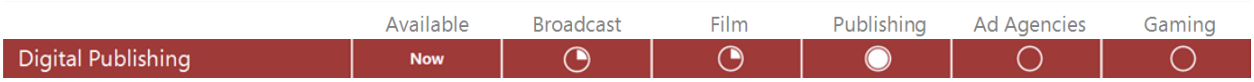
Publishers are struggling to monetize their content online, and the business model behind Apple's iPad – which initially was hailed by some as the savior of the publishing industry – dis-intermediates their relationships with readers and advertisers and reduces them to "content providers", no longer owning the distribution channel and the relationship with advertisers and consumers.

Publishers who want to retain full control of their business relationships with advertisers and audiences will want to build their own digital distribution channels. A cloud content repository, a multi-screen, multi-platform eReader and any content storefront are key components for building a digital distribution channel.

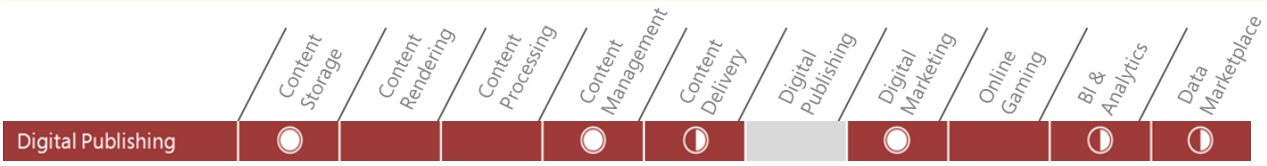
Solution:

The Microsoft Solution Framework for Digital Publishing provides an architecture blueprint based on Windows Azure and a set of Silverlight controls which publishers can use to build their own cloud-based ePublishing platform. In this blueprint, which is shown above, Windows Azure is used as a cloud content repository allowing publishers to scale quickly at a low cost of entry, and to extend their reach around the globe. A Silverlight-based nScreen (multi-screen) eReader application based on Microsoft's Metro UI design renders content to all screen sizes, from a phone to a TV set, and supports both touch and mouse-based interaction. To monetize content through subscriptions or other pay-for-content models, publishers can use their own or 3rd party hosted eCommerce stores as monetization "frontends" directly connected to their customer relationship and subscription/order management systems; once the commercial transaction has been completed, the use receives an identifier and a key to connect to the Azure-hosted content services.

Industry Fit:



This solution can be combined or integrated with



Discussion Points

- Are you using Apple iTunes/AppStore as a distribution channel today? From your perspective, what are the good things, what are the bad things about this channel?
- Would you be interested in an eReader solution that gives you reach across screens and platforms, has a low cost to set up and a straightforward advertising framework, and leverages the capabilities of this and next-generation Windows tablets?
- Have you thought about how to get your content on Windows Tablets?
- What's your estimate – how much % of the total effort of content creation goes into manual layout work? Would you be interested in an eReader which eliminates the need for manual layout work?

Customer Examples

AP is the world's largest and oldest news organization, with 243 bureaus in 97 countries and a worldwide staff of 4,100. As the audience for newspapers shifts to online news, traditional publishers are seeking a commercially viable business model to bring their content to the web. The Associated Press (AP) hopes to help meet that need with its News Reader, a rich Internet application for delivering content that isn't bound by a browser or limited to online use.

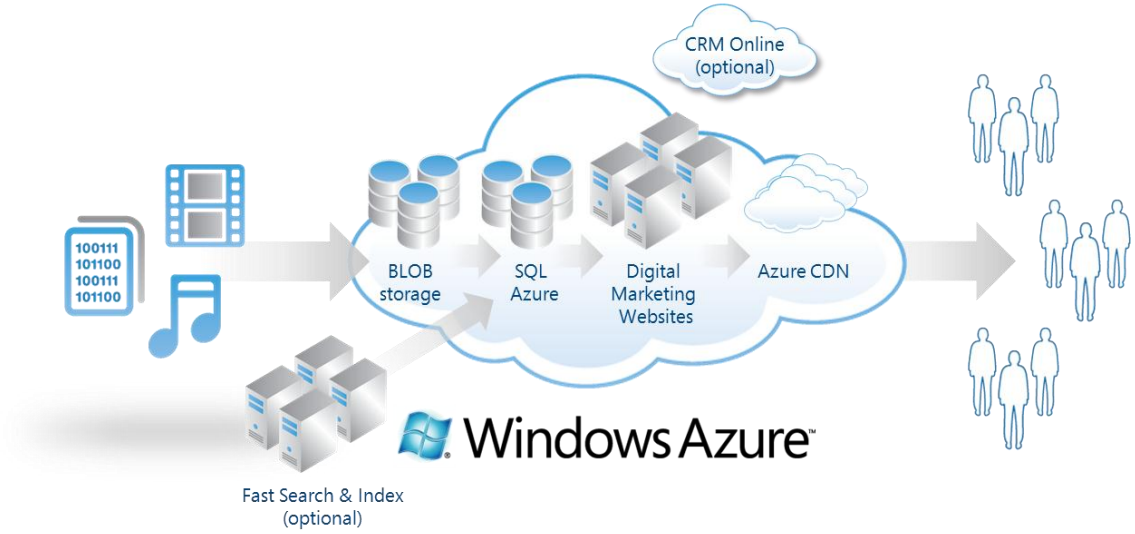
Case Study

Tribune Company operates eight newspapers, 23 television stations, and a variety of news and information websites. The company employs approximately 14,000. The Tribune Mosaic News Aggregator is an nScreen eReader solution which allows readers to aggregate content from multiple sources, navigate and read the content on Mac OS and Windows 7 platforms, and enjoy touch interaction on supporting devices, specifically touch-enabled Windows 7 tablets.

Tribune Mosaic

Scenario 7 – Digital Marketing (Web Publishing)

Media companies typically own premium web properties, which represent a new mainstream digital channel aimed at distributing digital content and creating digital marketing campaigns. With the cloud, web publishers can "build web experiences with reduced costs and set-up time allowing them to reach audiences on any screen in a scalable way.



Applicable Azure Services

	Storage	Compute	Database	Data I/O	CDN
Digital Marketing	◔	●	◑	◕	●

Business Scenario:

Media companies use the web to promote new content and services to their audiences. For example, film studios launch dozens of microsites each year to promote their new releases. Each of these sites contains video, special features & articles, and cross-promotional links to other sites and services. Broadcasters may launch event-driven websites around the Olympics or the FIFA World Cup. A Game Developer may launch a website to promote a new console game like HALO.

Digital Marketing offers an opportunity to not only promote new services and content, but to also capture a direct relationship with their audience by allowing consumers to 'opt-in' to unique promotions and special features to help drive consumer "stickiness" and gain critical insight into what their audiences are doing with their content.

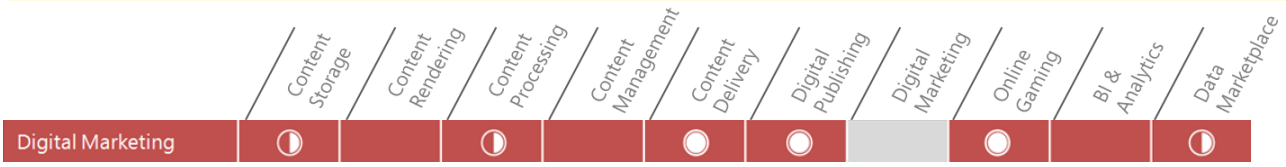
Solution:

Using Windows Azure, media companies can quickly deploy new template-driven digital marketing websites, using the full IIS functionality through Azure Web Roles, BLOB storage to store media assets and SQL Azure to store transactional data and metadata. This could also leverage Azure CDN services and IIS for delivery of video and HD Smooth Streaming video. The solution could be extended further, incorporating CRM Online to capture user data from 'opt-in' opportunities in order to build memberships around content brands, allowing for future interaction and promotions to a targeted audience. Fast Search could also be leveraged for recommendation and personalization in a hybrid on-premise/cloud solution.

Industry Fit:

	Available	Broadcast	Film	Publishing	Ad Agencies	Gaming
Digital Marketing	Now	●	●	●	◑	◕

This solution can be combined or integrated with



Discussion Points

- How are you creating, managing and deploying digital marketing websites to promote new content and services?
- Are you able to capture meaningful audience information or attract audience participation around your content brands? How are you capturing or using that data?
- How are you cross-promoting content based on user preference or personalization?

Applicable ISV/ASP Solutions:

- SiteCore (www.sitecore.com)

Customer Examples

CMA developed and deployed two highly interactive, rich-media experiences "Be This Close" and "Hotshots" at the CMA Music Festival which were based on Windows Azure. Both offerings allowed viewers to access hundreds of images and rapidly zoom in for high-resolution detail without any loss of overall performance. The solutions use binary large object storage available through the Windows Azure platform for serving image tiles.
Case Study

NRK has chosen Windows Azure as their primary runtime for developing all web applications. This includes not only strategic projects such as web TV and traffic but also moving their popular weather service, www.yr.no to Azure. This will allow NRK to be able to have a central repository for all new web applications and a place developers can access to host more data intensive applications

Telecinco is a Spanish commercial television channel, streamed all live matches of the Spanish National Team during the 2010 World Cup using a full-screen Silverlight player and based on the Windows Azure platform. They also were able to offer a full interactive section through social networks which was based on the Windows Azure platform. This is the largest single Azure application within Spain to date and was able to handle up to 120K concurrent users at a single time.

Scenario 8 – Online Gaming

It is not unusual for online/multi-player games to reach millions of users in a short period of time. There is a need to have capacity and a highly scalable infrastructure that can quickly scale up and down to respond to unpredictable game demand.

Applicable Azure Services:

	Storage	Compute	Database	Data I/O	CDN
Online Gaming	◕	◑	●	●	●

Business Scenario:

Online gaming companies host multi-player gaming experiences which at any given time may have tens of thousands of concurrent users or more, but with fairly predictable cyclicality based on time of day. Other online games could be event-based (part of a sporting event like the Olympics or FIFA World Cup) and therefore have short periods of high activity followed by long periods of inactivity.

In addition, online gaming companies collect enormous volumes of data from each gaming session, understanding how users are interacting with the games. Storing and processing this data takes many computing resources, which is why Windows Azure would be a good fit for this particular scenario.

Solution:

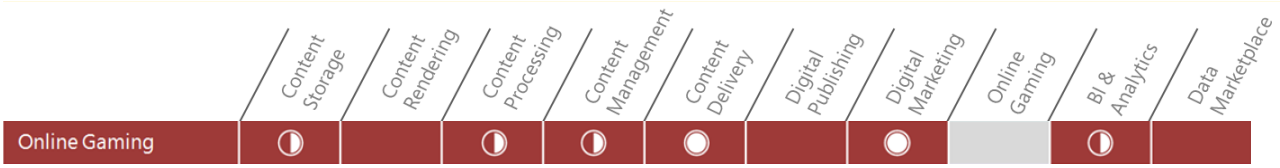
By hosting the online games in Azure, companies can dynamically scale up resources needed to support spikes in activity and then quickly scale down to minimize operational costs when activity is low.

In addition, gaming companies can use Windows Azure to collect, store and process user data from the online gaming sessions, which could be offered as a service to their game publishing customers who are seeking that online gaming information.

Industry Fit:

	Available	Broadcast	Film	Publishing	Ad Agencies	Gaming
Online Gaming	Now	○	◔	○	○	◕

This solution can be combined or integrated with



Discussion Points

- How are you hosting your online games now and how are handling peak periods of user activity?
- How are you capturing and repurposing the data resulting from online game play?
- How are you storing and managing all of your customer and game play data?

Customer Examples

Kobojo is a gaming software development company that develops online, casual games for popular social networks, such as Facebook. Kobojo is using Windows Azure for its compute needs and as the hosting environment for its games, Kobojo also uses Blob Storage in Azure to store game assets, including images along with taking advantage of the Windows Azure Content Delivery Network, by caching its game content at strategically placed data centers around the globe. Case Study

Playdom, a wholly owned subsidiary of Disney and part of the Disney Interactive Media Group, is a prominent online games provider popular on Facebook and on MySpace; it is currently the largest social game developer on MySpace and one of the larger ones on Facebook. Playdom, is using Windows Azure for its compute needs and as the hosting environment for its games, it also uses Blob Storage in Azure to store game assets. Playdom has also standardized on the Microsoft Business Productivity Online Suite for its employees.

Scenario 9 – BI & Analytics

The ability to track, analyze and report on online consumer behavior, sourcing and consolidating data from around the world is a key success factor in digital media. At the same time, scheduling cross-channel advertising campaigns is very compute-intensive. Globally accessible, cost-effective database analytics and reporting services that scale are important for these scenarios.

Applicable Azure Services:

	Storage	Compute	Database	Data I/O	CDN
BI & Analytics	◑	◔	●	◑	○

Business Scenario

Broadcasters and publishers operating Online Video and Digital Publishing services increasingly use end user behavioral data (Web Analytics data, usage statistics) to guide business decisions, and scheduling advertising campaigns across multiple channels gets increasingly complex. Both scenarios require a lot of on-demand compute capacity, but can be seasonal or cyclical in nature making BI and Analytics applications suited for a cloud-based solution.

Cloud-based BI & Analytics solutions offer several benefits over on-premise or hosted solutions: a) providing cost-effective database analytics and reporting services which scale up and down quickly as need arises b) sourcing and consolidating data from around the globe; c) providing global access to analytics and reports.

Solution:

Building on Windows Azure for Database, Storage, and Data I/O workloads, Microsoft is uniquely positioned to help customers and partners create cloud-based BI & Analytics solutions as we are the only vendor to combine the rich functionality and user-friendliness of a Business Intelligence stack exposed through SharePoint and Excel with the power of cloud SQL, Analytics and Reporting services.

Industry Fit:

	Available	Broadcast	Film	Publishing	Ad Agencies	Gaming
BI & Analytics	H1/12	●	●	●	●	◑

This solution can be combined or integrated with

Discussion Points:

- How are collecting and storing data from user-interaction with your online properties?
- Most Web Analytics services only give you after-the-fact analysis. Would you like to your usage stats to be more real-time?
- Have you considered using cloud compute power for gathering usage statistics?
- Have you considered using cloud compute power for your complex ad scheduling applications?

Customer Examples

derStandard.at

derStandard.at is one of the most popular websites in Austria, providing news, articles, and opinion pieces to a readership of more than 2 million people. It is currently using Microsoft Business Intelligence tools to gain deeper insight into the needs of its audience to attract and retain more readers by generating real-time reports on readers' behavior.

Case Study (currently not a cloud reference but an example that would also work in the cloud)

Scenario 10 –Data Marketplace

Azure Data Marketplace allows Content owners to publish key data sets such as news feeds, sports statistics, video metadata, business or market data available for consumption by other cloud applications

Applicable Azure Services:

	Storage	Compute	Database	Data I/O	CDN
Data Marketplace	◑	◑	●	◑	○

Business Scenario:

Data service providers like Bloomberg, CNN, STATS, and Weather Channel are exposing datasets like stock prices, news feeds, sports statistics, and weather forecasts for consumption by 3rd party applications. Data service providers want to provide these services to their customers – often other media companies – around the globe, with high reliability and via standardized interfaces.

Solution

Building on Windows Azure for database and data I/O workloads, cloud-based Data Services offer several benefits over on-premise or hosted solutions: a) global reach; b) cost-effective resilience and scalability; c) low setup cost; and c) visibility through Azure Data Market, a catalog of available data sets.

Industry Fit:

	Available	Broadcast	Film	Publishing	Ad Agencies	Gaming
Data Marketplace	H2/12	◑	◑	◑	◑	◑

This solution can be combined or integrated with

	Content Storage	Content Rendering	Content Processing	Content Management	Content Delivery	Digital Publishing	Digital Marketing	Online Gaming	BI & Analytics	Data Marketplace
Data Marketplace				◑		◑	◑		◑	

Discussion Points:

- How are you distributing your data feeds today?
- How much money are you spending on making available these data feeds globally?
- Would you set up additional data services if it wasn't for the setup cost?
- Have you had resilience issues with your data feeds?

Customer Examples

STATS is the leading sports data provider in its business-to-business markets offering real time sports data and content. Instead of building out its own infrastructure to support worldwide sports data distribution to consumers, STATS joined DataMarket, a part of the Windows Azure Marketplace. So far due to the move to DataMarket STATS has cut its investment cost by U.S. $1 million.

Case Study

Conclusion

Media companies are under more pressure than ever to cut costs with respect to IT, but at the same time, innovate to deliver content and services to the digital marketplace. The rapid pace of change happening in digital media means that media companies must be more agile, more flexible, making them better able to respond to these changes but be able to drive profitable new business models with very little time to "ramp up."

By targeting these solution scenarios for helping M&E companies move their digital supply chains to the cloud, Microsoft can position itself as a critical business partner with our customers, and help them build successful new businesses in the new digital ecosystem.

Partner Summary

Content Rendering

GreenButton	Tools to create compelling visual effects designed for feature film, digital cinema, and high-definition post-production. Offerings in the cloud allow high-resolution quality for high-speed compositing, advanced graphics, and interactive client-driven design.

Content Delivery

SIGNIANT making media move	Products which enable managed transport to move content quickly and securely to Content Supply Chain Management which allows new businesses and streamlines operations by automating and controlling the flow of content. Coming FY12

Content Processing (Encoding/Transcoding)

RHOZET A Business Unit of Harmonic, Inc.	In addition to handling more formats, Rhozet solutions provide a variety of additional functions such as various conversions, audio and video filtering, subtitling and Closed Captioning, that add value and save time and effort for editors, producers and technicians. Coming FY12
digital rapids	Digital Rapids is a leading developer of professional, scalable hardware and software solutions for ingest, encoding, transcoding, protection, streaming, playout and delivery of content. They offer solutions which span the critical points in today's media transformation and distribution workflows.
OriginDigital An Accenture Company	Odaptor, Origin Digital's proprietary software platform, delivers tailored solutions to help minimize complexities and costs that are associated with the management of digital video assets. Odaptor utilizes video to effectively increase business communications across an ever-evolving media landscape. Odaptor is a scalable, Web-based service that enables simple aggregation, transformation, management and distribution of digital media and video assets.

Content Management

HARRIS	Harris's Invenio digital asset management product provides rich media organizations with a centralized solution for managing digital media files and their underlying metadata. The product enables organizations to ingest, edit, catalog, store, retrieve, move and distribute digital assets within the unique workflows. Coming FY12
sitecore	Sitecore's Online Marketing Suite provides insight into your visitors, including GeoIP and website experience information that helps drive faster conversions. You'll be able to easily track and understand your website impact of all your online campaigns, quickly create profiles, personalize content and take action with analytics immediately and easily with your existing team, replacing processes that that previously took weeks or months. Now what you always wanted to know is easily done

Application Service Providers

iStreamPlanet advanced solutions for online media	Coming FY12

Global System Integrators

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Additional Resources

Microsoft M&E Industry External Site – Link

- Cloud for Media Solution Page – Link

CommSector Internal M&E Site - Link

Windows Azure External Site - Link

- Windows Azure Content Delivery Network (CDN) – Link
- Windows Azure Storage - Link
- Windows Azure Marketplace - Link
- SQL Azure - Link

Windows Azure Internal Site - Link

Media and Entertainment Azure-Based Cloud Case Studies

- AP: Global News Agency Uses Cloud Computing Platform for New Business Opportunities - Link
- Tribune: Transforms Business for Heightened Relevance by Embracing Cloud Computing - Link
- Country Music Association: Demonstrates Technology Leadership with Rich-Media Solutions - Link
- Origin Digital: Video Services Provider to Reduce Transcoding Costs Up to Half – Link
- Kobojo: Game Developer Meets Demand and Prepares for Success with Scalable Cloud Solution - Link
- STATS: Sports Data Provider Saves $1 Million on Consumer Market Entry via Cloud Services - Link
- TIcTacTi: Advertising Company Adopts Cloud Computing, Gets 400 Percent Improvement - Link
- ChronoRace: Cloud Computing Helps Business Offer Athletes Seamless Access to Race Results - Link
- LinkShare: Online Ad Firm Cuts Costs, Scales to Handle Peak Holiday Demand, with Cloud Solution - Link
- Pixar: Pixar's RenderMan Demonstrates Proof of Concept for Cloud Rendering - Link
- Irish Music Rights Organization: Royalty Distributor Builds Cloud-Based Portal, Reduces Workload 95 Percent - Link

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