

Smart Marriage: Digital content and business systems
unite to transform the enterprise

remarks by
Vice President Digital Media
IBM Corporation

at the
National Association of Broadcasters
(NAB) Conference
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I love Las Vegas.

It's a place of big ideas, bold ambitions and non-stop-action – just like my workday at IBM.

Aside from being the convention and entertainment capital, Las Vegas is the wedding capital of the world.

In 2003, 120,000 couples took out wedding licenses here.

Couples got hitched in a helicopter or on a roller coaster. They did it in a drive-through or from a bungee-jump platform. They said, “I do” on horseback, in a reproduction Eiffel Tower or with Elvis at their side.

(pause)

Not all love is built to last.

(pix up of Britney Spears/K-Fed, Liz Taylor/Eddie Fisher et al, Liza Minelli/David Gest, for ex.)

(pause)

But some marriages, happily, are made of sturdier stuff.

(pix up of Queen Elizabeth/Prince Phillip, Paul Newman/Joanne Woodward, Ronald and Nancy Reagan, Hume Cronyn/Jessica Tandy, for ex.)

Today, we'll look at such a marriage. A smart marriage. A strong marriage. One that will be both long lasting and a boon to the media and entertainment industries.

Music up/begin video or still images representing digital technology working hand-in-hand with images representing business systems, especially those Gail cites.

Music fades. Gail picks up her remarks.

The marriage we'll discuss is the union of digital content and business systems across the enterprise. It's a union that produces concrete business benefits for broadcasters and media companies of all kinds. Benefits including improved efficiencies, new business opportunities and increased revenues.

Being in the digital content business today is like being in the steak business when everyone's on a low-carb diet.

You can't go wrong; your customers always want more.

Let's look.

(pause)

The average MTV viewer lives a 30-hour day, according to a study of almost 5,000 Americans between the ages of four and seventy. They surf the Net, view DVDs, play MP3s, download movies and watch TV.

They do it all simultaneously enough to add up to 30 hours of daily, a la carte consumption.

But less of that time is spent watching TV. A March 29 *New York Times* article, "Leisure Pursuits of Today's Young Man," reports men between 18 and 24 are watching 20 percent less TV today than last year, while the coveted 18-34 year old viewer is watching 12 percent less TV than in 2003.

A new study by eMarketer reports the Internet is now in more homes than cable TV. More than 70 million U.S. households use the Web for pre-sale research, purchases and post-sales service.

And more than 200 million Americans, or nearly 75 percent of the population over two years of age, have Internet access, according to a new Nielsen/NetRatings study.

The Online Publishers Association estimates that U.S. consumers alone spent about \$1.6 billion for online content last year, up from \$1.2 billion in 2002.

Forrester Research estimates that total 2004 U.S. e-commerce will meet or exceed \$125 billion.

Studies also suggest that 35 percent of Web content will be downloadable digital media by next year. And that ninety-two percent of online users will communicate via digital media by then.

(pause)

The convergence of several key trends fuels this digital media boom:

- First, a rapid increase in content moving from analog to digital, and a simultaneous increase in digital input and output devices.
- Second, increased broadband penetration from an exploding availability of affordable bandwidth. The

number of high-speed connections has skyrocketed – to 22.3 million U.S. households at the end of 2003 -- up from 10.7 million in 2001, according to the Yankee Group. The federal government is pushing for universal broadband by 2007.

- Third, content. Increasingly, content is the reason people sign up for broadband in the first place. Early adopters wanted broadband primarily for its overall faster speed, because it didn't require dial up and didn't tie up the phone line. The new wave of adopters wants features like the ability to download music, watch highlights of recent sporting events and send video e-mails.
- Fourth, a significant lowering of storage costs.
- And fifth, an open IT infrastructure.

(pause)

The Yankee Group reports that lower priced solutions have opened up the market for rich-media communications tools to even small- and medium-sized businesses. Streaming audio and video, they suggest, is no longer the sole dominion of the Fortune 500.

Last year, companies in your industry vigorously adopted rich media technologies for new distribution channels, for marketing and advertising content, for archiving and retrieval and improved workflow.

This year, companies are using rich media technologies to collaborate on content across distances, develop on-demand business models and cut costs on content creation and distribution.

In the process, they're integrating these technologies with their core business operations.

Media and entertainment companies understand that the creative use of digital content helps them break through the clutter and rise above the noise of today's congested communications environments.

They also find that management improves when digital content is moved through the organization for production analysis, decision-making and branding purposes.

(pause)

I want you to remember that last point as we look at companies marrying digital media to their business processes.

I also want you to remember that the digital tidal wave is unstoppable. It is how everyone in this room will be doing business in very short order.

(pause)

Today we'll look at some digital "early adopter" companies who share some of these characteristics:

- they've chosen to embrace a world where content is a demand driver because consumers now have greater, deeper choices in multiple channels.
- they're embracing available technologies to make their businesses more efficient, more nimble, more profitable.
- they understand the need to go digital to compete in a 24/7 media world where content is continually refreshed
- they use standards-based, readily available components with plug and play capabilities.
- they each want to use content efficiently in a workflow but found it impossible with part analog, part digital content.
- they have escalating storage needs and want to tie storage silos together, and
- they are benefiting from the widespread availability of broadband.

(pause)

Shanghai Media is one of these companies.

In the 1996 Olympic Games in Atlanta, an athlete named Vassili Jirov had just won the gold medal in light heavyweight boxing.

Halfway around the world, in Shanghai, China, a video editor at the province's largest TV station searched in vain for footage to document the story: the boxer's arrival in Atlanta, his hometown in Kazakhstan or a previous victory over a local Shanghai hero.

The problem wasn't a lack of available video content, but an overabundance of it.

Shanghai Media has more than 100,000 hours of video content available to all broadcast stations in Shanghai.

But searching through it was a slow, manual process. Multiple analog formats and media types made videocassettes awkward and time-consuming to review.

Repeatedly playing the tapes degraded their quality, putting the archive at risk, and housing several tons of cassettes required more than 100,000 square feet of costly office space.

To solve these problems, Shanghai Media put in place a Web-based digital media asset production and management system.

The solution manages every phase in the digital media archive cycle, including content creation, categorization and indexing, storage management, search, query and fulfillment.

A content management application provides an interface for digitizing and inputting metadata – more than 100 properties by which video content is categorized and indexed.

The new system reduced floor space requirements by nearly 97 percent and is saving the company \$500,000 in annual operating expenses.

The system also saves production costs through re-purposing of existing video content.

(pause)

Broadcasters as diverse as **CNN, BBC Radio Wales, Swedish Television, Turkish Radio Television, China Central TV and the Seoul Broadcasting System** have all gone digital to preserve their assets and position them for the future.

Today, each of them has a digital archive in place that brings greater efficiencies in the cataloging, storage and retrieval of their video assets.

These systems feature secure preservation, rapid access through desktop browsing, integration – or “marriage” – with editorial decisions and production systems, and the ability to

explore new transaction and distribution business models aligned with online and wireless services. The systems also feature high expandability to meet the annual growth in data volume.

As a result, these companies are experiencing an increase in infrastructure efficiency, reduced operating costs and additional revenue streams from their ability to leverage digital assets across additional platforms.

And re-using content from a rich past means additional advertising dollars with low-to-no incremental programming costs.
(pause)

Another issue of keen interest to media and entertainment companies is bandwidth.

Broadband penetration brings with it increased rich-media content demand. It also means using new and different IT to support this demand – both in the network and in the business and content systems that feed the network.

Today, a company called **Technicolor** digitally manages its content – in large part because of the elimination of small bandwidth “roadblocks.”

Founded in 1915, Technicolor processes and prints film formats, dailies, answer prints, intermediates and trailers. Its production and post-production work ranges from film and audio restoration and preservation to DVD compression and authoring to episodic television and commercial advertising completion.

The company wanted to provide content owners and network operators with a system to manage data in a digital world. Toward that end, last month Technicolor announced the launch of a Media Asset Management service offering.

This is an integrated platform for the digital storage, management, access, processing and distribution of all forms of entertainment content.

Technicolor creates a Digital Master file for content – including feature film, broadcast, cable, commercial advertising, studio theatrical trailers, visual effects shots and more. Then it stores all associated elements on it – including audio tracks,

formatting instructions, metadata and editorial decisions.

Using the Media Asset Management system, Technicolor is able to efficiently create, manage and re-create all versions derived from that title with consistent, pristine quality.

The system further allows Technicolor's customers to place processing and fulfillment orders on-line after reviewing information about the specific content they need.

The digital solution reduces processing times for a faster time-to-market rate. Content is easily output in various formats and transported between locations, including desktop "dailies" screened quickly over high-speed Internet in remote locations.

Business processes are streamlined and the steps required to create film, video and DVDs for multi-format, multi-language releases are automated.

Customers order films online and the company needs less storage space because they have fewer physical assets.

With this solution, Technicolor protects its leadership position in all aspects of customer service and offerings. Its digital assets are more easily managed, accessible and browse-able from multiple locations simultaneously.

Its assets are also protected from the deterioration associated with traditional film formats and more easily guarded against unauthorized access.

Finally, the initiative helps transition Technicolor's customers from a strictly physical world to a robust and secure data-centric environment.

(pause)

Companies with large content libraries are looking to leverage them for new business opportunities in different formats and on different delivery platforms.

Until recently, after every Sunday game, **National Football League** officials would package and send game tapes via FedEx on Monday to teams that would receive them on Tuesday.

Likewise, NFL scouts would walk office-to-office to share videos of outstanding high-school football players with their colleagues.

Today, however, the NFL is implementing a digital content plan. This will include a vast digital repository of 110 million feet of NFL film and video, along with audio, images, text and statistics accumulated over 80 years, to improve operational processes and create revenue opportunities.

The NFL solution will provide the company with the ability to create, edit and render interactive media from video, text, images, audio, animation and other data.

Its digital portfolio is managed using a content management system, multi-repository search middleware, a digital rights system, a business rights system and a publishing production system.

This digital, on-demand environment will allow NFL players on the road, for example, to receive anytime/anywhere “virtual coaching” via training drills, exercises and game films on their laptops.

NFL advertising expenses will be reduced when ad agencies can easily pull up existing audio and visuals to use in new campaigns.

And NFL recruiting scouts will be able to use archival digital footage to introduce new players to life in the NFL.

The digital system will increase NFL efficiency and creativity, and provide new business opportunities through NFL.com, NFL marketing and NFL Films, for example.

(pause)

From Siberian tigers peering through the brush to the winding pathway of the Great Wall of China, some of life’s most striking images can be found in the photo archives of **the National Geographic Society**.

Until recently, however, the company’s content and business systems were not integrated, automated or even computerized.

Every time a photo request came in, staff members tracked it down manually – searching file cabinets, contact sheets, negatives, CD ROMS and other databases.

Today, National Geographic has a searchable, digital e-commerce catalog of more than 10,000 of its hallmark images of nature, adventure, culture and civilization, showcasing the work of hundreds of photographers, artists and illustrators.

The Society's 6,000 global customers, who include advertising firms, corporate marketing departments and publishers, can log on 24/7 to view, select and purchase directly from their desktops.

Using a feature called "lightbox," customers can review images in order to narrow their selections, receive the images they choose and e-mail or share the images they purchase.

Payment is made through several easy electronic options.

Each year, some 5000 new images will be added to the Web site from the Society's magazines, books and videos. Eventually, the society's entire archive of 10 million images, created from its founding in 1888, will be digitized and put online.

National Geographic's photo sales revenue has tripled in the two years since system implementation without an increase in sales staff. And the company has substantially cut handling costs for digital image licensing.

(pause)

A new model for digital content creators is "compute power on demand." As with other utilities, users pay for capacity only when it's needed.

Flip a switch and thousands of people and buildings instantly appear. Flip it off and they go away. On. Off. On. Off. Sounds like a cartoon, doesn't it?

For **Threshold Digital Research Lab**, a digital animation and visual effects production studio, it is a cartoon...or a full-length film, a television show or a Web site.

It's whatever high-end graphic, animation and special effects power they need right now.

A computer company provides computing power from somewhere in the U.S. and Threshold animators and artists in California apply their super-creative talents to make the most of it.

This system offers an especially attractive pricing model for entertainment companies who have surges in demand and times of lower-intensity use.

Major film studios used to need up to 500 acres of sets, props, costumes and characters. Today, Threshold's "virtual backlot" can populate the largest epic ever made in a studio of less than 10,000 square feet.

Threshold's upcoming full-length animated feature, "Foodfight!" includes 138 speaking characters, more than 6,000 "extras," and 174 sets with nearly 5,000 buildings.

All digital, and all ready for an early call at the flip of a switch.

This capability means Threshold and other studios can make more high-quality computer graphics films in as little as half the time and at half the cost.

And it uses human capital just as efficiently.

Threshold's core group of animators can tap the talents of remotely based colleagues using industry-standard workstations.

Despite the complexity of the project, Threshold has been able to shorten the production cycle to 18 months – less than a third of the time it typically takes to produce an animated film.

(pause)

Let's talk about **online games** for a minute.

Online games move the interactive entertainment industry to a functionally rich, e-business environment – where a significant revenue stream of the future lies.

Game industry revenue is expected to grow by \$5 billion in the next five years – about a 600 percent jump from today's \$875 million business.

By 2006, nearly 23 million consumers worldwide will be playing console games online.

Flexibility is vital in a changing environment. And few environments change as fast as those of the online games provider.

No matter what games genre the online provider is bringing to market, it's essential that he or she have an open, flexible, scalable, extensible approach.

A dynamic e-infrastructure architecture enables online games providers to launch their online presence with a comparatively small investment in hardware and software while offering the ability to scale up quickly by adding more functions, more services and more servers as the games' success grows.

For example, **Shanda**, creator of the "the Legend of Mir II," the most popular online game in Asia, went from zero to 10,000 servers and 850,000 concurrent users in 18 months.

This is the kind of cost and storage challenge game developers can wake up to if they start off on a closed, non-scalable, proprietary platform -- instead of an open, scalable, Linux-based, grid-computing environment.

Right now, we're working to expose game developers to the benefits of a Linux, open source operating system and Blade servers through Game Development "incubators" in Korea, China and Japan.

The **Koei Company** developed "Nobunaga's Ambitions Online," a massive, multiplayer, online game for PlayStation 2.

Set in a virtual world based on Japan's Warring States period, it currently has 50,000 subscribers, with as many as 20,000 able to play at any given time.

By using blade servers, Koei reduced its installation space by 20 percent and energy usage by some 40 percent over the closed architecture servers typically used for online games.

In addition, the simplicity of wiring the blade servers eased operating and management demands, such that Koei runs the system with three staffers instead of an anticipated six.

Blade architecture simplifies network design and ensures floor space savings. Servers doubled their performance at half the cost.

(pause)

We've looked at broadcasters and movies and TV and radio and online games.

We've talked about the technology of digitizing your assets, marrying them to your business systems and reaping some concrete benefits in the process.

I think, however, there's something more to the discussion. Something beyond the practical, the efficient, the dollar.

It's something that's common to everyone in this room. It's why you're in this business.

And that is your passion for music and words and moving images.

It's an understanding of the places in all our hearts that have been and continue to be touched and changed by these powerful ways of communicating.

At their most basic level, film and television have helped us to better know ourselves and those different from us. Flickering images in the darkened theaters of our childhood have helped us to explore and understand the social and cultural fabric of our own times and times past.

They've helped explain our history to ourselves and others. They've helped to educate and enlighten. And they still do.

Martin Scorsese says "movies are a door to knowledge – about society, about prejudice, about history, about art."

(pause)

That's why we're so pleased to see so much work taking place to preserve and protect the broadcast and film heritage of our country and of countries around the world.

Examples include The Library of Congress and three major universities, which are building a national **Moving Images Library**.

More than 100 years of motion pictures, TV broadcasts and other images, now scattered in national archives, museums, broadcasting companies and collections around the globe, will be

digitized and cataloged in one massive worldwide database, eventually available to the public via the Internet.

Martin Scorsese's **Film Foundation** is bringing "The Story of Movies" to schools around the country via a curriculum that encourages students to look at film through disciplines such as English, social studies, art and science.

Students and teachers will have online access to films, lesson plans and discussion groups.

And finally, the UCLA Film and Television Archive is digitizing some 850 hours of **the Hearst Metronome News Collection** newsreel footage, which chronicled 20th century life from 1913 to the 1960s.

The newsreels captured milestones including the formation of the League of Nations in 1919, the establishment of the United Nations in 1945, Charles Lindbergh's solo 1927 Atlantic crossing and the orbital flights of Yuri Gagarin and John Glenn.

Alongside these events, the Hearst newsreels feature technological and transportation advances, medical breakthroughs, major sporting events, fashion, recreational diversions and socio-economic developments such as bread lines and the growth of the two-car family.

The first phase of the project includes digitization of a deteriorating paper archive of newsreel documentation.

Six-hundred-seventy-five thousand hand-prepared index cards, nearly 7,700 synopsis sheets and approximately 190,000 records that provide chronological access to collection materials.

To realize this goal, IBM committed a team of research scientists to create new optical character recognition software using deep research scanning technology that can be applied to complex and varied records.

The original documentation will be scanned, with image files saved for each element and automatically fielded within a web-based relational database.

The new database, which was initially implemented in April of last year, allows users to search the newsreel holdings by subject, description or date.

The second phase relates digitized film and video to the digitized newsreel documentation.

The goal of the project is to provide public access, along with online tools for educators, historians and scholars, to a collection that comprises a moving image history of the 20th century.

(pause)

Let me end with this story. By now, some of you may be familiar with the name Kerry Conran, a 37-year-old filmmaker who has written and directed what some expect to be this summer's blockbuster, "Sky Captain and the World of Tomorrow."

The unique thing about Kerry Conran is that he asked himself this question: "Could you be ambitious and make a film of some scope without ever leaving your room?"

And so, 10 years ago, Kerry Conran went into a room in his Sherman Oaks apartment with a computer and a "blue screen" and set out to do just that.

His work eventually came to the attention of director Jon Avnet who was so impressed by what he saw that he's created a state-of-the-art digital studio for Conran.

The images you'll see in "Sky Captain" include an immense, silvery zeppelin docking at the Empire State Building, an elephant that fits in the palm of your hand and a troop of giant robots marching down Sixth Avenue.

None of these things actually exists. Conran did not construct a single set in miniature.

Rather, they are all digital computer images, built and animated in a virtual 3-D environment, or stitched together from photographs which are then draped around the flesh-and-blood actors, who have been shot separately on an empty set in front of a blank "blue-screen" background, along with those few minimal props with which they'll actually interact – a ray gun, a robot blueprint, and a bottle of milk of magnesia.

In 2003, the top seven Hollywood studios spent an average of \$102.8 million to make and market a film.

And then there's Kerry Conran. And the almost-all digital film.

There's no business like show business, is there? Now, more than ever, if you can dream it you can do it.

(pause)

I know I've covered a lot of ground today. But I'd like you to remember this:

Victor Hugo said "There is nothing more powerful than an idea whose time has come."

Digital media's time has come.

As you listened to what companies in your industries are already doing, I hope you were thinking about all the ways in which your company could benefit from digitizing your assets and linking them to your business systems across the enterprise.

Now is not the time for cold feet. Now is not the time for fear of commitment.

Your digital media and your business systems have an opportunity for a wonderful, prosperous life together. Buy the ring. Set the date. Take the plunge.

At IBM, we're a sucker for a good romance.

We believe in marriage and we'll be around long after the honeymoon ends.

Thank you for your kind attention.

Appropriate closing music – tie back to intro. music/theme.