

Wireless Internet for the Mobile Enterprise Consortium (WINMEC) at UCLA Convergence – Mobile Web 2.0

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Summary:

The evolution of Web 2.0 has deep roots in our human psyche. Web 2.0 is about connecting two or more users with each other, creating communities, connecting assets to owners and growing virally. Enterprise Web 2.0 involves another level of engagement by connecting assets to people, and enterprises to enterprises. Tangible “connected value” comes in various shades, leaving the phylogeny difficult to define.

Fundamentally, the Internet is far ahead of the mobile industry in developing 2.0 applications. A concept that has captured Web 2.0 is annotated broadcast television. This includes a term called “vommenting” (spelling is correct). Enterprise Web 2.0 applications, and its coordination of documents, workflow and communications, gives rise to a term called “Webification.” The goal is that the IT organization becomes a catalyst for organizational change through the use of the flexibility of business-driven technology.

Some of the examples outlined in this report are 5 to 10 years away; however, the principles which provide guidance are in development, now, on a global scale. This report comments on a modicum of the evolving Web 2.0, and Mobile Web 2.0, environments. It is up to the user, and the enterprise, to experiment and implement.

Report:

Morning Keynote:

Dr. John Walclawsky, Chief Architect, Motorola Inc.

The Internet is evolving from desire, to human interaction. In the field of telecommunications, this is a multi-layered integrated world. It came from a simple tethered telephony solution - the land line telephone. Therefore, there is a revolution developing at the edge of the network which will impact our society in many fundamental ways.

Individuals are increasingly connected through their device to a variety of networks (ie. GSM, Broadcast TV, 802.11, WCDMA...) The problem is not going to be the convergence of the various networks, but the integration of the device at the edge of the network. Who will be allowed, or permitted, to gain access to the network, and to what information?

People love their gadgets. They carry them in their hand or on their person. All this connectivity is having an impact on human behavior. We have shrunk the distance between content and user. The old folks in the audience [figuratively speaking I am sure] have grown up in a “default off” environment. (You switch on/off the TV, radio, lights...). Our kids are operating in a “default on” environment (always connected).

There are three factors at work here: Moore’s Law (the price of computer power halves ever 18 months); Gilder’s Law (total bandwidth capacity triples every twelve months) and Metcalfe’s Law (if you join a network its value grows exponentially because you are connected with others, while the

cost per user remains the same or is lowered). These three laws introduce new usage ideas and thus lower operational costs.

From a human behavior perspective, what is really driving the Web 2.0 phenomenon is Maslow's Hierarchy of Needs. The ubiquity of connectivity is driving community building at the edge of the network. Today's young users are focused at the top of the Pyramid of Needs. Starting at the base of the pyramid are the Psychological needs of food and shelter. Everyone fulfills these. Next up is Safety, or Security. That is followed by Love, which is equivalent in the Web 2.0 environment, to Belonging. This leads to Status, which is expressed as Esteem. Finally, at the top of the pyramid, is Self Actualization. This is expressed as Content Creation by our youth.

The fabric of the social network will continue to evolve through communities of interest, and circles of trust. But one's reputation must be validated. Examples on how the the Web and technology visionaries see these are: Whuffie (Sci-Fi novel: "Down and Out in the Magic kingdom", by Cory Doctorow); eBay's feedback system, or Slashdot's Karma (a news website which features user-submitted and editor-evaluated current affairs news with a "nerdy" slant <http://www.slashdot.org>). From a commercialization standpoint, this eventually leads to targeted and smart advertising.

The future of the network will consist of not thousands, but billions of radios, all interconnected. Broadband will be the "oxygen" that the younger generation uses to live in this environment.

Session 1: Movies, Music and Video – Where are we now in these industries and what does the future hold?

Bill Sanders – VP Programming, Sony Pictures TV International.

Sony has forty TV channels in various countries around the world. The company is currently reviewing four ways to distribute content over the mobile device:

- 1) Streaming content over mobile
- 2) Made-for-mobile content
- 3) Re-purposing library content for mobile
- 4) Original content for short form viewing – 2 minute clips; an example is "Afterworld". (130 two-minute episodes of the futuristic Afterworld 2.5D animated series, licensed from Emmy Award® nominated producer Stan Rogow, which will also be made available as 13 half-hour episodes for broadcast)

The television industry is trying to build habit among the mobile user base, where, historically, the mobile industry has been simply focused on retail sales. So one of the things Sony is trying to do in mobile is refresh the brand on a continual basis (a daily update). This is a difficult business model to get going because of the technical challenges, the operational structure of the network carrier, and the manpower that is involved with such an undertaking.

One thing we would like to see from the phone and carriers is the addition of a pause/resume function to the mobile phone. This would enable more rapid adoption of mobile video.

Pankal Asundi, VP and CTO Internet Applications and Solutions, Ericsson

Ericsson has worked with all the major operators worldwide to help with the distribution of mobile content. Large clients include Turner Broadcasting, CNN, and Cartoon Network.

What we see is that there is a shifting from ears to eyes. Text messaging is giving way to messaging which involves pictures and video clips. Traditional passive television is gradually moving to a more interactive, personalized experience. This is leading to future developments in communication services, local language content, advanced interactivity, the archiving of assets, lifestyle applications, and personalization of devices and content.

What we have learned from working with media companies, and creating new business models, are the following:

- 1) Even small (regional) operators have great demand for content.
- 2) Operators want us to simplify, not complicate, their content management system.
- 3) What you do not know about a carrier's operation will hurt you.
- 4) Launching a new service is only the beginning in a long process.

Session 2: Business Models – How will business models and partnerships change in the adoption of new services that result in an effective ecosystem for content creation and distribution to serve the consumer?

Mr. Kenny Miller, EVP and Creative Director for MTV Networks Global Digital Media

MTV Networks is an aggregation of a 140 cable network brands around the world (VH1, MTV, Comedy Central...) Re-inventing television from an organizational stand point is critical for staying in touch with our audience. We are also the largest aggregated audience on the Web.

We love Web 2.0 because it is a powerful forum for digital creativity; however, we believe that there are a few key parts that make Web 2.0 an important avenue for the re-invention of television:

- 1) Viewer participation
- 2) Immersive Experiences
- 3) New Tools:
 - a. "The Masher Video";
 - b. "Vommenting"

On the-N.com, a cable channel at MTV Networks, and one of Viacom's new social media offerings under development, the term "vommenting" appears. This term implies audience participation in the editing and commenting on video content.

What we see in mobile 2.0 is different. The current mobile environment is still fairly closed to such development efforts.

Session 3: Advanced Technologies for Mobile Web 2.0

Plenary: Ramneek Bhasin, CEO, Mobio Networks, Inc.

In the United States, sixty-percent of users are interested, or very interest, in accessing the Web on their mobile phone. Despite the fact that there are more than 220 million Web-capable phones in service, less than fifteen-percent do it regularly. Therefore, let us examine what is occurring in the mobile industry to see where Mobile 2.0 is headed.

In the last three years the trends have been:

- 1) Hand set power has increased significantly.
- 2) Bandwidth has improved.
- 3) JAVA has become the "defacto standard" for mobile application development.

All the speakers today have noted that the cell phone of today has more computational power than the PC of the mid-1990s. But old thinking still exists. Many still believe that as new applications come on line, users will use them. This is simply not true in the mobile industry.

Looking at the global mobile industry one sees that over ninety-percent of the world has validated that they do not want a keyboard on the phone. Sure, this goes against the conventional thinking of the Blackberry crowd, but it gets to the heart of the issue as to why people are not using the full

functionality of their device. The answer comes in that users want a downloadable client. Technically, this can be very easily achieved in today's environment, but downloadable applications must be managed from an organizational standpoint, and user standpoint.

Mobio Networks has built a portal (<http://www.getmobio.com>) to manage the flow of services and applications to cell phone users. The solutions are simple, and people expect them to work. Mass market applications, for all popular phones, not just smart phones, is the goal of this lifestyle content company.

Session 4: Convergence of Content, Personal/Mobile Devices and Networks for Consumer and Enterprise Spaces

Mr. Phil Edholm, CTO/VP Net Architecture, Enterprise, Nortel Networks

Devices exist on three types of networks depending on your location: Wireline, Nomadic and Wireless. We are witnessing a continual increase in bits/sec capacity in each of these networks year after year.

The critical change within the enterprise is that we are becoming "hyper-connected". We are using communications enabled applications to do our jobs more efficiently. True broadband is giving us a rich experience.

What is coming next in Enterprise Web 2.0 is a "communication convergence". There is an intersection of how people think of information (usually in a document), the workflow (tracking, prioritizing, moving) and communications (many devices and many networks.). We see this integration on a global scale, within global corporations. This is called "Webification." Large enterprise software solutions provider, such as SAP, has developed a new platform rich in innovation. The foundation for an enterprise service-oriented architecture can be seen in SAP NetWeaver.

Mr. Doug Neal, Research Fellow, Computer Sciences Corporation

Technology is shrinking so fast, that your business plan better be able to handle a 4 terabit SD card in three years. It is coming. I would like to pass through the audience a 3 gigabit SD card the size of your fingernail !

What we have seen with the proliferation of Web 2.0 services is that it has its connection to AJAX (Asynchronous Javascript and XML). Microsoft developed it. Google exploited it. Now look at what industry is doing.

Amazon.com, first an on-line bookseller, then an on-line box retailer, now offers Web-based Services (Amazon Web Services - AWS). Amazon has spent 11 years and over \$2 billion building the infrastructure. AWS has released a variety of web services (programmatic access to its open APIs) that enable developers to leverage Amazon's data and robust infrastructure. You pay for only what you use. These fundamental services allow external developers and businesses to build their web applications in a reliable, scalable, and cost-effective manner. This is enterprise Web 2.0 at work.

Finally, I would like to make reference to the IT business model being used by BP (British Petroleum). The company has placed their core database at the center of the organization using an SAP database and SAP R3 applications. It has placed its devices, and people, outside the firewall. Employees are given \$1000 annually to procure their own technology: laptop, blackberry, phone, PC, software.... They are free to connect to the Internet as they see fit. IT costs have been significantly reduced. Productivity has increased because people are acquiring, and using, the tools that they need to do their job best.

[What's it mean to Canada?](#)

One can see from this report that Web 2.0, and Mobile Web 2.0, is a global phenomenon. Among the speakers was a representative from Nortel. This signifies that solutions, and interest come from across the globe. There are a number of companies in Canada who are developing solutions for industry. It may be a valid business decision to link with the WINMEC as they continue to be on the pulse of University/Industry partnerships in the Web 2.0 environment. The best contact there is:

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Conclusion:

As technology barriers are removed between content and consumption there is more socializing that results. There will be a “cloud” of opportunities that arise from this environment. Concentrate on monetization opportunities and your business will do well.

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