

“Historical Perspective – Business Use of the Internet in Minnesota”

**Presented to the Ultra High-Speed
Broadband Task Force on November
14th, 2008**

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Some UMC Projects that will help frame today's discussions:

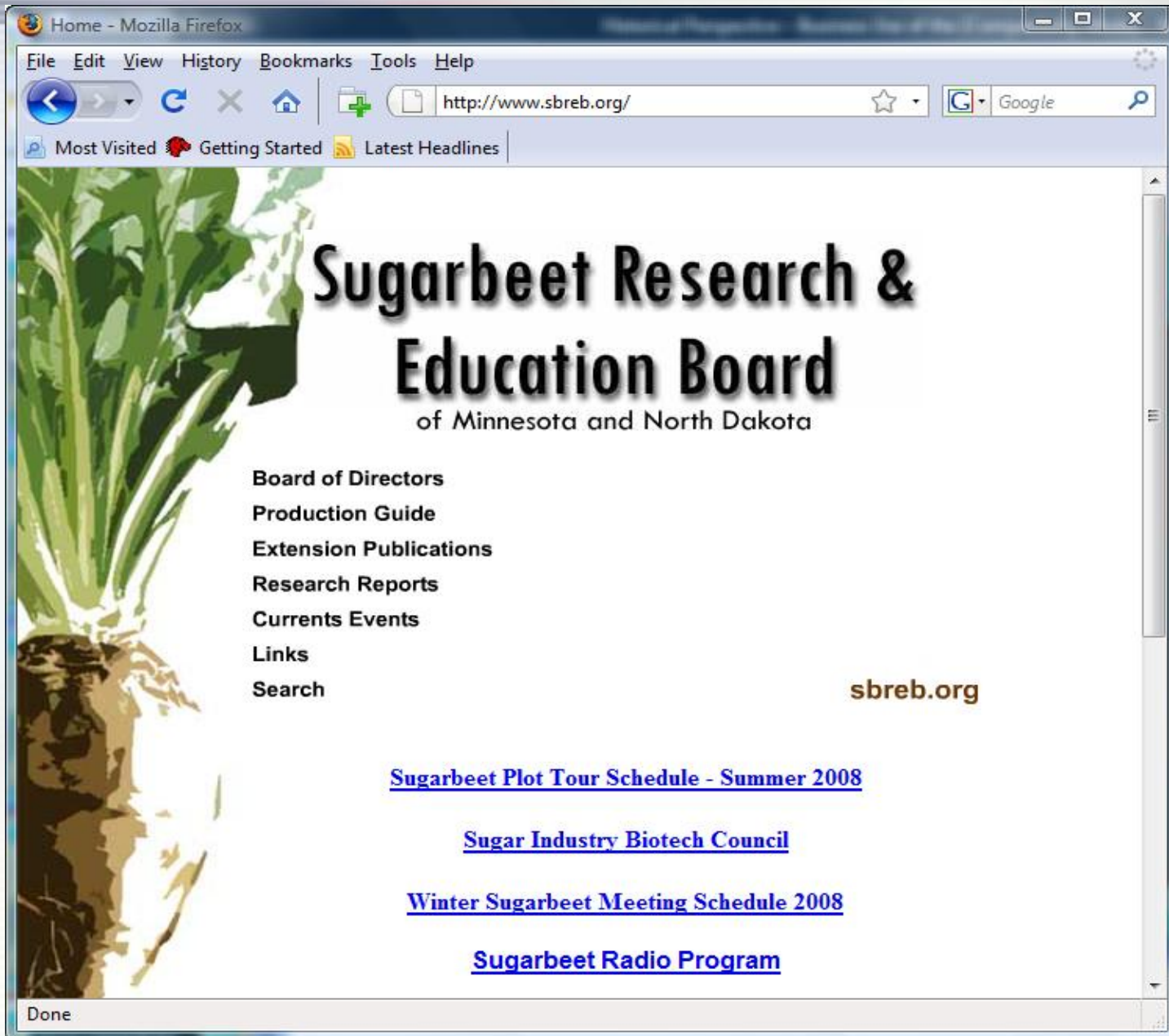
- UMC's notebooks computers for all students, faculty and staff initiative started in 1992.
- USDA Funded "Rural Telecommunications Pilot Project" in 1995-1997
- Minnesota Technology and USDOC NIST funded "Manufacturer's eBusiness Network "- 1997-2001
- USDOL Funded an "Building an eBusiness Ready Rural Workforce in the Northern Great Plains" - 2001-2004
- 2004-present – Instructional Technology and Distance Education initiatives
- 2007-present – faculty and student work with companies on SaaS and cloud computing

Early on - A List of Questions We Heard from Minnesota Companies

- How do I get “on the Internet”? What hardware and software do I need? What questions do I need to ask of my telephone company or local Internet Service Provider?
- How do I claim a domain name?
- How do I build a company website?
- How do I get email for my company?
- How do I get a first page ranking with the search engines of the Internet?

Providers of Internet Connectivity Services

- Telephone – providers of traditional analog modem services, dedicated and frame relay digital services, and Digital Subscriber Line (DSL) technologies – star based architecture.
- Cable – providers of hybrid fibre-coaxial - bus based architecture services.
- Point to Point Wireless – emerged in sparsely served markets – often entrepreneurial based. Exception – <http://www.clearwire.com>.
- Cellular – have invested heavily over the past five years with 3G now becoming widely available.
- Satellite – often considered a last resort because of latency issues, but an important option where service is lacking. See <http://www.hughesnet.com> for more details.



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MARKET VIEW

Market Snapshot		
Spring Wheat	8	652.5
Wheat	8.75	532
KCBT Wheat	4.5	575.5
Soybeans	-19	889
Corn	-5.25	369
DJIA	-227	8410
Nasdaq 100	-43	1180

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Why were companies embracing Internet technologies and eBusiness strategies?



- **Expanding global marketplace**
- **Evolving business relationships**
 - *To meet increased demands for rapid response customer service and improved communications with the sales channel*
 - *To enhance internal departmental connectivity*
 - *To facilitate accelerated supplier communication and business integration*
- **The need for access to information (internal and external) for decision making**
- **....many others.....**

“If any entity in the value chain begins to do business electronically, companies up and down the value chain must follow suit, or risk being substituted.”

...Dr. Ravi Kalakota and Marcia Robinson from “e-Business – Roadmap for Success”, Addison Wesley Longman, Inc., 1999.

A Short List of Minnesota Projects that Worked Directly with the Business Community

- **Access Minnesota Main Street** – an ecommerce awareness and training initiative of Minnesota Extension Service.
- The **Manufacturer's eBusiness Network** a joint initiative of Minnesota Technology Inc., USDOC NIST Manufacturing Extension Partnership, the Northern Great Plains Initiative for Rural Development and the University of Minnesota, Crookston.
- Minnesota Entrepreneurial Gateway and **BizPathways** of the Minnesota Rural Partners.
-many additional projects funded by a variety of public and private resources (my apologies to not including the work of many deserving and creative folks).

Business Computing in 2008

The Questions Have Become More Sophisticated – Here's a sampling....

- I have major concerns about security and privacy. What measures should I take to assure that I'm protecting my resources as well as those of my partners and customers?
- Should I continue to run internal software or is it time to consider options that will give me access to systems as well as technology talent that I can not afford to have on staff fulltime?
- How do I meet the expectations of my supply chain partners?
- Is it possible for me to become more than just another business on the Web? How do I distinguish myself from others and specifically my competitors?
- Tell me about the social networking sites such as Facebook, MySpace, and YouTube. Should I find a way to use them? What are my options?

Business Applications Continue to Improve with Flexibility and Interoperability

- **The landscape of Business and MIS software has consolidated:**
 - Oracle - PeopleSoft, Seibel Systems, BEA Systems, and more....
 - Microsoft Business Solutions – Great Plains, Solomon, Axapta, and more...
 - The Sage Group – Peachtree, Business Works, State of the Art, MAS 90 and 500, ACCPAC, and much more...
- **Web Services have become a significant focus of every major business software vendor.**
- **Open Source and Independent Software Vendors have found commercial opportunities for their work...**

The benefit of this consolidation is that we have seen improvements in software functionality and the availability of third party extensions.

“Cloud Computing” is Becoming a Strategic Computing Consideration

- Infrastructure as a Service (IaaS) - A service that provides the core computing resources and network fabric for the cloud deployment. - *Examples:* Amazon's Elastic Compute Cloud and S3, and more that are often described as hosting services....
- Platform as a Service (PaaS) - An integrated software environment for which systems administrators and developers can build, test and deploy custom applications. - *Example:* Google Apps Engine, Microsoft Windows Azure and Services Platform, others that will emerge.....
- Software as a Service (SaaS) - Special-purpose software made available by a third party over the Internet - *Examples:* Salesforce.com, NetSuite, NetBooks, Zoho , QuickenOnline, QuickBooks

NetBooks

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Your Messages

You have no messages.

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Amazon EC2's simple web service interface allows you to obtain and configure capacity with minimal friction. It provides you with complete control of your computing resources and lets you run on Amazon's proven computing environment. Amazon EC2 reduces the time required to obtain and boot new server instances to minutes, allowing you to quickly scale capacity, both up and down, as your computing requirements change. Amazon EC2 changes the economics of computing by allowing you to pay only for capacity that you actually use. Amazon EC2 provides developers the tools to build failure resilient applications and isolate themselves from common failure scenarios.

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