

State of Wisconsin
DEPARTMENT OF ADMINISTRATION
2006 NASCIO Recognition Awards

Nomination Form

Nominee Information

Project Subject Title: BadgerNet Converged Network (BCN)

Name of Nominated Persons:

Ben Banks, Connie Bandt, Nan Linde, Jody McCann, Mike Mietz, Carol Mothershead, and Mike Toner - all of the Division of Enterprise Technology (DET).

Executive Summary

The BadgerNet Converged Network (BCN) is the new statewide telecommunications network. A single and more powerful network, it carries the data and video traffic for state and local government, public and private K-12 schools, the University of Wisconsin and Wisconsin Technical College Systems, private colleges, libraries, and museums. The older configuration - known simply as BadgerNet - carried voice, data and video independently on three separate networks. However, BCN is designed to allow state government's voices services to be added at a later date if this option is determined to be desirable and financially feasible.

Work on the development of the business case began in the fall of 2001. The business case was finalized in the fall of 2002. Work on the procurement of the network followed, and the contract was awarded to a vendor in March of 2005. Pilot installations were conducted during September and October of 2005. The general conversion to the new network of existing sites began on October 26, 2005 and continues today. To date approximately some 250 sites have been converted to BCN.

The BadgerNet Converged Network (BCN) project brought together a diverse group of stakeholders to create a single, cost effective telecommunication network that meets the varying needs of nine different customer groups, including:

- state agencies,
- local government, including the tribal nations,
- public and private K-12 schools,
- University of Wisconsin System,
- Wisconsin Technical College System,
- private colleges,
- libraries, and
- museums.

State of Wisconsin
DEPARTMENT OF ADMINISTRATION
2006 NASCIO Recognition Awards

Members of the BCN project acted in a leadership role to address and incorporate the varying needs of the different stakeholder groups into the design of the network. The alternative would have been the emergence of several smaller — and likely more expensive and less connected — networks throughout the state.

In addition to addressing telecommunication needs of the above groups, BCN also assists in other areas:

- **Protection of Educational Assets** - A single, statewide network helps protect the state and federal dollars we have invested in educational technology in Wisconsin, allowing those services to be delivered throughout the state.
- **Encourage Economic Development** - The State of Wisconsin serves as the "anchor tenant" on the network, helping to make it economically viable. In addition, BCN is available to carry private sector traffic (i.e., business and residential). It will help spur the delivery of broadband Internet service to parts of the state, where it was previously unavailable. The universal provision of broadband service is a key goal of Governor Doyle's economic development plan for the state known as *Grow Wisconsin*.

Strategic Planning

BCN was purposefully designed as a standards-based network to give it the flexibility to grow and be used by applications not yet developed. By standards based, it is meant that the network does not rely on a single proprietary protocol (i.e., the rules that govern the exchange of information on the network). In fact, the new network handles multiple protocols. Creating a standards-based network means, we won't have to start all over if a particular protocol becomes obsolete.

On a different level, BCN provides the foundation of another important project now underway, the Shared Information Services (SIS) initiative. BCN is the highway upon which traffic will flow between the servers at the new State Data Center, agencies and their external customers.

Customer and Market Focus

Throughout its three main phases, the BCN project has strived to maintain a customer focus:

- **Business Case** - A year long effort was conducted to create a business case for the new network. Surveys were sent to all Wisconsin public teachers. Over 13 focus groups were held with over 500 individuals from local government and the education community. Information gathered from the survey and focus groups were used in developing the initial business case. The draft was posted on the Internet for comments, which were later incorporated into the final document.
- **Procurement** - Customer needs identified while preparing the business case were incorporated into plans for the network. For example, customers expressed a strong interest in having a choice of Internet Service Providers (ISPs). In response, the Department of Administration (DOA)

State of Wisconsin
DEPARTMENT OF ADMINISTRATION
2006 NASCIO Recognition Awards

conducted a sister procurement to BCN, which allowed BCN customers to use the services of ISPs.

- **Implementation** - Although a technical project, implementation is organized around the common needs of the various customer communities. Two agency coordinators work with state agencies to migrate customers to the new services. Distance education coordinators assist the educational customer base. An overall outreach program coordinator is responsible for outreach to new customers, and addressing any unique needs of the various customers. As individual sites are converted to the new network, weekly customer meetings are held to evaluate the success of switch-over with an eye toward fine tuning the process for the customers to come.

Measurement, Analysis & Knowledge Management

BCN places a high priority on data collection throughout the services it offers. For example, the video conference scheduling software allows the Division of Enterprise Technology (DET) and its BCN customers to generate utilization reports for current, future and historical usage. The Wide Area Network service offered through BCN allows DET to access the management platforms that collect statistics with near real-time data for viewing.

For the first time, all users of the state's network can request services or report problems through a Web portal. This single point of collection allows for the easy aggregation of data, enabling DET to track trends on a statewide, regional and point-of-service basis. This allows DET, in partnership with the vendor, to perform statistical analysis that will lead to faster and better resolution of recurring problems.

In addition, because users now have access to their own data, they are able to better manage their services. The power of information allows them to more easily plan for the future and mitigate costs.

Human Resource Focus

Arguably, there is no other state information technology project which has and will have such a profound effect on our state. BCN underlies how Wisconsin state and local governments perform internally, how they interact with each other, and our citizens. In the educational area, it positions our schools and colleges to be at the forefront of e-learning in all its forms. It will spur economic development in parts of the states struggling to keep up with major metropolitan areas.

Because this project touches so many areas, and the stakes were so high, a conscious decision was made from the beginning to involve people with many different backgrounds and skill areas throughout the process. There was no room for territorial experts or intractable positions. Everyone's contributions were valued regardless of one's title or stakeholder group. Whether a good idea was gleaned from a third grade teacher at a focus group meeting or a service improvement was suggested by one of the network engineers, they were all listen to and considered with respect.

State of Wisconsin
DEPARTMENT OF ADMINISTRATION
2006 NASCIO Recognition Awards

Process Management

The BadgerNet Converged Network (BCN) has several features developed with the intent of improving the performance over the older network, as well as position our state network at the forefront of those in other states:

- **BCN is specifically designed to keep Internet traffic off "backbone."** This helps to keep the costs down for all users. The Internet traffic of BCN users can go directly out to Internet Service Providers (ISPs) without having to first be carried on the part of the network with the heaviest traffic, known as the backbone.

- **Traffic on BCN is logically separated.** For reasons of security, many state agencies and other customers require that their data be "separate" from other user group's data. Previously such needs could only be met with physically separation (i.e., different data lines). However, BCN is designed to "logically" separate the network traffic of agencies, clients and their applications. By designing BCN to be a logically separate network, it can meet the security needs of a wide variety of user groups.

- **Usage is scalable.** Users can choose between a wide-range of bandwidth size from 256 KB to 1 Gigabyte. This enables them to only pay for what they use.

State of Wisconsin
DEPARTMENT OF ADMINISTRATION
2006 NASCIO Recognition Awards

Business Results

BCN delivers more and better services to its customers and — in many cases — at a lower cost than was available under the old network. A typical BCN customer can expect a savings of between 20% and 45% for similar levels of bandwidth service. For example, the monthly rate of a T-1 line will drop from \$1.067 to \$600.

Notable service improvements include:

- **Wide Area Network Service (WAN)** - This service allows users to share data files with others on the network without having to incur the charges of an ISP. For example, schools with a WAN service can now connect directly with the Department of Public Instruction when doing their annual reporting.
- **More Choice of Internet Service Providers (ISPs)** - allows for more competitively priced access to the Internet, especially in areas of the state that previously had few alternatives.
- **Scalable Bandwidth** - Because BCN is scalable, users can choose to pay for a wide-range of bandwidth size from 256 KB to 1 Gigabyte. This enables them to pay only for the amount of bandwidth they need, when they need it, and no more. Previously users would require a single bandwidth size based on peak demand, even if it was seasonal. Now a customer such as the Department of Revenue can ramp up their bandwidth requirements in the months leading up to April and scale down after April 15. At the same time, the costs for the service go rise and fall accordingly.