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## *Aurora on a mission to land data center*

by Kurt Johnson

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After more than a year of preliminary planning, efforts to recruit a data center to Aurora are shifting from “what if” economic development scenarios to full-scale marketing of a 151-acre parcel just off the I-80 corridor.

The Aurora Development Corporation purchased the land last week, a section of ground located just east of Highway 14 by the “Welcome to Aurora” sign, and is now putting the finishing touches on its marketing materials.

“The ADC has diligently worked on the necessary marketing tools to help in the process,” said Chad Carlson, ADC board member and chairman of the local power park committee. “We will now be researching and entertaining interested companies that would like to place a data center in Aurora. This will be an on-going process until we land one.”

There have been several headlines touting the power park project in recent weeks, including Gov. Dave Heineman’s announcement that Aurora, Kearney and Sioux City were to receive more than \$2 million in Community Development Block Grant funding. In addition to the \$755,000 of that total that was sent to Aurora, the community will also benefit from the DED’s marketing efforts to recruit a data center or other high-tech industry to Nebraska.

There has been less detail, however, on an industry now being courted to join the community. Thus beg the questions, what exactly is a data center and how would it benefit Aurora?

### **What is a data center?**

With the world’s growing dependence on computers, data centers have become an important resource in the technology realm. Many companies large and small require off-site computer backup operations, for example, and the concept of cloud computing could soon send demand skyward with web-based processing that shares resources on demand over the internet.

Though there are various styles and configurations, data centers are essentially buildings or structures that house computer systems and associated components.

From the outside, most look like large warehouses or office buildings. On the inside, they feature row after row of high-tech computer servers, which must be on at all times and maintained at a constant temperature.

Some are designed for single users, for example financial institutions, health care or large computer companies, and some (colocation centers) are built to host multiple customers in one center being managed by a third party. Another variation is a containerized data center, in which computer servers are stored in compact containers which can easily be moved as needed.

### **‘Mission critical’**

One of the most important factors regarding data center operations is its “mission critical” designation, which means that a shutdown, for even a brief period for any reason, will result in the failure of business operations that are considered critical to the organization’s mission. Requirements for providing telecommunications, power, and water must therefore be more than 99.6 percent guaranteed and sustainable over a long period of time.

In order to make that guarantee, data center companies require redundant sources of telecommunications, water and power. Aurora’s site has double sonnet rings laid by Hamilton Telecommunications for redundancy as well as access to six other fiber providers in Hamilton County. Hamilton Telecommunications is also an experienced partner in managing data center operations.

In terms of power, the site is touted as having access to 8 megawatts immediately, and with proper notice can have the infrastructure needed to provide up to 150 megawatts or more. Cost is listed at 4.5 to 4.7 cents per kW hour, evidence to why Nebraska is among the lowest power costs in the nation, due in large part to the fact that it is a public power state.

Another increasingly important resource for data centers is access to water. Aurora’s site has diverse water supplies, with an onsite well providing immediate access and municipal service also running parallel to the site.

“The site and development plan endorsed by DED (the Nebraska Department of Economic Development) and Aurora Chamber and Development Corporation shares many characteristics with recently announced or completed projects,” said Craig Deering, a principal with RTKL Associates Inc., a Washington DC-based consulting firm hired by ADC. “These characteristics include a business and tax environment favorable for data center operators, large tracts of affordable land, reliable sources of large quantities of low-cost power and water, and access to national fiber optic carriers. The access to the Ogallala Aquifer is a distinct advantage of the site.”

Security is also a consideration, and on that note Deering said the data center industry is open to remote but accessible sites.

“Recent projects have removed some of the stigma of sites more than an hour or two from major airports and uncovered some advantages including less competition from other users for power and water resources and favorable treatment by the local communities as engines of economic development.”

One possible negative he cited regarding Aurora is its risk for tornadoes. He added, however, that weather risks can be mitigated by the design and construction of the facility.

**Possible benefits**

If Aurora were to land a data center, the initial impact would be tens of millions of dollars of capital investment which would broaden the local tax base.

Once operational, data centers typically generate high-paying jobs, though the number of jobs created would vary depending on the scope and size of the facility. In addition, data centers create ancillary jobs, involving construction, mechanical, administrative, security and miscellaneous support businesses.

As for the potential demand for such high-tech facilities, it is a growing phenomenon.

“The demand for internet resources is growing rapidly and this creates the need for more data center capacity,” Deering said. “New capacity is created either by IT innovation, -- i.e. through more powerful servers or more efficient software, or new data center facilities -- so it can be difficult at times to predict the need for new facilities.”

Deering noted two trends in the industry which favor new facilities. One involves consolidation of older, less efficient data centers, and the other is a move toward “greener” facilities (see related article) which reduce energy expenses and carbon emissions associated with data center operations.

“These trends support Aurora’s efforts in attracting a project,” he said. “We feel that the industry is starting to look at more remote sites so Aurora is kind of at the front of that wave.”