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## **The Role of the State CIO in Economic Development**

### **Introduction**

Economic development is a perennial priority for the nation's elected officials. It receives even more attention during periods of economic downturn or re-adjustment. State chief information officers (CIOs), providing services that are integral to the Internet economy, have always been acutely aware of the role they play in growing opportunities for their states' citizens as the Internet economy continues to play havoc with Industrial Age business models. Today, virtually every state CIO is contributing to the economic development of his or her state—even if elected officials don't realize or appreciate that fact. This issue brief will frame the variety of ways in which state CIOs can help their elected leaders steer their states into the economic future. This is intended to be only a starting point for further research and cataloguing of specific efforts in the major areas discussed below.

### **Digital Government and the Internet Economy**

The most pervasive contribution that most state CIOs make to economic development is in blazing the digital-government trail in their states. This puts them in the role of practice leader in the provision of on-line services and as promoter of the Internet economy.

#### **Being A Practice Leader with Digital Government Services**

By deploying digital government services for citizen, business, and governmental transactions, the state CIO can position the state as a "practice leader" in the Internet Age. The recent history of digital government has shown that, while state governments are only occasionally on the cutting edge of Internet-enabled service delivery, they are still far ahead of most local governments and smaller brick-and-mortar businesses. Providing online government-to-citizen (G2C) services can "market" the state to a "trendsetting technology elite" who are seeking quality of life and economic opportunities related to technology advances and could serve as downstream evangelists of digital government services to the wider populace.<sup>1</sup> Moreover, a recent study has shown that government web sites are one of the most commonly used online informational resources, which means that governments serve as incubators of public satisfaction with online services.<sup>2</sup>

Providing a coherent selection of online government-to-business (G2B) services helps to reduce the overhead costs for existing businesses within the state and facilitates the innovative start-ups that expect to plug-and-play in the Internet economy by moving from idea to production as quickly as possible. Standing in line at the tax or licensing office is not a welcome thought to

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<sup>1</sup> John B. Horrigan, "Consumption of Information Goods and Services in the United States," *Pew Internet and American Life Project*, 23 November 2003, i-vi.

<sup>2</sup> Mary Madden, "The changing picture of who's online and what they do," *Pew Internet and American Life Project*, 22 December 2003, vi.

any citizen, much less the high-tech entrepreneur who feels existing and soon-to-be competitors breathing down his neck.

Government-to-government (G2G) services can be overlooked when it comes to economic development; however, they play two important roles. First, state governments can provide “digital coattails” to county and municipal governments in the state by allowing those entities to leverage the state’s buying power. The state CIO can provide front-end (i.e., web portal) and back-end (i.e., transaction engines, data repositories, telecommunications) infrastructure that local governments can either use freely or purchase at discounts in order to jumpstart their Internet Age presences. Second, behind the scenes G2G streamlining, whether it is among agencies or across jurisdictional lines, can provide operational savings and enhanced transactional capabilities. The saving can be reinvested.

A secondary impact of increased consistency and integration among federal, state, and local digital government presences will be in the areas of branding and tourism. The federal government recently made the .gov top-level domain (TLD) available for use by all governmental entities in the United States. This is the first step toward establishing a defined government marketplace on the web. As web technologies and back-end applications and data sources become more integrated, governmental entities will find it easy and cheap to leverage this space for competitive purposes. States, counties, and municipalities will no longer focus on the transient benefits for tourism and conventions but also for the tech-savvy entrepreneurs, workers, retirees, and businesses researching relocation options via the web. The contrast between tech-savvy governments and those that are not will be unmistakable.

### **Resources:**

- Accenture’s annual report “eGovernment Leadership: High Performance, Maximum Value” (May 2004):  
[http://www.accenture.com/xd/xd.asp?it=enweb&xd=industries\government\gove\\_egov\\_value.xml](http://www.accenture.com/xd/xd.asp?it=enweb&xd=industries\government\gove_egov_value.xml)
- Deloitte Research’s report “Citizen Advantage™: Enhancing Economic Competitiveness Through E-Government” (November 2003):  
<http://www.deloitte.com/dtt/newsletter/0,2307,sid%253D37085%2526cid%253D26079,00.html>
- Genie Stowers’ IBM Endowment for the Business of Government report “Measuring the Performance of E-Government” (March 2004):  
<http://www.businessofgovernment.org/main/winners/details/index.asp?GID=163>
- The Pew Research Center’s “Internet and American Life” Project site:  
<http://www.pewinternet.org/index.asp> [NOTE: See reports on Internet consumption.]

### **Promoting the Internet Economy**

The state CIO is among the primary technology business leaders in the state. In that sense, he or she has a responsibility, as the foremost state government official in this area, to help “evangelize” the importance of the Internet economy to the state’s future. This can be done by speaking to local economic development groups, conducting road shows around the state with other key leaders, and even serving on task forces and other strategic planning groups seeking to position the state or parts of the state for the Internet economy. The state CIO, as the leader of one of the state’s largest IT “shops,” can also serve as a liaison to the state’s technology community, economic development corporations, chambers of commerce, and other IT-intensive

businesses, including established corporations and entrepreneurial startups. In this capacity, the CIO can introduce the high-tech community to existing G2B and G2C services and solicit feedback and partnerships for developing future service offerings. The higher education and research communities will also be important constituencies for outreach.

#### Resources:

- The U.S. Office of Technology Policy's (OTP) annual report "The Dynamics of Technology-based Economic Development (State Science and Technology Indicators)" (March 2004):  
<http://www.technology.gov/reports.htm> [NOTE: Scroll down to 2004 reports.]
- The Progressive Policy Institute's (PPI) "New Economy Index":  
<http://www.neweconomyindex.org/>

### Promoting High-Speed Internet Access

When it comes to promoting adequate public access to the Internet, state CIOs will be faced with a variety of options. While a consensus has emerged that pervasive high bandwidth connectivity will be integral—if not essential—to spurring the next wave of economic growth in the United States, there is still much debate as to the best way to foster pervasive access.<sup>3</sup> That decision will likely be made based on the practical realities such as cost and the philosophical leanings of decision makers. Options will range from direct provision of high-speed infrastructure by the state to more market-based approaches. Therefore, the state CIO needs to be well versed in all options in order to advise the decision-making process and see that state-owned resources are adequately leveraged as part of a solution. Even where the state is relying more on market-based solutions, the state CIO will still want to be involved in the discussion so as to see that the chosen approach will further the goal of pervasive access in underserved or economically stressed areas.

The over-arching approach that a given state will take in fostering pervasive broadband access will be comprised of one or more of the following actions below:

1. Creating an informal public and private "task force" to promote the benefits of pervasive access to broadband with a statewide strategy and awareness campaign
2. Deregulating or reconfiguring broadband oversight by public service commissions (PSCs) in order to increase incentives for private sector build-out into underserved and/or economically depressed areas
3. Creating a formal broadband authority or agency to oversee a statewide strategy and any efforts under items 4, 5, 6, and 7 below
4. Aggregating demand by organizing localities, schools, and non-profit entities into attractive markets with the state sometimes serving as the "anchor tenant"
5. Providing tax credits for deployment of broadband infrastructure across the state or targeted to certain underserved and/or economically depressed areas
6. Awarding grants or other funding mechanisms for localities, schools, or service providers deploying infrastructure in underserved or economically depressed areas

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<sup>3</sup> Kathie Hackler and Ron Cowles, "Harnessing Broadband for Economic Growth," *Gartner teleconference*, 24 June 2003, <[http://www4.gartner.com/2\\_events/audioconferences/2003/june/jun24tcm104.jsp](http://www4.gartner.com/2_events/audioconferences/2003/june/jun24tcm104.jsp)> (17 May 2004).

7. Providing services to localities, schools, and non-profit entities via a state-owned network<sup>4</sup>

**Resources:**

- The Alliance for Public Technology's (APT) report "A Nation of Laboratories (Broadband Policy Experiments in the States)" (March 2004): <http://www.appt.org/publica/> [NOTE: Scroll down to report.]
- The Pew Research Center's "Internet and American Life" Project site: <http://www.pewinternet.org/index.asp> [See broadband related reports.]
- The Progress and Freedom Foundation's (PFF) discussion transcript for Randolph May *et. al.* "The Next Step in Telecom: Deregulation of Rates" (March 2004): <http://www.pff.org/publications/communications/> [NOTE: Scroll down to 2004 reports.]
- TechNet's "State Broadband Index" (July 2003): [http://www.technet.org/press/Press\\_Releases/?newsReleaseId=2527](http://www.technet.org/press/Press_Releases/?newsReleaseId=2527)
- The U.S. Technology Administration's report "Understanding Broadband Demand (A Review of Critical Issues)" (September 2002): [http://www.technology.gov/reports/TechPolicy/Broadband\\_020921.htm](http://www.technology.gov/reports/TechPolicy/Broadband_020921.htm)

## Leveraging State Buying Power

Regardless of the particulars of the current economic situation, states will continue to struggle with issues of worker displacement as the Internet economy continues to disrupt older Industrial Age business processes. Job creation and workforce development will remain high on governors' and legislators' agendas into the foreseeable future. Thus, elected officials, and, therefore, the state CIOs, will be under pressure to leverage state spending to the benefit of the states' local workforces and taxpayers. The state CIO, as the operator of what is likely the state's largest IT enterprise, can bargain from a position of strength.

### Aggregate Purchasing

Every penny saved in purchasing is a penny that can be used for worker retraining, economic development, or tax cuts. State CIOs might be called upon to aggregate purchasing power with local governments, schools systems, and universities in order to reduce per-unit costs and expand access to state-of-the-art technologies. This purchasing arrangement can be leveraged for purposes cited above (e.g., web portals, broadband infrastructure) and for other purposes such as software, PCs, and radio systems. By opening up state purchasing schedules to other government entities, states can help drive some standardization of information and communications technology (ICT) where no mandate for commonality exists. In cases where the state is seeking to promote IT-enabled economic development in underserved or economically stressed areas, the state can open up its purchasing schedule to non-profits providing relevant services, such as training, education, and family services, in targeted zones.

### Local Sourcing

Forrester research predicts the loss of U.S. IT jobs to overseas competitors will exceed one million in 2006 and reach 3.4 million by 2015.<sup>5</sup> What the economic and political

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<sup>4</sup> NOTE: These bullet points were compiled in part from the APT and the PFF reports listed under "Resources" for the section titled "Promoting High-Speed Internet Access."

ramifications of these losses will be nationally and within a particular state or the government sector remains to be seen. Therefore, when called upon to advise on sourcing issues—especially as they relate to offshore outsourcing—the state CIO will need to tread cautiously into a very complex political debate with cross-cutting ideologies and demographic interests that won't fall into an easy Democrat-Republican framework. However, the focus of the debate will likely be on the real or imagined insecurity of code written overseas, offshore outsourcing of various types of call centers providing government services, data entry centers, and the stateside costs of assisting displaced workers. As many as 25 states already have some sort of preference in place for bidders and products located in state and/or within certain industries or targeted economic zones.<sup>6</sup> A majority of state legislatures have had legislation introduced that would restrict offshore sourcing. Alabama passed a law encouraging the use of in-state professional services. Indiana provides a one to five percent price preference for state-based contractors. Tennessee will be developing preferences in regard to data entry and call centers.<sup>7</sup> These trends make it clear that every state CIO must be prepared to deal with all aspects of this issue regardless of how his or her administration chooses to address it.

### Resources:

- The Brookings Institution's report "Labor Supply and the 'Brain Drain': Signs from Census 2000" (January 2004):  
[http://www.brookings.edu/es/urban/publications/20040116\\_gottlieb.htm](http://www.brookings.edu/es/urban/publications/20040116_gottlieb.htm)
- The Computer Systems Policy Project (CSPP) pro-worldwide sourcing reports:  
<http://www.cspp.org/>
- ComputerWorld's Outsourcing Special Report:  
<http://www.computerworld.com/managementtopics/outsourcing/report/>
- The National Foundation for American Policy's Global Sourcing Information page:  
<http://www.nfap.net/researchactivities/globalsourcing/>

### Liaison to the Tech Industry

Colorado and Virginia have formally defined wide-ranging economic development roles for their state CIOs by creating cabinet-level secretary positions within their governments. Leroy Williams is the State of Colorado's Secretary of Innovation and Technology. George Newstrom is the Commonwealth of Virginia's Secretary of Technology. In both cases the secretary oversees a CIO who handles the day-to-day policy and operation considerations of state government ICT. This frees the secretary to pursue a "grand strategy" (in Newstrom's words) for the state's IT and economic development concerns where having the state's ICT resources at his fingertips is "integral" to the success of the position. Williams sees himself as overseeing a "three-legged stool" that combines e-government, a ten-year view for high-tech economic development, and education/workforce development efforts.

Both secretaries have innovation centers. Williams has the Colorado Institute of Technology (CIT). Newstrom has the Commonwealth Center for Innovative Technology (CIT).

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<sup>5</sup> W. David Gardner, "Offshore Outsourcers Said To Seek Risk Balance," *InformationWeek*, 17 May 2004, <<http://www.informationweek.com/story/showArticle.jhtml?articleID=20301322>> (17 May 2004).

<sup>6</sup> National Association of State Procurement Officials, *2003 Survey of State Government Purchasing Practices*, 2003, NASPO: Lexington, Kentucky, 111-116.

<sup>7</sup> National Foundation for American Policy, "Summary List of States With Proposed Outsourcing Restrictions," n.d., <<http://www.nfap.net/researchactivities/globalsourcing/>> (23 June 2004).

Both CITs are aggressively leveraging homeland security related spending, especially federal grants, to develop and transfer next generation technologies that will produce manufacturing centers in their respective states. Both see their role as helping their state compete with Silicon Valley. Neither focuses on business relocation, which is handled by the states' departments of commerce. However, both maintain strong relationships with their departments of commerce, university systems, and other statewide and regional economic development corporations. Finally, both see themselves as liaisons between their governors and their states technology communities, sharing the governors' visions and bringing input from the private sector directly into the states' policymaking processes.

Two other states are pursuing a different arrangement. Hawaii has created a state chief technology officer (CTO) position. A commission recently recommended that Maryland's governor do the same. Both positions are (or would be) located within the states' departments of business and economic development (DBED), reporting to cabinet-level secretaries. These state CTO positions could best be described as possessing many of the high-tech economic development aspects of the Colorado and Virginia secretariats of technology without the state ICT policy and operational responsibilities.

### Resources:

- The Colorado Institute of Technology:  
<http://www.coloradoit.org>
- Virginia's Center for Innovative Technology:  
<http://www.cit.org/index.asp>
- Hawaii Office of the Chief Technology Officer:  
[http://www.state.hi.us/dbedt/maurice\\_kaya\\_bio.html](http://www.state.hi.us/dbedt/maurice_kaya_bio.html)
- Report of the Maryland Governor's Commission on the Development of Advanced Technology Business (January 2004): [NOTE: See PDF pages 7, 22, 27, and 37.]  
[http://mgr.choosemaryland.org/assets/document/Pappas\\_Report.pdf](http://mgr.choosemaryland.org/assets/document/Pappas_Report.pdf)

### Conclusion and Recommendations

NASCIO recommends that every state CIO develop a wide-ranging program for leveraging state government's ICT-related investments for economic development purposes. Not doing so leaves value "on the table," so to speak, when they, as custodians of public assets, should be maximizing the taxpayers' return on investment (ROI). Taking on some of these responsibilities will also help state CIOs develop a supportive public constituency where they previously have not had one. It could also help state CIOs better communicate in business terms that capture the interest of elected officials where the usual technology-based ROI businesses cases might fall flat. While the vast majority of CIOs are not formally charged with economic development roles, many are already involved in ongoing economic development activities and relationships. NASCIO, through the Economic Development Subcommittee of the Strategic Business and Services Committee, will be producing separate briefs related to the major subheadings of this brief. These briefs will discuss each facet of the CIO's economic development role in more detail and catalogue current efforts and arrangements in the states.

### Additional Reading:

- The National Conference of State Legislatures' (NCSL) issue area "Economic Development and Trade"  
<http://www.ncsl.org/programs/econ/et.htm>
- The National Electronic Commerce Coordinating Council's (NEC3) paper "Leveraging e-Government Toward e-Competitiveness"  
<http://ec3.org/Pubs/PubSymPapers.htm>
- The National Governors Association's (NGA) topical center "New Economy – Economic Development Strategies for the 21st Century"  
[http://www.nga.org/center/topics/1,1188,C\\_CENTER\\_ISSUE^D\\_6846,00.html](http://www.nga.org/center/topics/1,1188,C_CENTER_ISSUE^D_6846,00.html)
- The National Governors Association's (NGA) topical center "Workforce Development"  
[http://www.nga.org/center/topics/1,1188,C\\_CENTER\\_ISSUE^D\\_409,00.html](http://www.nga.org/center/topics/1,1188,C_CENTER_ISSUE^D_409,00.html)

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