NASCIO
Representing Chief Information
Officers of the States

NASCIO Staff Contact:
Mary Gay Whitmer
Senior Issues Coordinator
mwhitmer@amrms.com

Harmony Helps: A Progress Report on State Government Internet Presence

CONNECTING THE DOTS BETWEEN CITIZEN SERVICES & STATE WEB PRESENCE

Now more than ever consumers are using the Internet and email to transact all types of business from online banking to buying books to gaining access to information, including product comparison and health-related information. According to a recent survey conducted by the Pew Internet and American Life Project, seventy-three percent of survey respondents use the Internet.[1]

Internet users have become accustomed to the savvy, customer-oriented websites available in the marketplace. They know that they can easily find many of these commercial websites by typing into their Internet browser the name of the business or a logical variation thereof and putting a ".com" at the end of it. Most marketplace websites focus on organizing their product and service offerings according to arrangements that are intuitive to the typical customer. For example, retail websites are not organized according to the governance structure of the business itself. Rather, such websites are organized

around the types of products offered and may even suggest products that may interest return customers based upon their previous purchases. For customers with questions or issues, many marketplace websites offer multiple channels of customer assistance including toll-free hotlines open around the clock and online chat and email help options. The savvy nature of the marketplace in terms of customer-centric websites appears to have paid off. **As recently as December 2006, the amount of online sales exceeded $600 million for twelve days during the holiday shopping season. Overall, online sales for the 2006 holiday season were up 26% over the previous year.**[2]

The Maturing Public Sector Internet Experience

Finding State Services & Information: In contrast, public sector websites that originated out of the push towards the availability of digital government services for citizens in the mid-to-late 1990s presented citizens with an organization around the way government is structured—by branch, agency, department and

NASCIO represents state chief information officers and information technology executives and managers from state governments across the United States. For more information visit www.nascio.org.

201 East Main Street, Suite 1405
Lexington, KY 40507
Phone: (859) 514-9153
Fax: (859) 514-9166
Email: NASCIO@AMRms.com

commission. Since the way that government is organized varies markedly across and within levels of government, a citizen may know what he or she wants to do—obtain a copy of his or her birth certificate, for example—but may not know which state agency performs that function. If the citizen goes to the state's website, unless that service is listed separately from the agency that performs that function, the citizen may have to do what, in some cases, may be extensive searching of the state's website in order to find out how to obtain a birth certificate.

Finding the Official State Website: Another problem citizens may face is locating a state's website in the first place. States have the flexibility to name their website URLs as they would like and locate them in any number of domains, including the dot-com Top-Level Domain (TLD). Consequently, this has had the effect of creating confusion on the part of citizens as to which websites are official state websites. However, in recent years, state websites have matured to become more intentions-based and intuitive for citizens. The drivers behind the maturing of state websites are discussed in detail below.

A Note About State Portals: While states may have first established official state websites as citizen use of the Internet was in the process of becoming more common, all states now have what is considered to be a web portal, which is much more elaborate than a mere website. **As opposed to static websites, web portals focus on bringing together and organizing in an intuitive fashion information and processes across agencies and branches of government.** Portals are typically denoted by varying combinations of common features, including:

- Utility applications, such as state employee directories
- Content and document management
- Search and navigation functions
- Personalization options
- Collaboration tools

Since states have adopted the use of portals, this brief will refer to them as such, instead of referencing them as "websites".

Public Sector Progress

Collectively, states have made great strides over the past six years in organizing their portals along lines that are generally-accepted as being intuitive to citizens.

Consistency in Discovery of State Portals: Instances of greater consistency include many states' adoption of domain naming conventions for their portals according to either the full state name or the state postal abbreviation. Another significant factor that has furthered the increased alignment of state portals is most states' migration to the dot-gov domain as the primary TLD for their portals. The importance of the dot-gov domain's role in harmonizing state portals across the nation is discussed in greater detail in the next section. **State Enterprise Architecture (EA) programs have provided a framework to support these harmonization efforts by developing programs and policies and issuing standards related to state web portals.**

As background, the dot-gov domain is administered by the U.S. General Services Administration (GSA) and is only available to the federal government, state and local governments and Native Sovereign Nations (NSNs). This has provided citizens with confidence that the websites located within the dot-gov domain are official government websites. Other Internet domains, such as dot-us, do not restrict websites to only official government websites and host commercial as well as other types of non-governmental websites.

Progress Exemplified: States have also made progress in making citizens' Internet experiences more streamlined and helpful when they are searching for and navigating through their portals. For example, most states have taken the common approach of providing a link on the state portal homepage to "online services" and listing the online or other services that are available. This allows citizens to locate a service even if they do not know the

agency that provides it. State websites also may have translation tools for high-traffic webpages to make them available in multiple languages. Finally, some states also offer multiple lines of citizen assistance, including toll-free phone numbers, help via email, and even live, online chat functions. Examples of e-government services offered by states include:

- **TexasOnline En Espanol:**
  http://www.texas.gov/?language=esp
- **Utah's Live Help Online (24/7 Chat Assistance)**:
  http://www.utah.gov/contact.html
- **Alaska DMV (Department of Motor Vehicle) Live Waiting Room Webcam:**
  http://www.state.ak.us/admin/dmv/DMVwebcams.htm
- **Idaho Online Child Support Payment:**
  https://www.accessidaho.org/secure/idhw/childsupport/payment.html
- **Pennsylvania's Online Instructional Voting Video and Online Practice Tool:**
  http://www.votingbooth.state.pa.us/
- **Michigan's Mobile Alerts, Podcasts and RSS Feeds:**
  Mobile Alerts—
  http://www.michigan.gov/som/0,1607,7-192—136436—,00.html
  Podcasts—
  http://www.michigan.gov/som/0,1607,7-192——POD,00.html
  RSS Feeds—
  http://www.michigan.gov/som/0,1670,7-192——RA,00.html

BACKGROUND ON THE EXPANSION OF THE DOT-GOV AND DOT-US DOMAINS

The expansion of the dot-gov domain to include states and locals has played a key role in creating more consistency in domain naming conventions across state portals. The majority of states now locate their primary portals in the dot-gov domain. However, prior to the dot-gov domain's expansion, many states opted for the dot-us domain, using the traditional "state.xx.us"

naming convention. Interestingly, within the same timeframe of the dot-gov domain's expansion, the dot-us domain opened up registrations at the second-level of the domain, such as "statename.us", and also permitted any person or entity (whether governmental or not) with a logical "nexus" to the U.S. to register second-level domain names. The discussion below provides an overview of the impact of the expansion of both TLDs on the location and domain naming conventions of state portals.

The Dot-Gov Domain

The Expansion: Prior to April 2002, the federal government had exclusive use of the dot-gov domain. At that time, the domain's goal was to provide naming conventions to facilitate access to the electronic resources of federal government agencies. Domain naming conventions for federal agencies were based on a premise of "one agency, one name".[3] However, in April 2002, GSA allowed federally-recognized Native American Indian tribes to register their official websites in the dot-gov domain. This was followed almost a year later with GSA's decision to open the dot-gov domain for the registration of domain names by state and local governments. **In keeping with the original intent of "one agency, one name", GSA promulgated regulations for domain naming conventions in the dot-gov domain for states and locals.**

Benefits of migration for states and locals to the dot-gov domain were intended to include:

- Making the search for government-related information and services more intuitive to citizens
- Increasing collaboration among levels of government
- Creating a trusted domain that hosts only officially recognized governmental websites[4]

The State and Local Dot-Gov Migration: Since the opening of the dot-gov domain to state and local governments in 2003, the dot-gov domain now hosts approximately 1,986 state, local and county

websites. Of the total 3,903 active websites in the dot-gov domain, state and local governments account for approximately half of those websites.[5] **In light of the large number of local political subdivisions that are eligible to register dot-gov domain names, considerable potential exists for migration to the dot-gov domain by cities, counties, special districts and even public libraries.** For example, there are over 3,000 counties in the U.S.[6] and over 19,000 municipal governments[7] that would be eligible to register dot-gov domain names.

The migration of many states to the dot-gov domain for their primary portals has increased the uniformity and consistency of state portals and domain naming conventions. With more intuitive searching and navigation tools, citizens are now better able to find government-related information and services without specifically knowing which state agency or even level of government provides the information or service. **This migration has also allowed states to distinguish their collective Internet presence from that of the commercial marketplace and other types of entities, many of which are located in other domains, such as dot-com, dot-net, and dot-org.**

For more about the dot-gov domain, including regulations and program guidelines, please see: www.dotgov.gov

The Dot-US Domain

The Expansion: In 2001, the U.S. Department of Commerce issued a Request for Proposal (RFP) seeking a third party contractor to operate the dot-us domain. In connection with this, the dot-us domain's naming convention structure was expanded to make available the registration of second-level domain names. This was a departure from the prior hierarchical domain naming structure with domain names that cascade from the third-level, such as state.ky.us. Unlike the dot-gov domain that is only

open to U.S. governmental entities, the dot-us domain permits registration by any entity or person with a "nexus" to the United States.

States and the Dot-US Domain: Although states could use the second-level of the dot-us domain for their primary portals, none have pursued that path. Instead, the vast majority have chosen to migrate to the dot-gov domain. **However, thirty-seven states (and the District of Columbia) have reserved their full state names in the dot-us domain, presumptively to ensure that other non-governmental entities, such as cybersquatters, do not register them.** Other notable statistics regarding states' use of the dot-us domain include:

- Three states currently use third-level dot-us domain names for their primary portals.
- Only six states provide a re-direct to the state's primary portal located in another TLD.
- Thirteen state names have been reserved by a non-governmental entity for commercial use.
- State postal abbreviations are on the "reserved" list of dot-us domain names.

To learn more about the dot-us domain, please see the Neustar website at: www.neustar.us. Neustar is the private sector contractor with responsibility to operate the dot-us domain.

The State CIO's Role

The state CIO has and will continue to play a key role in ensuring that a state's web presence is technologically sound and that it provides meaningful assistance to citizens. According to *NASCIO's 2004-05 Compendium of Digital Government in the States*, almost half of responding states reported that the CIO directly manages the state's website and portal development. An additional sixteen states reported that the CIO shares this responsibility with a private sector partner through

an outsourcing arrangement. Since NASCIO conducted the survey for the Compendium, additional states have migrated to this business model for their portals. In addition, almost half of state CIOs recommend, approve and manage agencies' portal development efforts.[8]

As states progress in harmonization efforts, the CIO's role will continue to be significant in order to ensure that citizens see the benefits that technology can bring to their relationship with state government. The remainder of this brief discusses NASCIO-identified trends involving state portals and other Internet-related efforts.

STATE PORTALS - TRENDS IN ALIGNMENT

As discussed above, an important component of creating harmony among state portals has been the migration of many states to the dot-gov domain. Below are some state trends in the use of TLDs, such as dot-gov, dot-us and dot-com, and state portal domain naming trends within the dot-gov domain.

Overall Trends

Location, Location, Location: Currently, forty-six states, the District of Columbia and the Territory of Guam locate their primary Internet portals in the dot-gov domain. In parallel, states have shifted away from the dot-us domain and other TLDs, such as dot-com, dot-org, and dot-net. As discussed above, this shift was catalyzed by GSA's expansion of the dot-gov domain to states and local governments on March 28, 2003. Given the popularity of the dot-gov domain, only four remaining states locate their primary portals in other domains—three state portals in the dot-us domain (using the traditional, multi-tiered address "state.xx.us") and one state portal in the dot-com domain.

Finding a Resolution: Citizens may not be familiar with the variety of Internet TLDs and the nature of websites that they may find in each one. **Thus, a best practice in helping citizens to find an official state portal regardless of the TLD in which it is located is to resolve the state's primary portal from other TLDs.** The current trends identified below reflect the fact that many states attempt to resolve their portals to their primary portal TLD, such dot-gov. However, for more commercial domains, that may not be possible due to cybersquatters and other non-governmental entities that hold a state name or postal abbreviation as a domain name.

- **Resolving from Dot-us:** Forty-four states resolve their respective "state.xx.us" domain names to their primary portal in another TLD. Three of the six remaining states have third-level dot-us domain names for their primary state portals. The final three states resolve their "state.xx.us" domain names to state websites other than the official state portal.

- **Resolving from Dot-com:** None of the states resolve their full state name or postal abbreviation from the dot-com domain to their primary state portal. The reason for this is that those domain names have already been registered by non-governmental third parties. For example, most of the full state names in the dot-com domain appear to be registered to tourism or news media-related websites.

- **Resolving from Dot-gov:** States with primary portals in domains other than dot-gov vary as to their resolution to the dot-gov domain. To optimize citizens' chances of finding the official state portal, such states should resolve their portals to the dot-gov domain, both for the full state name and postal abbreviation.

A Word About Full and Partial Resolutions: States vary as to how they resolve their primary web portals from other TLDs. Some states provide a full resolution meaning that a citizen who has typed the incorrect web portal address, for example "Kentucky.us", would automatically be provided a website re-direct to "Kentucky.gov", which would appear in the citizen's browser. However, some states only provide the website re-direct and do not change the citizen's browser to the official portal address. Thus, based on the previous example, the citizen would be re-directed to "Kentucky.gov", but would still see the "Kentucky.us" website address that he or she typed into the browser. For states that resolve their dot-gov portal domain names from dot-us, twenty-seven of them provide a full resolution, while seventeen provide partial resolutions. **To help citizens become acclimated to a state's primary web portal domain name, states should consider providing a full resolution that changes the citizen's browser to the state's primary portal URL.**

Trends in the Dot-Gov Domain

The "Name Game": GSA has promulgated regulations for state domain naming conventions within the dot-gov domain. Significant domain naming conventions provide that:

- All states must include the state name spelled-out or the state postal code for domain names at the second-level of dot-gov[9]
- General terms, such as "recreation" or "licenses", are not permitted, except in cases where they are combined with a state name or postal code abbreviation, such as "MarylandRecreation.gov"

For states that use the dot-gov domain for their primary portal URL, the most common naming conventions are:

- Statename.gov, or
- Postalcode.gov

Full State Name vs. Postal Abbreviation: Of the forty-six states that use dot-gov as the Internet domain for their primary portal, twenty-eight use "statename.gov", while seventeen states have opted to use "postalcode.gov".** Notably, one state has chosen a domain name that is a spin on the "postalcode.gov"— "access.postalcode.gov". Another state uses a variation of its name that is longer than its postal code.

Note that while many states use the dot-gov domain for their primary portal URLs, some states may continue to allow agencies and other state entities to use alternate domain names, such as traditional multi-tiered dot-us domain names. One reason for this may be the recent migration of some state portals to the dot-gov domain and the fact that agencies may need time to follow with a similar migration for their individual websites.

Resolving Variations of Dot-Gov Domain Names: Thirty-four states with dot-gov domain portals resolve both the state name and postal abbreviation. This makes it possible for citizens who type into their browser "Arizona.gov," for example, to be automatically re-directed to the state's portal, "az.gov." However, twelve states do not resolve both. Of the states that resolve their state name and postal abbreviation, only nine provide a full resolution, which not only re-directs citizens to the right portal domain name but changes the citizen's browser to reflect the primary portal address. **Again, to assist citizens in easily finding official state portals, providing a full resolution is the preferable path.**

Resolving the "www" Prefix: Related to state portal domain naming conventions is the trend to allow users to find websites by typing in the domain name without the "www" prefix. With the inception of the Internet, many entities with websites used a prefix, such as "www" or "news," to denote the type of services they provide. However, the use of an addressing prefix is

not required by any technical Internet standards and does not have meaning in the way that a website is shown. **Hence, many websites, including official state portals now do not require the use of "www" in their URLs.** In fact, forty-four states allow the user to type in the portal name without the prefix, such as "in.gov", and go directly to the state web portal. For thirty-eight of those states, if the user types in the portal URL without the "www" prefix, that prefix never appears in the user's browser. The remaining six state portals resolve to the portal name with the "www" prefix." **This intuitive approach of dispensing with the use of the "www" prefix is another way that states are making their portals more user-friendly to citizens.** In addition to simplifying the addressing of state portals, this approach also requires citizens to type in less keystrokes, which is particularly helpful for portals with longer domain names. **As a best practice to maximize the ease of citizen state portal discovery, states should resolve both ways—with and without the "www".**

Citizen Trust and the Dot-Gov Domain: In addition to other benefits detailed herein, the increased harmonization of state web portals in the dot-gov domain serves as a means for enhancing citizen trust in states' online services. Since the dot-gov domain only permits official governments of the U.S. to register dot-gov domain names, state portals in the dot-gov domain have the distinction of being an officially-recognized U.S. government web portal. GSA, the federal agency that administers the dot-gov domain, also provides content control by monitoring the domain to ensure that registered websites adhere to its regulations. For example, certain types of activities, such as political campaign and commercial advertisements, are prohibited content. Citizens also must be notified if a link on a state webpage leads to a webpage in another TLD.

Given the increase in online fraud, states' collective use of the dot-gov domain also can help to educate citizens not to click on links that lead to **purportedly official state websites in other domains that could be used by cybersquatters or other unofficial third parties.** This may also diminish the likelihood that citizens will fall for phishing scams that use official-looking emails to entice citizens to click on a fraudulent link that does not end in ".gov". While the financial services sector is by far the most targeted sector by those perpetrating phishing attacks, there are concerns that as the financial and other sectors begin to implement enhanced security measures, phishing attacks may increasingly focus on the government sector. For example, the Internal Revenue Service has been the subject of phishing attacks beginning in November 2005.[10]

CONNECTING MORE DOTS

As states have achieved increased commonality in the way that they name and organize their portals, additional efforts to align state web portals and other state IT resources for the benefit of citizens are emerging. A few of these are discussed below.

State Internet Portal Branding

Make Them Remember You: Many states treat their web portal name as a brand for purposes of raising citizen awareness of the portal's availability for all types of information about state government and even doing business with government agencies. Such branding efforts usually include the creation of a logo using the name of the portal, such as Kentucky.gov or Michigan.gov. While this is the more prevalent approach, other states take their branding efforts a step further by creating branding such as:

- Arizona@YourService: www.az.gov
- eHawaii.gov: www.hawaii.gov
- MyFlorida.com: www.myflorida.com
- Minnesota NorthStar: www.state.mn.us
- PA PowerPort: www.state.pa.us
- TexasOnline: www.texas.gov
- AccessWashington: www.access.wa.gov

Marketing the Portal: Many states have also conducted marketing campaigns to publicize their portal addresses and the services that are available. An example of one marketing technique is Indiana's placement of its portal, www.in.gov, on the state's regular license plates.[11] In addition to creating a brand citizens will recognize, states also use their portals to create brands for available services. A state's portal effort may serve as a vehicle for educating state agencies on how to market their own websites. For example, Maine's portal contains tips for agencies in marketing their services both online and through other means. Some of the marketing methods include developing a logo and tagline, placement of the webpage logo on business cards and stationary, and referencing the webpage address and tagline on the phone system's hold message.[12]

Agency Websites and Services

Be Consistent: An important component of portal branding is ensuring that agency webpages linked from the portal have consistent and logical URLs that include the state's portal branding. The states of Michigan, Pennsylvania and Rhode Island have been recognized for consistency in their agency URLs.[13]

There are several general naming conventions for state agency websites, such as:
- Agencyname.state.gov
- State.gov/agencyname
- AgencynamePostalcode.gov
- PostalcodeAgencyname.gov

Cost Benefits of Consistency: Consistency in agency domain naming conventions in the dot-gov domain can have important cost benefits. Since GSA charges states $125 for registrations at the second-level, if a state permits agencies to register their websites at the second-level, then the state would incur a $125 charge for each registration. **However, if a state registers only its primary portal name at the second-level and then allows**

agencies to register names at the third-level, then the total cost of dot-gov domain name registrations in the state can be drastically minimized.

Navigational Benefits of Consistency: Not only does a common, intentions-based scheme for naming agency website URLs heighten awareness of a state portal's branding but it also ensures a measure of navigational consistency for citizens as they move about the state portal. The state of Utah has taken this concept a step further with its "Utah & You" link on its portal homepage. This section of the portal organizes webpages and services around the citizen's stage in life (for example, youth or seniors) and intentions regarding the types of information or transactions that a citizen is seeking (such as business or career-related). The naming conventions of these webpages that cascade from the utah.gov Internet portal reflect not only consistency with the state portal brand but also consistency with the type of services provided. Examples include:
- www.business.utah.gov
- www.seniors.utah.gov
- www.legal.utah.gov

Aligning Channels of Communication: Additional efforts to better align state online services may also include integrating citizen "help" functions across multiple communication channels. For example, many states and local governments provide toll-free numbers in addition to chat or email assistance functions on their portals. The city of Columbus, Ohio has developed a 311 call center that has an online component that allows citizens to communicate with the call center by email and submit service requests online. For online service requests, 311 users have the choice of submitting requests that include their contact information or submitting requests as a "guest" using only a valid email address with no personal information. By taking this step, a citizen can communicate with government and obtain

services via several channels of communication which all feed back to a single 311 call center. For more about this, please see: http://311.columbus.gov/

Drilling Down—State Email Addressing

In some instances, a citizen (or even another state employee) may have the need to email a state employee. Consistency and a logical approach to email naming conventions is a way to ensure that citizens will have an easier time communicating with the state government employees who serve them. In keeping with more consistent portal naming conventions, some states have expanded this approach to encompass state email addresses. For example, some states have migrated their employees over to email addresses that are reflective of the state's web portal URL. Variations on this include:

- Firstname.Lastname@arkansas.gov
- FirstinitialLastname@utah.gov
- LastnameFirstinitial@michigan.gov
- FirstinitialLastname@azgita.gov
- FirstnameLastinitial@dis.wa.gov

As many states strive for increased consolidation and create email services for agencies, this provides an excellent opportunity to institute a system of email naming conventions that will be intuitive to citizens and consistent with the state's portal URL.

CONSISTENCY IN CROSS-BOUNDARY EFFORTS

State-Federal Collaboration

One of GSA's intended benefits of opening up the dot-gov domain to state and local governments was improved collaboration among levels of government. To this end, from the state-federal relations side, the federal government's Internet portal, USA.gov, places links on its homepage to webpages that guide citizens to official

state and local government portals.

- **USA.gov link to State Portals:** http://www.usa.gov/Agencies/State_and_Territories.shtml
- **USA.gov link to Local Government Portals (organized by state):** http://www.usa.gov/Agencies/Local_Government/Cities.shtml

Other examples of state-federal collaboration in which federal websites have incorporated state websites that citizens may find helpful include:

- **Govbenefits.gov:** A federal website that provides citizen access to information about government assistance programs. It also includes links to similar state programs. View this website at: www.govbenefits.gov
- **The National Sex Offender Public Registry (NSOPR):** This federal website, coordinated by the U.S. Department of Justice, was created to provide citizens with information about sex offenders living in their communities. NOSPR is a cooperative effort with state agencies that provides information on sex offenders that is hosted by each individual state. View NSOPR at: http://www.nsopr.gov/

State-Local Collaboration

The State of Local Government Domain Names: States can play a key role in assisting local governments in the harmonization of portal addresses, portal branding efforts and the integration of multi-channel citizen services. According to a recent National Policy Research Council (NPRC) survey of state and local governments, the survey found a "complete" lack of standardization in URL formats and use of TLDs by state and local governments.[14] However, based upon NASCIO's research, states appear to be making progress in the harmonization of portal URLs and the use of the dot-gov domain *(see Appendix A for an inventory of the states' primary portal URLs)*. For the collective of state and local governments, though, the NPRC study found that the most common website

domains are dot-org, dot-com and dot-us. The study did note that others use dot-gov, dot-net or dot-info. This lack of consistency at the local level has created confusion of tourist bureau and other websites with the official websites of local governments.[15]

What States Can Do: For states with primary portals in the dot-gov domain, one way they can assist in the increased harmonization of local governments' websites or portals is to encourage local governments to also register their primary portals in the dot-gov domain. For local governments that opt to register in the dot-gov domain, they may choose to register at the second-level or, in states registered in the dot-gov domain, at the third-level under the state's dot-gov domain portal. **In the final rule that opened-up the dot-gov domain to other levels of government, GSA encouraged states to open their third-level domains for registration by local governments.** For third-level registrations, states have the ability to determine the process by which local governments may obtain those domain names. An example would be Raleigh.nc.gov.[16] However, it appears that, for those local governments that opt to register in the dot-gov domain, they tend to register at the second-level. Examples include:

- Montgomery County, Maryland: www.montgomerycountymd.gov
- Louisville, Kentucky: www.louisvilleky.gov

State-to-State Collaboration

Based on a review of common government activities and online service offerings, there has been little collaboration between the states to help citizens on a cross-boundary basis. In light of the more mobile population and the use of devices, such as PDAs and laptops, to enable productivity while on the go, citizens will look for consistency in the discovery of common government services.

An Example of the Need for State-to-State Collaboration—State 511 Websites: Twenty-six states have active 511 travel information services available for their citizens and those traveling in their states. All twenty-six of these states have websites that provide citizens with travel-related information, such as road conditions and delays due to weather, accidents or construction. **However, unlike the states' current migration towards increasingly aligned Internet portal naming conventions, states' 511 websites are greatly varied in terms of naming conventions.**

Whereas most primary state portals are located in the dot-gov domain, there has not been an accompanying migration of state 511 websites to the dot-gov domain. Instead, the predominant domain for state 511 websites is dot-com (nine states), while other states also utilize dot-org (six states), dot-gov (six states), dot-us (four states) or dot-info (one state) for their primary 511 websites. Of the six states using the dot-gov domain for their 511 websites, only 3 follow the standard naming conventions that are used for state agency websites. None of the states that locate their 511 websites in the dot-us domain also locate their primary state portals in that domain. Other notable observations regarding the lack of alignment of naming conventions for state 511 websites include the following:

Common 511 Domain Naming Conventions: Naming conventions for 511 URLs vary greatly and include the following approaches:

- Combining the state name or abbreviation with 511 *(Az511.com or tn511.com)*
- Associating the 511 website with the state department of transportation *(mdt.state.mt.us/traveinfo/511 or sddot.com/511)*
- Using a more task-oriented name *(Cotrip.org or safetravelusa.com/nv)*

511.org: The domain name 511.org, which would indicate a broad website that might incorporate all 511 websites, is actually a regional 511 website for the San Francisco Bay Area.

A Call for Consistency in Common Online Services: The disjointed URLs that are used for state 511 websites stand as one example of how states must strive for heightened coordination for the benefit of citizens. If states adopt a more consistent and intuitive approach to their 511 URLs, citizens will have an easier way of finding travel-related information no matter the state in which they are traveling. As the citizenry becomes more mobile, the ease of discovering common online services across state boundaries will become imperative. With the pervasiveness of wireless technologies, as well as the increased availability of wireless broadband, in-vehicle telematics and geolocation services, citizens will have a greater tendency to look to 511 websites as opposed to dialing 511 from a phone. In some instances, such as if road conditions are deteriorating, being able to find 511-related information can make the difference between ensuring a safe journey and creating a tragedy waiting to happen.

CONCLUDING THOUGHTS - BUILDING CITIZEN TRUST AND CONFIDENCE IN STATE GOVERNMENT

The benefits of better alignment of state web portals and related-IT resources can be distilled into one simple concept—citizen trust is fostered by state services that truly fulfill the citizens' needs and allow for the easy, intuitive discovery of government-related information. In a day when citizens' trust in government is low, providing meaningful services and increased transparency can counteract this sentiment. By allowing technology to serve citizens and provide them with information on a basis that is intentions-based, technology can actually be used to rejuvenate citizen trust in government. Moreover, if technology is used in a way that does not appear partisan to political pressures, citizens may begin to get a sense that technology can be used to foster a government in which citizens can participate and receive services without the political interests and scandals that have created a traditional form of government that has been met with steady citizen distrust.[17] Harmonization of state government domain names and portals is one way to set technology apart from partisan politics and present it as a way that all states are using to reach out and make a difference to the citizenry.

WHAT CIOS NEED TO KNOW: STATE TRENDS

The Role of the State CIO

As states move forward with continued efforts to harmonize their portals, branding efforts, email addresses, agency websites and communication channels, the state CIO will play a key role and must push those efforts forward to ensure that states provide service levels that are consistent with citizens' expectations that have been fostered by the customer-centric approach of the marketplace. In this capacity, the state CIO can help to foster citizen trust in government by helping to develop online and other services that assist citizens in a meaningful way.

Significant Trends

- **Focus on the Citizen:** User-centric, intentions-based organization of state portals around services rather than around the structure of state government and its agencies
- **EA Governance:** Governance of decision-making and creation of policies and standards for alignment efforts within state Enterprise Architecture (EA) programs

- **Migration to the Dot-Gov Domain:** Migration of primary state portal URLs to the dot-gov domain, which is the only Top-Level Domain reserved exclusively for federal, state and local governments as well as Native Sovereign Nations. This has provided states with a way to distinguish themselves from marketplace websites.

- **Brand Recognition:** Branding state portals and then marketing that brand to citizens so that they are aware of the state portal as a resource for online services and information

- **Consistent Portal URLs:** For states with primary portal URLs in the dot-gov domain, increased consistency of state domain name URLs due to domain naming conventions promulgated in regulation by the U.S. General Services Administration. Most states use either statename.gov or postal-code.gov.

- **The Need for Architectural Harmonization:** While the continued sophistication of Internet search engines has distorted the need for architectural harmony in terms of allowing citizens to discover state web portals, the migration of states to the dot-gov domain has demonstrated the need for and benefits of aligning state domain naming efforts for online services that are common among the states.

- **Agencies Following the Lead:** Use of logical naming conventions for agency website URLs, which may involve cascading agency website URLs from the state portal URL

- **No More "www":** Diminished necessity to use the "www" prefix in state portal URLs. The vast number of states do not require it. Resolving portal domain names with or without the "www" prefix allows citizens increased ease in finding the state portal.

- **Let's Get It Resolved:** For states with primary portals located in the dot-gov domain, resolving both the full state name and postal abbreviation allows citizens a more intuitive path to finding dot-gov state portals. States with portals located in other domains, such as dot-us or dot-com, may consider resolving their full state name and postal abbreviation in the dot-gov domain as well. Full resolutions that change the domain name in the citizen's browser to the official state portal URL can also help to educate citizens regarding the official portal domain name for future visits.

- **What's Your Email Address?** Harmonization of state email addresses to be consistent with state portal branding

- **Make Me Mobile:** Availability of mobile alerts and RSS feed subscriptions to allow citizens a variety of means to keep pace with state government and important events

- **Multi-Channel Communications:** Availability of multiple channels of communication with the state, such as 311 systems with coordinated phone and online avenues of communication. Some states also offer 24/7 online chat assistance.

- **Translate This!** Translation of high-traffic government websites into other languages to make them more accessible to those who may not speak English.

- **Enhancing Citizen Trust:** Potential for reduced instances of citizens falling prey to phishing and similar attacks that use spoofed government websites

- **Let's Work Together:** Increased collaborative efforts between states and the federal government have resulted in improved citizen access to information about government benefits programs and sex offenders living in their local communities.

Where We Need to Work Together More

While states have made significant strides to harmonize their websites and services across the nation, additional progress is needed in the following areas:

- **Bringing the Agencies Together:** To create a cohesive image of government, consistency across agency websites, in terms of usability, accessibility and URL naming conventions, state CIOs must work to integrate all agencies into the harmonization effort. Working these efforts into a state's Enterprise Architecture program is one way to ensure consistency across agency websites.

- **Let's Work with the Locals:** States should increase state-local government collaboration with more consistent local government domain names and work toward a trend of locating local government websites in the dot-gov domain. For states with their primary portals in the dot-gov domain, state CIOs should consider allowing local governments and other eligible jurisdictions, such as public libraries and special districts, to register their websites at the third-level.

- **Let's Work with Each Other:** There is a need to increase state-to-state collaboration regarding online services that are common across the states. For example, the alignment of state 511 URLs would help citizens access that important information no matter the state in which the citizen is located or traveling.

Appendix A: State Primary Portal URLs

STATE	Primary .Gov	Primary .US	Primary .Com
Alabama	Alabama.gov		
Alaska	Alaska.gov		
Arizona	Az.gov		
Arkansas	Arkansas.gov		
California	Ca.gov		
Colorado	Colorado.gov		
Connecticut	Ct.gov		
Delaware	Delaware.gov		
District of Columbia	Dc.gov		
Florida			Myflorida.com
Georgia	Georgia.gov		
Guam	Guam.gov		
Hawaii	Hawaii.gov		
Idaho	Idaho.gov		
Illinois	Illinois.gov		
Indiana	In.gov		
Iowa	Iowa.gov		
Kansas	Kansas.gov		
Kentucky	Kentucky.gov		
Louisiana	Louisiana.gov		
Maine	Maine.gov		
Maryland	Maryland.gov		
Massachusetts	Mass.gov		
Michigan	Michigan.gov		
Minnesota		State.mn.us	
Mississippi	Mississippi.gov		
Missouri	Mo.gov		
Montana	Mt.gov		
Nebraska	Nebraska.gov		
Nevada	Nv.gov		
New Hampshire	Nh.gov		
New Jersey	Nj.gov		
New Mexico	Newmexico.gov		
New York	Ny.gov		
North Carolina	Nc.gov		
North Dakota	Nd.gov		
Ohio	Ohio.gov		
Oklahoma	Ok.gov		
Oregon	Oregon.gov		
Pennsylvania		State.pa.us	
Rhode Island	Ri.gov		
South Carolina	Sc.gov		
South Dakota		State.sd.us	
Tennessee	Tennessee.gov		
Texas	Texas.gov		
Utah	Utah.gov		
Vermont	Vermont.gov		
Virginia	Virginia.gov		
Washington	Access.wa.gov		
West Virginia	Wv.gov		
Wisconsin	Wisconsin.gov		
Wyoming	Wyoming.gov		

NOTE: *Many states with portal URLs in the dot.gov domain have also registered similar URLs in the dot-us and other top-level domains with re-directs from those URLs back to their portal's primary dot-gov URL.*

Appendix B: State Domain Naming Conventions & Policies

Alabama:
Dot-Gov Domain Name Policy
http://isd.alabama.gov/policies/new_format/Policy%201220-00%20gov%20Domain.pdf

Arkansas:
Administration of Dot-Gov Subdomains
http://www.techarch.state.ar.us/domains/business_process/policy/PS-34_argov_domain.pdf

About Arkansas.gov
http://www.cio.state.ar.us/ArGov.htm

Colorado:
State Web Domains Policy
http://www.colorado.gov/oit/documents/policies/StWebDomaPly_FNL_Nov2006.pdf

Dot-Gov Domain Registration
http://www.colorado.gov/registration/

Connecticut:
Domain Registration & Usage
http://www.ct.gov/doit/cwp/view.asp?a=1245&q=253990

Georgia:
Domain Name Standard
http://gta.georgia.gov/vgn/images/portal/cit_1210/2583411Domain_Name_Standard.pdf

Idaho:
Dot-Gov Domain Policy
http://www2.state.id.us/itrmc/plan&policies/Policies/p5020.htm

Illinois:
Dot-Gov Policy Statement
http://www.illinois.gov/Tech/govpolicy.cfm

Indiana:
IN.gov Webpage
http://www.in.gov/iot/directors/ingov.html

Kentucky:
Internet Domain Naming Convention
http://gotsource.ky.gov/dsweb/Get/Document-17761/7010_-_Internet_Domain_Naming_Conventions.doc

Louisiana: Public Website Domain Name Standard
http://www.doa.state.la.us/oit/docs/it-std-015revised.pdf

Massachusetts:
Municipal Website Naming Guidelines
http://www.mass.gov/?pageID=itdterminal&L=4&L0=Home&L1=Policies%2c+Standards+%26+Guidance&L2=Technical+Guidance&L3=Web+Publishing+Guidelines&sid=Aitd&b=terminalcontent&f=policies_standards_municipal_domain_naming_guidelines&csid=Aitd

Michigan:
Internet Domain Name Standard
http://www.michigan.gov/documents/131037_36324_7.pdf

Mississippi:
Mississippi Dot-Gov Policy
http://www.its.state.ms.us/its/itsweb.nsf/D0BF52DFE2B8B303862570BB006EE5D1/$File/Mississippi.gov+Domain+Policy.pdf

Missouri:
Dot-Gov Standard
http://www.oa.mo.gov/itsd/cio/standards/ITGS0002.pdf

Montana:
Domain Name Systems Policy
http://itsd.mt.gov/policy/policies/entint021.asp

New York:
Dot-Gov Domain Name Registration
http://www.cio.state.ny.us/domainrequest.htm

North Dakota:
Web Domain Name Standard
http://www.state.nd.us/ea/standards/standards/approved/egt005-04-2-domainstd.rtf

Web Domain Name Best Practices
http://www.state.nd.us/ea/standards/standards/approved/egt-bp003-domainstd-best-pract.rtf

Ohio:
Registration of Internet Domain Names Policy
http://oit.ohio.gov/IGD/Policy/pdfs_policy/ITP-F.1.pdf

Pennsylvania:
Domain Naming Standards and Configurations
http://www.oit.state.pa.us/oaoit/cwp/view.asp?a=722&Q=205859&PM=1

Texas:
Internet Domain Name Standard
http://www.dir.state.tx.us/standards/srrpub07.htm

Vermont:
Web Domain Name Policy
http://cio.vermont.gov/var/cio/storage/original/application/af7480c450dcb2ebbf44e42be8907f61.pdf

Virginia:
Internet Domain Naming Standard
http://www.vita.virginia.gov/docs/psg/SMSCOVITRMStandardGOV2004-01.pdf

Washington:
Internet Domain Name Standards http://isb.wa.gov/policies/portfolio/800S.doc

Appendix C: Endnotes

[1] "Internet Penetration and Impact Report," Pew Internet and American Life Project, April 2006, <http://www.pew internet.org/PPF/r/182/report_display.asp>.

[2] "E-Commerce Hits All Time High in 2006," eMarketer.com, January 8, 2007.

[3] Request For Comment 2146 Government Internet Domain Names, Federal Networking Council, May 1997, <https://www.dotgov.gov/help_rfc2146.aspx>.

[4] Final Rule, 41 CFR Part 102-173, March 28, 2003.

[5] U.S General Services Administration, Office of Technology Strategy, Information Architecture and Strategies Division, January 2007.

[6] "An Overview of County Government," the National Association of Counties (NACo), March 5, 2007, <http://www.naco.org/Content/ NavigationMenu/About_Counties/County _Government/Default271.htm>.

[7] "The Number of Local Governments in the U.S.," the National League of Cities, March 5, 2007, <http://www.nlc.org/about_cities/cities_1 01/142.cfm>.

[8] NASCIO's 2004-05 Compendium of Digital Government in the States, NASCIO, <http://www.nascio.org/publications/ compendium.cfm>.

[9] ".gov Program Guidelines," U.S. General Services Administration, December 2005, <https://www.dotgov.gov/program_guide lines.aspx>.

[10] "Overview of IRS Phishing Activity," Internal Revenue Service, February 2006, <http://www.irs.gov/newsroom/article/ 0,,id=154861,00.html>.

[11] To view Indiana's license plate that publicizes its portal, please see <http://www.in.gov/bmv/plates/regular.htm>.

[12] See "Branding Your Service," InfoMe (Information Resource of Maine), <http://www.maine.gov/informe/state/ marketing/branding.htm>, for the complete list of marketing tips. Additional marketing tips are available on Colorado's state portal at <http://www.colorado.gov/toolkit/ marketing/toolbox.cfm>.

[13] "State and Federal E-Government in the United States, 2006," Darrell M. West, Taubman Center for Public Policy, Brown University, August 2006, <http://www.insidepolitics.org/egovt06us. pdf>.

[14] "Lack of Standard URL Format Creates Confusion," Computerworld, November, 26, 2006, <http://www.computerworld. com/action/article.do?command=viewArti cleBasic&articleId=274430>. At the local level, the lack of standardization is apparent from the Computerworld's "Report Card: The Best E-Gov Sites" at: <http://www.computerworld.com/action/ article.do?command=viewArticleBasic&art icleId=9005371>.

[15] Ibid.

[16] 41 CFR Part 102-173, Final Rule— Internet GOV Domain, March 2003, <https://www.dotgov.gov/final_rule_102.a spx#10217355>.

[17] *Digital Government: Technology and Public Sector Performance*, Darrell M. West, Princeton University Press, 2005.