National Electronic Commerce Coordinating Council
Symposium 2000

E-Government
Strategic Planning

A White Paper

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National Electronic Commerce Coordinating Council

The National Electronic Commerce Coordinating Council (**NECCC)** is an alliance of national state government associations dedicated to the advancement of electronic government within the states. The Council is comprised of **NASIRE** (a group representing the chief information officers of the states), the National Association of State Purchasing Officials (**NASPO**), the National Association of State Auditors, Comptrollers and Treasurers (**NASACT**) and the National Association of Secretaries of State (**NASS**). In addition to these voting members, other governmental and private organizations participate in an advisory capacity. These associations include the National Governors Association (**NGA**), the National Association of State Chief Administrators (**NASCA**), the Information Technology Association of America (**ITAA**) and the National Automated Clearing House (**NACHA**). The ITAA and the NACHA specifically represent private information technology companies and the financial services and technology industries.

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Introduction

In 1999, **NECCC** published the highly acclaimed white paper ***Electronic Government: A Blueprint for States*** outlining critical issues facing governments as they prepare to enter the digital era. This year the NECCC symposium, held at the LBJ School of Public Affairs at the University of Texas, began developing this white paper as a follow-up, to help governments proceed with activating e-government. This white paper provides more specific guidance in planning for electronic government and assessing e-government preparedness by addressing the following questions:

- **Am I positioned to succeed in electronic government?**
- **What are the key elements of an electronic government plan?**

This white paper is organized to help leaders answer these questions. It includes two Tool Kits which will help leaders evaluate their own readiness for e-government.

Section I provides leaders an overview of the need for and potential of e-government.

> E-government is like a giant canvas on which the people can draw a new view, a citizen-centered view of their government.
>
> – **Carolyn Purcell**, Executive Director, Department of Information Resources, Texas, NECCC

Section II is a discussion of the issues and concerns a government should consider before beginning an e-government plan. It should be used in conjunction with Appendix A, "E-Gov Readiness Quiz."

Section III consists of a "planning plan;" the step-by-step guide for creating an e-government plan and putting it into place.

The following discussion is meant to assist government leaders in developing a strategy to direct the implementation of e-government applications.

Section I

Why Are We Doing This?

Government will change more in the next decade than it has in the past century, due to the implementation of e-government.

E-government is already generating changes to existing laws, and creating new laws and policies. Observers also predict that it will change the way government is organized. Implemented properly e-government has the potential to enhance a government's relationship with its citizen/taxpayers (who are now often referred to as our "customers") by improving and expanding government services as well as making them more accessible to a greater number of citizens.

It has become evident to all levels of government, from municipal to federal, that the age of electronic government has dawned and while governments are clamoring to implement new models of interaction, many are still uncertain of what to do and how to proceed.

The **NECCC** believes it is essential for government leaders to meet the challenge of this profound change, and that critical thinking and appropriate guidance, such as can be found within this document, can help set a professional standard for e-government.

Recent work from the **John F. Kennedy School of Government** at Harvard[1] has suggested that to become or remain leaders, political and administrative government officials must embrace this challenge. Elected and appointed officials throughout the nation are beginning to be assessed on their leadership in technology, both as an economic development strategy and as a tool for improving government services. Such scrutiny is sure to increase in the future, raising the stakes for officials to not only encourage technology development but also to use it wisely.

> Why reinvent the e-gov wheel fifty different times? Through collaboration and partnerships, the states can do so much more so much faster and at so much less cost to our citizens.
> – **Robert L. Childree,** Alabama State Comptroller; NASACT President

Dual Role of Government

Our economy is transforming from an industrial base to a knowledge and information base. In this transition, government must protect the economic well-being of its citizens as well as transform its functions and services. Government is becoming both service provider and policy-maker, watching out for the interests of all citizens and promoting social and economic values espoused by its citizens. As policy-maker, government should consider planning for a digital society as a whole; electronic government is only a part of this

[1] ***"Eight Imperatives for Leaders in a Networked World: Guidelines for the 2000 Election and Beyond,"*** John F. Kennedy School of Government, The Harvard Policy Group, Cambridge Massachusetts 02138.

role. To fully understand the importance of an e-government strategic plan, it is first necessary to understand the broader requirements of the digital society.

• ***Economic development*** – The attraction, retention, incubation and support of new knowledge-based industries, while still supporting the existing economic base, through government policy, legislation and incentives.

• ***Telecommunications policy*** – The government articulates the need for, and encourages the access to high-speed telecommunications throughout its jurisdiction.

• ***Education*** – Ensuring all citizens are ready and capable of capitalizing on the new technologies.

• ***Government Services*** – The government must be a role model in the use of e-commerce and a catalyst in bringing the digital society to its citizens.

The remainder of this paper will address the government services area.

E-GOVERNMENT STRATEGIC PLAN

Certain themes and assumptions have become generally accepted among e-government professionals. Among them:

• E-government should involve a multi-channel service delivery strategy in which the same service is available via the web, telephone or over the counter.

• E-government requires customer-oriented approaches to automated systems, business processes, management practices and organization structure.

• E-government provides both the opportunity and the necessity to transform government service delivery, but success depends on progress in realistic increments.

• Prioritization and focus are key to successful e-government planning and execution.

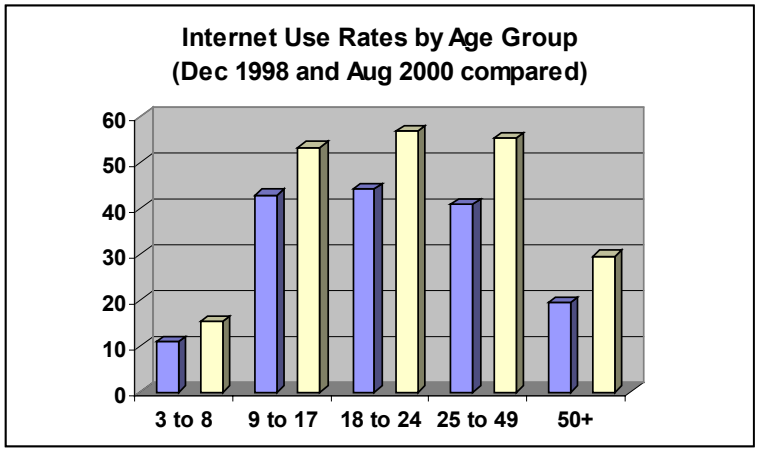
• E-government requires standardizing internal processes and addressing long-term goals for realigning service delivery. Such efforts should apply across governments and agencies. This is particularly important when dealing with vertical services such as law enforcement or social services.

> Digital Democracy is the next curve in e-government. Citizens want information and results available digitally – from online corporation filing to UCC searches; from election results to campaign finance reports – literally, everything we [Secretaries of State] do.
>
> – **Sharon Priest**, Arkansas Secretary of State, NASS President

E-government uses computing and telecommunications technologies to make radical changes to the delivery of government services to their citizen customers and the general public **(G2C),** businesses **(G2B),** employees **(G2E),** and other governments **(G2G)**.

GOVERNMENT TO CITIZENS (G2C)

E-government offers great opportunities for improving the public's experience of government services. Existing widespread but simple changes in technology that have improved public service (i.e., tax forms available to download and electronic



Source: NTIA and ESA, U.S. Department of Commerce

queuing systems that expedite motor vehicle office visits) demonstrate how integrated and advanced services will bring dramatic changes. These include:

• ***Ease in locating services*** – Government services will be organized into increasingly intuitive structures allowing a customer to enter a single query about a topic, which directs the customer to relevant agencies without multiple telephone transfers, or visiting a series of physical locations.

• ***Convenience of continuous access*** – Government services can become available at off-hours (possibly 24/7/365); when people can most conveniently access them.

• ***Improved customer response*** – As technology takes over routine administrative tasks, resources both financial and human can be focused on delivering improved customer services and addressing special needs.

• ***Single touch-point*** – Single "touch-point" locations can be established allowing for input of basic information, such as a change of address, just once for an entire government.

Many of these features are already available in e-commerce, and Americans will soon expect similar conveniences from their governments. They are unlikely to be satisfied with a government that cannot provide them.

In providing successful online service governments must:

- Prioritize services to be put online
- Determine how citizens will access online services
- Address public concerns over privacy and security of information provided to government via the Internet.

GOVERNMENT TO BUSINESS (G2B)

The relationship between government and business is multi-faceted. Businesses are suppliers to, partners of, customers of, and occasionally competitors with, government. In addition, businesses must comply with government regulations while they maintain these other roles. Though access to online services may be more commonplace in the business environment than in the public at large, and governments cannot assume that all businesses have ready access to online services.

Government to business commerce holds perhaps the greatest promise for realizing new efficiencies and economies through e-government. At the federal level, among the earliest examples is the Securities and Exchange Commission's EDGAR system, which allows the Commission to accept paper-intensive filings electronically.

State and local governments are also embracing G2B transactions such as tax, corporate and Uniform Commercial Code (UCC) filings. The greatest advantage realized thus far in electronic transactions

with government has been in financial transactions, such as electronic funds transfers and procurement cards for purchases. Other benefits of G2B include improved accuracy, turnaround time, and better information to support decision-making.

> States are in the services business and online service delivery is a core competency for government in the Internet Age. To achieve our desired goals will require cooperation among governmental entities and private sector partners as was never experienced previously. Digital government is not a singular event; it must be continuously enhanced and reinvented. It should include as many citizen-owners as possible, not just those who are easiest to reach. Over time, digital government will be the most cost effective way to provide services to citizens.
>
> **– Aldona K. Valicenti**, CIO - Commonwealth of Kentucky; NASIRE President

Government to Employees (G2E)

Governments can effectively use an Intranet to easily interact with to employees concerning human resource information, retirement, news releases and other employee-related issues. G2E is a highly effective way to provide e-learning, and to promote knowledge management.

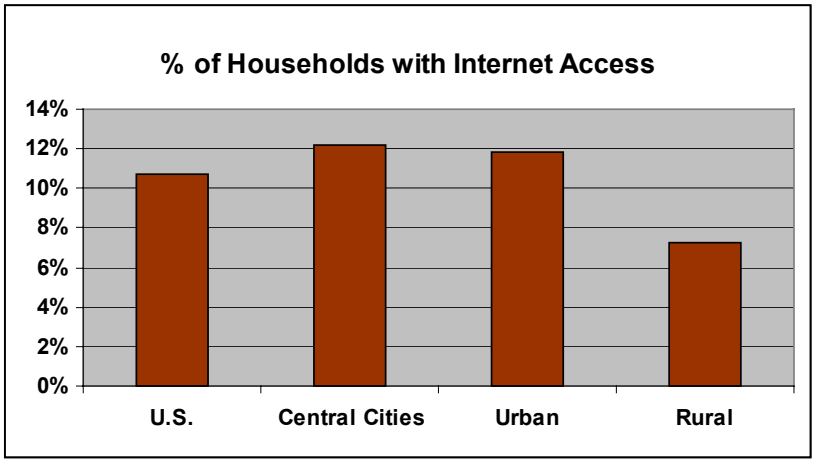
Government to Government (G2G)

Governments also can communicate effectively with other governments through online services. Some of these efforts may require more direct access to databases and applications; other e-government initiatives can be as simple as bulk data transfers, EFT transactions and information access. The G2G services may require more direct links through state intranets and will take place between all government levels.

E-Government is Not E-Business

In recent years it has become popular to claim that government should be run like a private business, but governments, by their very nature are different from private sector businesses. Before assuming that what has worked for e-business will work for e-government, some significant differences should be considered.

- ***Ability to Select Customers*** – Under the principles of equity and access agencies must provide their service through multiple (which often includes high cost) service delivery channels to any member of the public who qualifies for them. Private companies can target their customers and select the most efficient delivery channels.
- ***Different Incentives*** – In the public sector savings or additional revenues generated usually are returned to the government's general fund for reallocation, focusing on the "public benefit." Cost savings or revenue increases in the private sector almost always benefit the organization that initiates the action.
- ***Risk-Taking*** – For a number of reasons, not the least of which is budgetary, governments avoid risk-taking, and are slower to innovate or embrace the latest technology. Incentives and rewards for experimentation and for being "first to



Source: NTIA and ESA, U.S. Department of Commerce, 2000

market" are a common occurrence in the private sector.

• ***Organizational Structure*** – In the public sector, authority and responsibility is intentionally diffused under the constitutional principles of "separation of powers" and "checks and balances." This system is designed to ensure that governments act deliberately, not quickly and without thorough review. The private sector typically focuses on the most efficient organizational structure.

• ***Different motivators*** – Governments exist in and react to social policy pressures and can only change their mission or procedures through legislation. Companies exist in and react to market pressures and government regulations. They can reorganize or change their mission whenever the market or management deem such a change is desirable.

VALUE OF E-GOVERNMENT

A variety of new technologies has potential to create significant value in improving government services.

• ***Self-Service*** – Government "customers" can conduct their own transactions at their convenience instead of the standard 8 a.m.-5 p.m./ five-day-a-week time frames, and the government can save the expenses of service delivery via traditional channels.

• ***Single Face*** – Through a web portal or similar mechanism, it will be possible for a customer to complete a transaction with the government without having to visit several separate agencies in separate physical locations.

• ***High Availability*** –Processes and systems formerly limited to regular business hours, or "brick and mortar" physical locations, can be accomplished in a 24-7-365 world and from any place with technical access.

• ***Business Process Improvement*** – Business processes can be streamlined with automated workflow thus eliminating steps and lowering the overall time and cost of service delivery.

E-GOVERNMENT PLANNING IS DIFFERENT AND NEW

In designing a plan for e-government, John Bryson's book, ***Strategic Planning for Public and Nonprofit Organizations***, offers some important advice:

What matters most is strategic thinking and acting. Strategic planning is useful only if it improves strategic thought and action; it is not a substitute for them.

The need for speed and the serious nature of impending e-transformation

requires considerable strategic thinking. However, the traditional public sector planning models do not work well for electronic government planning. These planning models must be modified to allow for the speed and focus needed in today's web-based world.

One emerging and promising planning model is Issue Driven Planning (IDP), identification of a strategic issue when it arises, then crafting an appropriate response to mitigate risk or seize opportunity. A typical issue-driven planning model could be conducted over a two- to three-week period with the planning horizon being less than a year and typically six to nine months.

IDP recognizes government will always be limited by funding constraints and political realities and allows immediate addressing of specific strategic issues rather than having to wait for an annual planning cycle to integrate a discussion and devise a course of action as part of the main plan.

Finally, it should be recognized that planning for e-government is neither business nor IT planning. Government entities should be able to conduct business, IT and financial planning concurrently around the issue of planning and implementing electronic government.

> The Internet has ushered in a new era, and is rapidly changing the world, which is now almost devoid of borders. As a result government leaders are going to have to change their way of doing business. Citizens are beginning to expect to be online, not in line when they deal with their governments. They want to be in charge of their lives, and will expect their elected leaders to provide services on a 24/7 basis, so they can conduct their business when *they* want to, not just over the counter at their government's convenience.
>
> – **J.D. Williams**, Idaho State Controller, INECCC Chair

Section II

E-government Issues

One product of the 2000 NECCC Symposium was an "E-Gov Readiness Quiz," a set of questions suggesting what an organization should do or have in place to support its e-government journey.

The original list of questions was submitted to a few states to get a sense of their relevance. Those states have since provided excellent feedback, and the final quiz reflects their suggested changes. In scoring results from the trial states, we learned that most received a score above 80 which, represents 50% of a perfect score. The quiz is attached to this document as **Appendix A**.

The issues discussion in this section is intended to provide you with the background necessary to answer the questions on the quiz, and you will find the quiz sections correspond with the headings in this section.

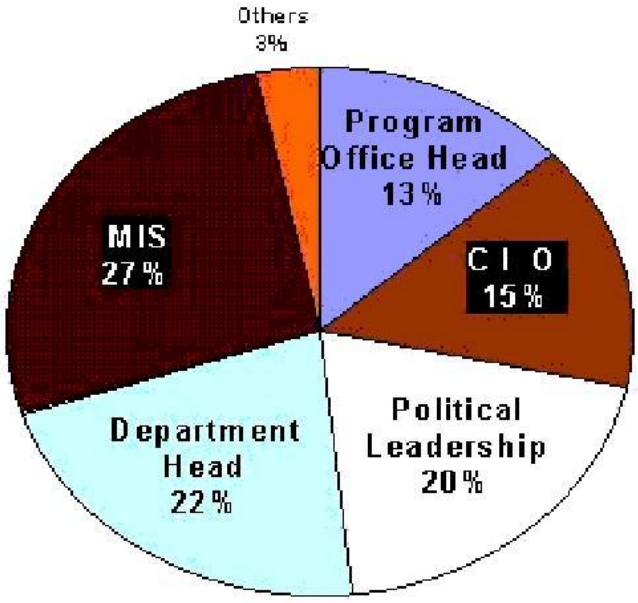
LEADERSHIP

As with any successful government initiative, strong leadership and clear vision are essential. Leadership needs to come from senior officials in the executive, legislative and judicial branches of any level of government. Elected officials should take the lead in using e-government tools for civic engagement, reaching out to and encouraging citizen participation by using e-government resources.

Leaders must be willing to provide incentives for the adoption of e-government, encouraging its growth through the use of incentives like innovation funding and other strategies.

In an e-government culture, staff are encouraged and rewarded for "thinking outside of the box." Continuous learning, improvement, innovation, entrepreneurship, strategic thinking and collaboration are all characteristics of such a culture. Agencies and organizations must shed traditionally reactive, bureaucratic, "play-it-safe" habits. Recruitment and retention benefits may be

In Maine an educational cornerstone is the completed installation and ongoing operation of the Maine Schools and Library Network (MSLN) which makes internet access available to all public schools and libraries. Supplementing this network is an ATM broadband Distance Learning network for data and interactive video to high schools to support shared learning. The Governor's Learning Technology Endowment Initiative will provide portable computers and Internet access at school and home for all students. Through InforME, state government is partnering with many towns and municipalities to offer internet-based services for citizens. Additional information can be found at: http://janus.state.me.us/education/technology/atml/atmnew.htm , http://www.msln.net/msln/ and http://www.state.me.us/informe/



Who Drives E-Government Initiatives?

Source: Gartner Dataquest (Aug. 2000) Number is % of respondents

required to ensure the organization has adequate talent to support e-government either directly or by managing out-sourced service contracts.

When preparing a plan for e-government, special consideration must be given to aligning the plan with the organizational business strategic plan. Unless the plan is aligned to the business plan, there will be little impact because the e-government features won't address issues that are important to the organization's fundamental health.

Operating in Internet time places a new urgency on product development and requires constant rethinking to incorporate the emerging attitude of the public toward the Internet, and emerging technologies that will influence the way we design the future. Citizen input is vital at this juncture and government leaders need to encourage customers to make their demands and preferences known. Without these, e-government will miss the opportunity to rebuild government from the people's point of view.

LEGAL

In most jurisdictions laws and regulations need to be adapted to support e-government and e-commerce in general, and without executive leadership and support this can be a difficult task. Any government's elected officials must understand the strategic nature of e-transformation, and be willing to support enabling legislation that will remove statutory and regulatory barriers that undermine the rapid adoption of e-government. For example, state legislatures should permit the use of digital signatures in various forms in lieu of handwritten and recorded signatures. The judicial branch should be prepared to accept such signatures as valid for contracts, and attorneys general should be prepared to confront online privacy issues, both in the public and private sector. Law and policy-makers need to take an active leadership role in evaluating such issues as the passage of the Uniform Electronic Transactions Act (UETA).

All public officials need to be attuned to new threats to business and consumers; products of computer fraud and other high-tech-enabled crimes.

- ***Electronic signatures*** – Many states have adopted laws legitimizing electronic

signatures using various technologies. The federal congress recently enacted the Electronic Signatures in Global and National Commerce Act (E-SIGN) to promote the reliable use of electronic signatures. Although various technologies are permitted in most legislation, transactions conducted using electronic signatures must conform to standards appropriate to the transaction, such as auditability, non-repudiation, and longevity.

• ***Electronic payment and system security skills*** – Any transaction that requires exchange of funds between citizen and government will use one of several payment mechanisms. The most popular form of payment is credit card. These transactions will create demand for a high level of security to protect sensitive financial account information. For a complete discussion of these issues, see the NECCC's *Electronic Payments Primer* available in PDF at www.ec3.org.

• ***UETA*** – The Uniform Electronic Transactions Act was approved and recommended for adoption by all states by the National Conference of Commissioners on Uniform State laws in July 1999. UETA's purpose is to eliminate barriers to electronic commerce by recognizing electronic signatures and records as the equivalent of wet ink signatures and records. Like the recent federal E-SIGN Act, UETA provides that a record or signature may not be denied legal effect or enforceability solely because it is in electronic form, and that a contract may not be denied legal effect or enforceability solely because an electronic record was used in the formation of the contract. UETA is intended to facilitate an electronic transaction consistent with other law applicable to the transaction and to be a flexible framework for expanding electronic commerce as new electronic media are developed in the future. *For more information and UETA updates, refer to:* http://www.mbc.com/ecommerce/ecom_overview.asp

The NECCC has established several E-SIGN working groups to address the legal, security, policy and interoperability issues related to E-SIGN legislation and other initiatives.

ELECTRONIC RECORDS MANAGEMENT

The Internet provides a new tool for dissemination of open records information to the public when that information is available in electronic form. Organizations should anticipate heightened awareness of privacy issues as personal information accorded open record status is available online. Organizations must also realize that electronic records require special attention for archiving and storage. This is especially relevant with respect to historical records that should be kept in perpetuity. Technology has not yet provided a complete solution for long-term electronic records management and storage.

PRIVACY AND SECURITY CONCERNS

Issues concerning collection and use of consumer data by web merchants and private and government entities have caused concern that personal data, unbeknown to the individual, is no longer personal, or protected. Many consumer and civil rights advocates have concerns about the information collected and used by private and public organizations. Although the web was originally designed for one-way data transfer, organizations quickly learned how to reverse the flow of information**. *(Privacy Policies – Are You Prepared – A Guidebook for State and Local Government; NECCC; December, 2000)***

Successful e-government is built around the customers' trust in their government, and their belief that their private information and confidential communications remain secure and private. Specific factors that affect trust are:

• ***Authentication*** – The means by which assurance of the identity of parties to a transaction is established.

• ***Confidentiality*** – The assurance that no one is able to eavesdrop on the transaction in progress.

• ***Integrity*** – The assurance that the message sent is identical to the one received.

• ***Privacy*** – The assurance that information provided for a specific transaction will not be used for purposes not authorized by the provider.

• ***Non-repudiation*** – The assurance that a transaction or agreement made electronically will be considered legally valid.

With no simple answers in sight, privacy will remain a critical issue for e-government for the next few years. Concerns over personal privacy could be one of the major obstacles in early implementation of e-government. Open record laws and technology are running headlong into each other, and governments at all levels are wrestling with the protection of free enterprise while still protecting the privacy of the individual. Many states have their Internet privacy policy developed and posted, or have formed privacy commissions or task forces.

GOVERNANCE

One of the greatest challenges to a successful e-government is building the "single face" of government; including all governments naturally linked through their customers. Our system of government has created multiple governments, from irrigation districts and school boards, to state and federal authorities, with independent authority and statutory powers. This structure runs counter to the concept of a single face of government, however governance models bringing these entities together are needed for truly workable e-government. Balancing the need for strong individual leadership with collaborative project development can be a difficult process.

A critical element is defining who has jurisdiction to ensure that common interests are sustained and that rational and cost-effective solutions are developed across organizational boundaries, and that the solutions are compatible with each government's personality and priorities. The successful implementation of e-government requires central coordination with enterprise-wide involvement.

A central group, designated to address these issues, will help streamline their resolution. Any government moving to an e-government implementation would be wise to have a chief information officer (CIO) in place before the move begins, and to have that individual play a central role in e-government. To address customer issues, representation from citizen groups should be included.

Within the governance process, two leadership groups are advisable:

• An "e-governance group" that addresses issues related to government oversight, funding and policy issues (privacy, prioritization, etc.)

• A "e-support group" that services the e-governance group and coordinates with agencies regarding implementation of plans for e-government services; determination of individual agency budgeting needs for the

process; coordination of interagency infrastructure implementation requirements (directory services, security issues, etc.); provision of central assistance for agency implementations; and development of guidelines and standards for government-wide implementations.

JUSTIFICATION

E-government proponents should consider carefully their "sales pitch" to groups involved in approving the process and expense. They can point out that e-government could provide benefits such as

- the same services for lower costs;
- more services for the same cost; and/or
- improved customer satisfaction.

FUNDING

The hard fact is that however much e-government eventually may save in staff and financial resources, significant funding will be needed to develop and implement any e-government plan. Research and development and installation and training costs all must be considered, as well as regular maintenance and operations budgets.

The sense of urgency related to e-government has often resulted in establishment of mandates ahead of funding cycles; that can create a need for interim funding. Another consideration is that until there is a certain level of adoption of e-government, all other channels of distribution remain in full effect, meaning no reduction in current expenses.

Until the rate of adoption allows for elimination of some traditional channels, or reduction of workload, e-government will be an incremental cost. Further, payments over the Internet often employ credit cards. States, as merchants in online transactions, must pay about 2% of the value of the transaction to the credit card processor. Some states are funding the e-government initiative explicitly, so no fees are required. Even in states where funding is not explicit from the legislature, some agencies are absorbing the expense.

E-government provides some options for innovative funding that traditional government procedures cannot. Several states are testing non-traditional funding methods, such as selling advertising.

One method used in several states is

The Washington State Digital Government Applications Academy is both a dot-gov incubator and accelerator, leading to the rapid and replicable development of secure, convenient and cost-effective Internet applications. These applications will provide continuously-open portal with a secure gateway, public key infrastructure, credit card payment engine, 24/7 search, help and application support, and directory and security services. The technology balances the enterprise view with agency autonomy, enabling them to design and deployment of applications quickly and cost-effectively without duplication. For more information see: access.wa.gov/e-gov and refer to Release 2.0, Digital Government Plan.

subscription and convenience fees, which are charged to users for specific online services. Some other funding possibilities could include allowing agencies to collaborate on implementation plans, and use of cross-agency funding, with each one contributing; or allowing agencies to internally reallocate any funding savings, rather than returning them to the general fund for the traditional budgeting process.

PERFORMANCE MEASUREMENT

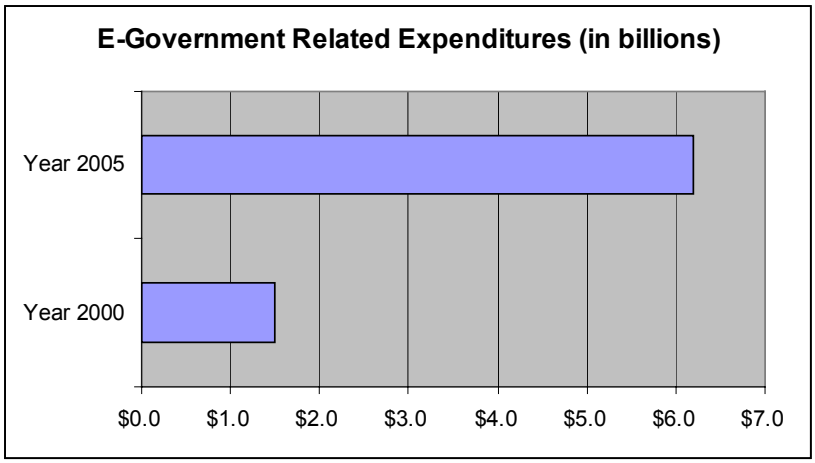
A survey conducted by NASACT in early 2000 indicated that the state auditors were generally satisfied with their state's ability to manage e-government. They did voice a need to provide a support role in the development of electronic government in the areas of security, privacy and re-engineering.

For example, the AICPA and the Canadian Institute of Charter Accountants have introduced a professional service to provide assurance on the reliability of systems. Called "WebTrust," the program is designed to increase the comfort of management, customers and business partners with the systems that support a business or a particular activity.

In addition, the Audit Guidance Project of the NECCC is in the process of developing criteria to assure that auditors will be prepared to:

- Provide assistance to build controls as e-government is developed in their states
- Assess risk
- Give assurance that proper controls are in place over electronic transactions. *(For more in-depth discussion, see the NECCC Audit Guidebook & Risk Assessment at ec3.org.)*

In e-government, performance measures should define progress and success, giving the public reasonable assurance that the system is accountable to its customers. The measures should be developed with stakeholders' input, and should be clearly documented and well promoted. Without finite measurements and stakeholder input and consensus of what those measurements will be, government risks having the project assessed by arbitrary measurement standards.



Source: Gartner Group

Performance criteria could include: customer satisfaction, adoption rates, transaction cycle time, error rate reduction and improved accuracy.

COMPETENCY /SOURCING

Some governments choose to develop applications in-house while others outsource through partnership. Those who advocate in-house development believe that this is the best long-term solution since it implies an

existing competence or developing competence in e-government skills.

Some advantages of outsourcing include spreading the costs of the implementation over a longer period of time as a cost of ongoing operations; resolution of many of the training problems; and allowing the government to concentrate on its core functions. Outsourcing also addresses the issue of an agency's lack of experienced or trained staff available to work on e-government implementation. However, outsourcing brings with it another set of issues, including effective contract negotiation and project management. Currently 18 states use outsourcing to develop and implement e-government plans. Sourcing decisions are complicated and should be made deliberately.[2]

Planners should inventory staff experience and capabilities to determine what additional human resources are needed. Important skill sets include best-value procurement skills, contract negotiation skills, contract administration skills and project management skills. In addition, skills in change management and relationship management are also essential.

CONTRACT MANAGEMENT

Since IT products and services are marketed as packaged solutions, some products and services almost certainly will be purchased from outside contractors. A competent team with specialties in the application, state terms and conditions, pricing characteristics and performance stipulations should be present during contract negotiation. Without a good contract, management of the contract will be impossible. Once a good contract is developed, a contract manager should be specifically assigned. The contract manager must monitor timelines and acceptability of project deliverables. It may be advisable to hire an outside risk manager as well.

PROJECT MANAGEMENT

Any e-government organization must be skilled in project management. An executive sponsor should be in charge of removing obstacles and making resources available to the e-government team for proper execution. The project manager must assure that the project stays on time and on budget, report all successful and unsuccessful project deliverables, assure constant mitigation of risk, and keep all stakeholders informed of progress. This person must be able to work closely with the contract manager.

BEST PRACTICES

Because the public expects to see quick delivery on e-government products, organizations must be competent in identifying and propagating best practices. The states of Washington and Pennsylvania both have formed factories for development of e-government applications. By reusing standard application components, production time has been markedly reduced, and products are more reliable and easier to maintain. In a number of states a common infrastructure provides agencies with a secure, robust and stable framework to build upon.

[2] For a resource on how to determine when to outsource see http://www.dir.state.tx.us/oversight/outsourcing/index.html .

RELATIONSHIP MANAGEMENT

E-government initiatives provide a mechanism to support the public's needs in using online services. A Customer Relations Management (CRM) structure should be in place to address questions and concerns about online services. CRM methods could include one or more of the following:

- A telephone support service to respond to user questions regarding online applications and services.
- Online support function accessible directly from the web sites.
- Tools to monitor and track problems and user questions.
- A recursive process to address frequent problems or frequently asked questions.
- Processes to analyze user traffic in order to simplify navigation and access to online services.
- Polling CRM processes for customer feedback.

TECHNOLOGY

E-government deployment will likely require skills, technology and disciplines not in ready supply. Providing a window for citizens to access your electronic repositories directly heightens the possibility for abuse and misuse. It will be up to you to implement technology and procedures to ensure that your site is secure. One way to limit your vulnerability is through a common architecture.

Architecture is the delineation of a system, in this case an enterprise wide system, into defined components for which certain standards are set. Information

The Electronic Benefits Transfer (EBT) Council, which operates under the auspices of NACHA – the Electronics Payments Association, has developed the Quest® Operating Rules that govern EBT transactions within and between participating states. In addition, under a contract with NASIRE, NASPO and NASACT, NACHA's Internet Council developed "Guidelines for Constructing Policies Governing the Use of Identity-Based Public Key Certificates (CARAT Guidelines). The guidelines are intended to help organizations create closed, but interoperable Public Key Infrastructures (PKIs) that can be used to facilitate pilot projects employing public key technology. Like other voluntary consensus standards, the Quest Rules and the CARAT Guidelines suggest that participants use contracts to make the provisions of Rules or certificate policy legally binding among the parties.

Architecture is typically divided into three domains:

- **Application Architecture**
- **Data Architecture**
- **Infrastructure Architecture**

Application architecture might include standard components for pieces of programming code that can be reused. It may

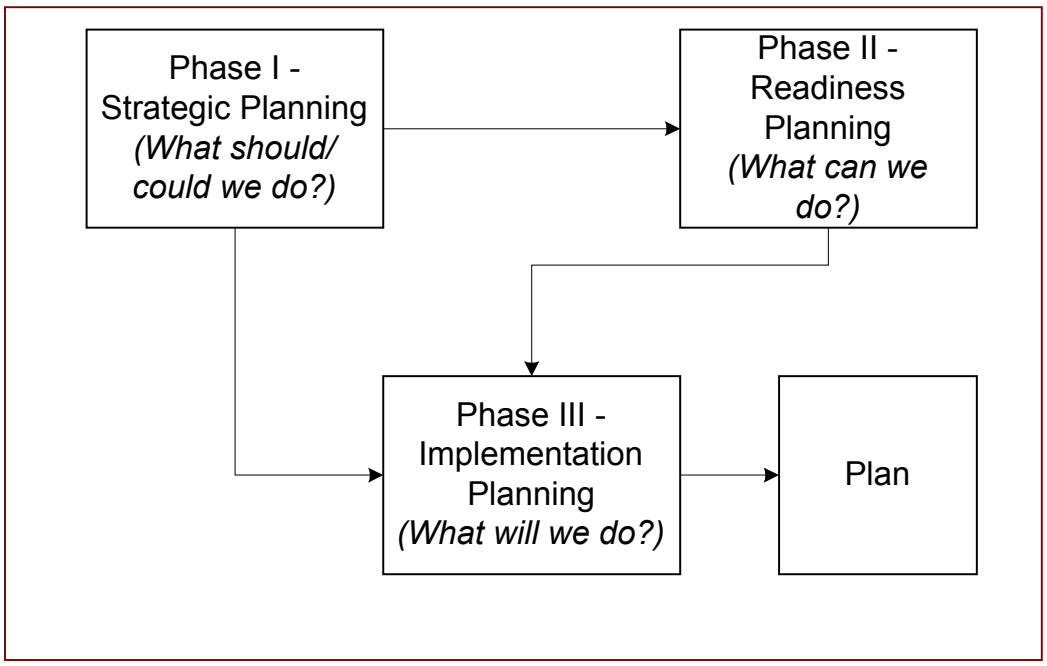
also include a common "look and feel" for all of enterprise's web pages.

In ***data architecture***, format standards can be instrumental in moving inter-governmental data exchange forward. An emerging and very probable e-government-oriented format standard for data exchange is eXtensible Markup Language (XML), an internationally accepted, Internet-oriented data formatting language for self-defined data structures. *(For more information on XML, see:* ***An Introduction to XML's Potential Use Within Government; NECCC; December 2000.)***

Infrastructure refers to the "plumbing" of e-government, namely the telecom protocols and the physical backbone, security practices, hardware standards and other standards across the enterprise. Its architecture provides a roadmap to developers of e-government. Because it is applied enterprise-wide, economies of scale will accrue. The standards mean less diverse training, thus more depth on technical skills.

An enterprise architecture that is designed to support rapid growth is called "scalable" and is designed to anticipate a rapid growth curve and frequent changes. By building a scalable infrastructure for the enterprise, complexity can be reduced and points of failure limited, thus improving security.

Many of us in the purchasing profession have recognized the benefits to be gained by moving our procurement processes to an electronic format. However, as we venture forward into the realm of e-government, it is imperative that we do so within the context of a well-thought-out and comprehensive planning process that assesses not just our desire but also our ability to effectively move to an electronic environment."
– Joyce Murphy, Missouri Director of Purchasing and Materials Management; NASPO President



Section III

Planning Steps

The specific steps outlined in this section are the second part of this white paper's e-government toolkit. Planners first can evaluate readiness with the E-Gov Readiness Quiz, then begin creating an implementation plan using the following outline.

Identify an E-government Executive Sponsorship

Staying consistent with "a single face of government," a single person responsible for the development and implementation of the plan should be identified. The individual should be credible, in a high-level position in the government organizational structure and have sufficient power so that the e-government vision can be accomplished.

Articulate a Vision

As we discussed earlier, government leaders need to define an inspirational, futuristic vision of how the e-government will look and how it will serve its citizens.

Develop a Phased Plan

Planning should include the major phases shown in the figure above. Note that each phase is designed to answer a specific question and it is the totality of the phases that yields a complete and workable plan.

Conduct Readiness Planning

E-government readiness planning can be divided into two separate areas:

organizational readiness and customer readiness.

The readiness quiz will allow planners to assess readiness in:

- Leadership
- Legal
- Governance
- Competency
- Technology

Many readiness assessments focus only on organization, but unless customers are willing, ready and able to use the e-government services, initiatives will fail to meet expectations. Customer concerns can be identified as follows:

- ***Social Concerns*** – Some people prefer to conduct even the simplest business transaction in person, with a person. Banks discovered this when Automated Teller Machines (ATMs) were first introduced – despite the widespread use of ATMs, they still have tellers.

- ***Cultural*** – Chief among cultural barriers to use of e-government service offerings are language and literacy barriers. If an individual is not comfortable with or cannot read English at a certain competency level, they will be unable to use most web sites in the United States.

- ***Disability*** – The Americans with Disabilities Act, (ADA) requires equal access for individuals with disabilities to products and services, especially those provided by governments.

- ***Economic*** – Many people cannot afford devices to access the Internet, and they may not have access to such devices in such a manner as to be practical for government service delivery.

- ***Geographic*** – People who live in remote areas have fewer access options than those living in more urban settings.

During 2000, initiatives by the Texas Governor, Lieutenant Governor and Comptroller of Public Accounts focused on leveraging the state's resources to provide better services to Texans and promote economic development. The e-Texas Conference sponsored by the Comptroller attracted leading legislators as panelists. The Lieutenant Governor's Task Force on the Digital Economy featured luminaries from the state's substantial technology sector. The Governor's initiative resulted in the state's portal for services to citizens across city, county and state – TexasOnline.

- ***Learning Issues*** –A certain percentage of the population will not like nor be willing to learn to use any technology. You must be prepared to accommodate them.

Implementation Planning

Individually, or in a combination, the following approaches should be considered for use in the implementation.

- ***High Visibility Approach*** – If being first at implementing a new application or being viewed as highly progressive is important to your implementation plan, determine the most visible capabilities and deliver them first.

• ***Quick Delivery Approach*** – Are there any applications that would be easiest to adapt to the Internet? Are there any agencies or organizations that are more interested in taking their projects to the Internet and willing to put in the time and investment necessary to deliver? Working with these groups may prove worthwhile for quick delivery.

• ***High Integration Approach*** – If high integration and customer orientation are primary concerns, than a well-organized approach will be appropriate.

• ***Select Priority Projects*** – The E-government Strategic Plan provides a list of initiatives that *could/should* be done. The E-government Readiness Plan provides an analysis of what *can* be done. The E-government Implementation plan must then determine the initiatives that *will* be done.

Though many opportunities exist to use the Internet as a channel of service delivery, they cannot all be accomplished at once and they do not all render the same level of value to the customer or the government. Accordingly, prioritization of possible e-government projects must be done. At the highest level, there are at least three criteria that can be used to prioritize projects:

• Customer Service Improvement

• Government Operational Efficiency Improvement

• Political Return

After selecting the projects, good planning practices require that the following evaluations be performed:

• ***Conduct Economic Analysis of Projects*** – The selected initiatives should be evaluated for cost estimate including both one-time and recurring costs.

• ***Determine Project Funding*** – Once the costs of the selected initiatives have been determined, a funding plan should be developed that details the sources and amounts likely to be available to support the plan.

> The success of Electronic Government is important to achieving Vision 2020 … Success will require civil servants, citizens, and businesses to learn some new technologies, and to be open to changing how their daily work is actually done.
> – *Towards a Vision for a New Electronic Government in Malaysia;* Prime Minister

• ***Schedule Projects*** – Having selected the initiatives and their funding, the next step is to determine the duration, resources and dependencies of the initiatives and to develop a schedule for them consistent with their funding sources.

• ***Marketing Plan: If you build it, will they come?*** – E-government services may be nothing more than a well-kept secret if citizens are not aware of their availability and feel comfortable using them. Consequently, a successful e-government plan must include marketing and public relations initiatives.

A marketing plan and budget should be an essential part of any e-government strategic plan. All too often the marketing of government initiatives is left to the last minute, or treated as an afterthought.

In order to make e-government truly successful, governments must take an active role in marketing efforts to reach audiences; both internal and external. Bolstering the image of a government interested in serving customers and simplifying current processes will increase trust in government and alleviate the fears of online patrons.

Marketing goals are to inform and educate the public about, and encourage the use of, e-government services.

Potential channels for public outreach include community seminars and education focusing on services offered by a technologically aware government as well as the time-tested public information announcements. E-government marketing also offers possibilities for media or private enterprise partnerships. Marketing possibilities are only limited by the imagination.

STRATEGIC PLANNING

Begin the strategic planning to an e-government with a brainstorming workshop. Prior to the workshop, prepare the following information for participants:

A Summary of Business Strategy (Business Drivers) – All e-government strategic planning must be grounded in the business strategy of the organization. The e-government plan should contain at least the *key* business drivers of the agency if not a more developed business strategic plan.

Summary of Best Practices – A review of what are the best practices in other agencies regardless of size or similarity and a review of what agencies of similar size and function are currently doing with the intent of discovering trends and lessons learned. Include in this group individuals who have done some work on e-government.

It might be helpful to develop a list of web sites that the group considers 'best of breed' and ask participants to review them prior to the meeting.

A Review of Relevant Technology Trends – A review of the current trends and use of technologies relevant to the agency involved in the strategic planning process.

Assessment of Current Agency Application Environment – The current environment of the agency should be described. This would include both the present organization and technology of the agency, but also the conditions surrounding the agency at this time.

Conduct a brainstorming session with key decision-makers, leaders (formal and informal), and technology experts in the

Issues like the digital divide, sound management practices, prioritizing projects, and coordination of multiple, independent entities provided the backdrop during creation of the Nebraska Information Technology Commission in 1998. The NITC consists of 9 members, including the Lt. Governor who serves as chair, two representatives from the post-secondary and K-12 educational sectors, one member representing local government, and five members from the general public. Some of the accomplishments and activities underway include a statewide technology plan, steps to aggregate telecommunications purchases, a tele-health feasibility study, project planning and management requirements, technical reviews of projects, and work on a technical architecture. Further information is available at www.nitc.state.ne.us.

organization. At the workshop develop the following:

- ***A List of the overriding Business Drivers*** (e.g., eliminating traffic congestion in downtown areas, etc.")
- ***A Statement of the E-government Vision*** – The E-government Vision should be an inspiring description of how the agency will be in the future and should paint a vivid picture of that.
- ***Statements of the Goals of E-government*** – These are typically:
  - ✓ ***Improve Government Services***
  - ✓ ***Improve Government IT Infrastructure*** – Provide world-class technology services to government agencies to support their services to the organization's customers.
- ***A List of Candidate Projects***
- ***A List of Project Prioritization Criteria*** (should be related to Business Drivers)
- ***A Weighting of the Prioritization Criteria***
- ***A List of Resource Alternatives*** (collaboration opportunities, funding sources, etc.)

Once the workshop is complete:

- Consolidate the outcome of this discussion into the four categories of government customers discussed previously: G2C, G2B, G2G and G2E.
- Develop candidate project priorities based upon the criteria and their relative weighting.

The Digital Dakota Network (DDN) was built to simultaneously connect 70% of the K-12 students to a statewide intranet with access to the public Internet. Each classroom of every public and private school with more than 50 students has been wired with Category V wire, video cable, and additional electrical power for three of every four students – 101,250 commercial grade network connections in 600 school buildings were wired by 11 teams of inmates from the South Dakota corrections system. Every junior and senior high school has a videoconferencing room. Every school building was provided an application server and a group computing Destination system. See the web site at cts.state.sd.us/.

- Determine project dependencies (if any)
- Develop a desired timeline for project delivery based upon their priorities and dependencies.
- Evaluate the resource alternatives and determine those that are viable.

Section IV

Summary

A well-conceived and executed electronic government plan can yield major rewards. Cost avoidance, process savings, and increased customer service are some of the typical benefits.

The Electronic Government Planning Framework described in the preceding pages is a component of an overall process that includes transition to the Readiness Phase and an eventual "hand off" to the Implementation Phase.

E-government is an important leadership issue and the transformational aspect makes this an imperative for elected and appointed policy officials. In order to help an e-government plan move forward smoothly, creation an "e-government program office" can help agencies coordinate planning and successful implementation. Successful experiences with Y2K program offices can be used as examples of how agencies can collaborate on e-government efforts. Complexity, scope, time, risk and cost can be managed through an e-government "building block" approach:

- Do not try to do everything at the same time.
- A series of well-executed discrete projects can turn into execution of the larger strategic vision.
- Planners will have to take care to avoid technical "dead-ends" and keep preparing for the future.

Some major issues that will influence the e-government agenda are: taxation, privacy and accountability. Individual and organizational privacy concerns are of special importance, and the methods and control systems by which accountability is accomplished will be under close scrutiny.

The transformation from traditional government to electronic government is the most important public policy issue of our time.

Appendix A

E-Gov Readiness Quiz

This quiz can help planners to evaluate local governmental readiness for e-government activities. Scoring is: 1-Strongly Disagree; 2-Disagree; 3-Neutral; 4-Agree; 5-Strongly Agree.

Leadership	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1. Our chief executive has issued an e-government mandate.					
2. There is an e-government culture in our organization.					
3. Our organization has a written e-government strategic plan.					
4. Our e-government strategic plan is aligned (or fused) with our business strategic plan.					
5. Our legislative and judicial branches support e-government.					
6. Our state attorney general and secretary of state are proactive in meeting our needs regarding e-commerce transactions.					
7. Our organization has an internal marketing plan for e-government initiatives.					
Total Leadership Points					
Legal	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1. Our organization can identify (through use of Public Key Infrastructure and/or biometric identification) parties to an electronic transaction such that they cannot repudiate the transaction.					
2. Procurement Law - Our procurement laws have been updated to accommodate the issuance of request for proposals, submission of bids/proposals, notice of award, notification of protest and award via the Internet.					
3. Our organization has the legal and administrative authority to use e-payment methods in the conduct of business transactions via the Internet.					
4. We have legislation, case law, or administrative policy that resolves the liability issues of e-transactions.					
5. Our organization has electronic document management policies and regulations.					
6. Our state has passed or is considering the Uniform Electronic Transactions Act.					
7. Our procurement laws have been updated to accommodate alternative (gain sharing) procurements of information technology goods and services in which a public/private partnership benefits both parties.					
Total Legal Points					

Goverance	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1. Our organization has a clear governance structure established for the development and maintenance of e-Government.					
2. Our e-government steering committee can set binding standards.					
3. Our organization has a methodology to justify budgeting requirements.					
4. Our organization has a strategy for funding e-government projects. (Innovation funds, gain sharing).					
5. Our organization has metrics for performance of e-government projects.					
Total Governance Points					
Competency	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1. Our organization has ability to implement application enhancements in modules quickly rather than just via a single "big bang" implementation.					
2. Our organization is competent at sourcing decisions and buying.					
3. Our organization is competent in contract negotiation and management skills.					
4. Our organization is competent in system security skills.					
5. Our organization is competent in project management skills.					
6. Our organization has a strategy for sharing e-government best practices.					
7. Our auditors are proficient in conducting electronic audits (they audit through, not around, automated systems).					
8. Our organization is competent in relationship management.					
Total Competency Points					
Technology	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1. Our organization has an enterprise-wide architecture for e-government.					
2. Our e-government solutions are modular enough to accommodate expected change.					
3. Our technology infrastructure has adequate availability for planned e-government projects.					
4. Our organization has a written e-government implementation plan.					
5. Our organization has an adequate retention and training strategy for its e-government workers.					
Total Technology Points					
TOTAL POINTS					

Appendix B

E-Gov-Related Definitions

- ***Authentication*** – Authentication is the means by which assurance of the identity of parties to a transaction is established.
- ***Confidentiality*** – Confidentiality is the assurance that no one is able to eavesdrop on the transaction in progress.
- ***Digital Divide*** – The "digital divide" is the gap in opportunities experienced by those with limited accessibility to technology especially, the Internet. This includes accessibility limitations in Social Issues (need to talk to a person, etc.), Cultural Issues (language barriers, etc.), Disability Issues (ADA, etc.), Economic Issues (access to technology devices), Learning Issues (marketing, overcoming unfamiliarity, changing habits).
- ***Digital Society*** – A society or community that is well advanced in the adoption and integration of digital technology into daily life at home, work and play. A Digital Society is one that is advanced in the adoption of the New Economy.
- ***E-Business*** – The transformation of internal and external business processes toward customer-centricity based upon service delivery opportunities offered by new communications technologies (such as Web-based technologies) to better fulfill the purposes of private entities to provide efficiency and effectiveness as well as profitability.
- ***E-Commerce*** – The use of communications technologies (such as Web-based technologies) for the conduct of business and service delivery transactions while leaving internal or external business processes substantially unchanged.
- ***E-government*** – The transformation of internal and external business processes toward customer-centricity based upon service delivery opportunities offered by new communications technologies (such as Web-based technologies) to better fulfill the purposes of government to provide efficiency and effectiveness as well as fairness and equitability.
- ***E-government Strategic Plan*** – A written plan that answers the question, "What could or should we do to transform our organization to be customer-centric in service delivery?"
- ***E-government Implementation Plan*** – A written plan that answers the question, "What will we do to transform our organization to be customer-centric in service delivery?"
- ***Integrity*** – The assurance that the information received is identical to the information that was sent.
- ***IT Governance*** – Cross-jurisdictional organizational structure that provides a decision-making process for the determination of the services, architecture, standards and policies for the organizations information technology. (Determination of who does what and how it gets decided as to who does what)

- ***IT Infrastructure*** – The systems and network hardware and software that supports applications. IT infrastructure includes servers, hubs, routers, switches, cabling, desktop, lap and handheld devices.
- ***Non-Repudiation*** – The assurance that the contract, or other business conducted via electronic means cannot be considered invalid because there are no "pen and ink" original signatures.
- ***Privacy*** – The assurance that information provided for a specific transaction will not be used by the recipient for purposes not authorized by the provider.
- ***Readiness*** -- Readiness is the degree of preparedness to accomplish an endeavor. E-government Readiness is the degree to which a government is prepared to provide its information and services through multiple channels including the Internet toward customer centricity. Digital Society Readiness is the degree to which a community is prepared to participate in the e-conomy.
- ***Security*** – Security is protection from intended and unintended breaches that would result in the loss or dissemination of data.

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