

# **E-Government Development in Taiwan**

**-- Providing Innovative Public Services**



**Research, Development, and Evaluation Commission**

**The Executive Yuan**

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## I. The E-government Concept

E-government refers to the application of information and communications technology by government to link networks and deploy a variety of service infrastructure, including voice telephony, ATMs, the Internet, and information kiosks, for the purpose of providing extensive, proactive services not subject to the constraints of time or geographical location.



## II. The E-government Vision

- To employ information and communications technology in support of government re-engineering, provide innovative services, improve administrative efficiency, and raise the quality of public service.
- To reform civil servants' operating procedures and re-engineer the handling of public business so as to take advantage of modern computer and network communications technology, thereby making government agencies dramatically more flexible and responsive, accelerating service speed, extending service time, extending the geographical reach of services, enriching service options, and lowering costs.
- To enable government agencies, businesses, and the public to conveniently obtain a variety of government services via a broad range of channels at any

time and place, and to provide integrated, innovative interdepartmental services such as “exemption from need for physical transcripts,” “paperless applications,” “one-stop services,” “multi-point, multi-channel, 24-hour services,” and “service to the home,” etc.

### **III. Goals of E-government**

The goals of e-government are to support “competent government,” “planned government,” “competitive government,” and “team government,” promote government re-engineering, and achieve government “service modernization” and “knowledge management”. To continue the ongoing implementation of e-government work, the Executive Yuan enacted the Electronic Government Program in April 2001 (2001 to 2004); this program has the following specific goals:

1. To provide online services to all agencies and civil servants via the Government Service Network. Tasks include providing sufficient network facilities, establishing a secure and anxiety-free Internet environment, and enriching government online information and services, etc.
2. To encourage the government workforce at all organizational levels to take advantage of the Internet to conduct administrative business and provide public service in a more efficient manner.
3. To promote communication and document interchange between organizations at different levels by implementing an electronic document exchange and gateway system.
4. To improve the convenience and efficiency of government services, making them available anytime, anywhere, by providing 1,500 Internet-based application services and “one-stop processing services.”

### **IV. Effectiveness Indicators**

To effectively assess and manage the implementation of e-government, the Electronic Government Program has drawn up ten specific practical and assessable indicators in line with the *Internet Readiness of Agencies*, *Internet Capability of*

*Government Employees, and Information Application Development.*

1. Internet Readiness of Agencies

Indicators	Goals by year				Progress status 2003/11/30
	'01	'02	'03	'04	
1. LAN installations	80%	100%			100%
2. Internet connections	85%	100%			100%
3. Web site installations	80%	100%			85%

\* Total number of administration agencies: 4400

2. Internet Capability of Government Employees

Indicators	Goals by year				Progress status 2003/11/30
	'01	'02	'03	'04	
1. Email users	75%	90%	100%		89%
2. Browser users	80%	90%	100%		93%

3. Information Application Development

Indicators	Goals by year				Progress status 2003/11/30
	'01	'02	'03	'04	
1. Electronic official document exchange	100%				100%
2. Online services: --Application form --Online application	500 100	1000 200	1500 300	400	1250 340
3. Elimination of residential registration certificate	60%	90%	100%		NA
4. Elimination of land registration certificate	30%	60%	90%	100%	45%
5. GroupWare application	5%	20%	50%	100%	NA

## **V. Implementation Strategies**

The Electronic Government Program has formulated the following implementation strategies to insure the effective execution of relevant tasks:

1. Provision of Government Service Network (GSN) Internet services to all agencies.
2. Acceleration of information infrastructure development.
3. Enhancement of information applications, development of GIS applications.
4. Development of flagship projects.
5. Enrichment of government online services, implementation of integrated single-portal government services.
6. Elimination of the digital divide by providing enhanced attention to remote areas and information underprivileged groups.
7. Making good use of private resources and expanding outsourcing.
8. Respecting human rights and promoting humane values; strengthening e-learning for civil servants; enshrining correct information behavior and values; and encouraging innovation and vigor.

## **VI. Specific Measures**

The Electronic Government Program calls for the implementation of various specific measures at the four levels of “strengthening infrastructure,” “improving information applications,” “enhancement of government information dissemination, sharing and integration,” and implementation of “government online services,” and seeks to achieve the three aims of “improvement of service effectiveness,” “enhancement of clerical efficiency,” and “improvement of decision-making quality.” All implementation measures take into consideration the long-term continuity and integrity of the government’s information services: Examples include the management information systems (MIS) needed for the early computerization of services, the office automation (OA) needed to modernize official document processing, and the geographical information systems (GIS) needed for administrative planning and decision-making.

## Framework of Measures



The following are some of the key implementation measures of the Electronic Government Program:

### A. Strengthening Infrastructure

1. Enhancement of GSN services and development of broadband network services for government agencies.
2. Establishment of an e-government electronic authentication and security system, implementation of a public key infrastructure (PKI), provision of online identification and certification services, strengthening trustworthiness of online information, and enhancement of online safeguards. Establishment of an e-government network security and computer incident report mechanism, and creation of an e-government security audit system.
3. Formulation of information-related laws and standards.
4. Promotion of universal e-learning for civil servants to insure all are qualified to work with e-government applications.

### B. Promotion of widespread computerization, raising of government information application levels:

1. Further promotion of government computerization, computerization of manual

- services, review of the application of new information and communications technologies, improvement of administrative information system functions, upgrading of government computer applications, extension of service computerization, deepening and broadening of information applications, and maximization of information application benefits.
2. Enhancement of office automation, reform of civil service clerical methods.
  3. Development of decision-support applications employing geographic information systems.

### **C. Enhancement of Government Information Dissemination, Sharing and Integration**

1. Promotion of administrative data interchange and innovative services, development of interdepartmental gateway systems, elimination of need for physical transcripts.
2. Promotion of office data interchange, improvement of internal efficiency.
3. Enhancement of GIS data interchange; establishment of GIS databases to achieve integration and support government decision-making.

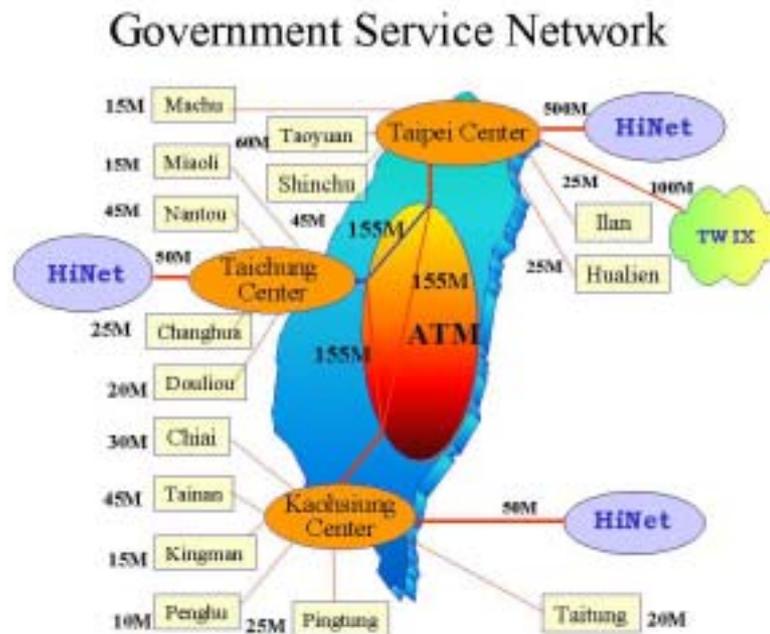
### **D. Implementation of Government Online Services**

1. Promotion of G2B services, providing a variety of convenient online applications enhancing business efficiency.
2. Promotion of G2C services, establishment of an Integrated Government Portal Service, promotion of operating procedure reform so as to provide “Single Window” and “One Stop” services.
3. Development of ubiquitous e-government services, bridging the digital divide.
4. Establishment of websites for all agencies, increasing public disclosure of government information.
5. Promotion of online public security services, enhancing interaction between government and the general public.

## VII. Current E-government Development Progress

Building on the foundation of government computerization and public service automation accomplished over many years, e-government is taking advantage of the Internet and other information and communications technologies by further integrating systems and deploying online digital applications. The following is an overview of e-government progress to date:

- A. The Government Service Network (GSN) has been developed to link all government organizations/agencies. As of the September of 2002, all government organizations were connected to the Internet.



- B. Promoting the establishment of government agency websites: 85% of government agencies have established websites as of the November of 2003.
- C. To encourage citizens to use computers and the Internet, the government promoted the establishment of one website for each village/borough. The government has set up a website to integrate websites of villages and boroughs (<http://village.gov.tw/>). On this website, 6500 websites of villages and boroughs have been linked as of the November of 2003. To alleviate the digital divide between urban and rural areas, the government continued to establish 65 telecenters in remote areas in 2003. The

functions of these telecenters include promoting Internet use and providing training in the communities.

D. Promotion of administrative applications of the Internet:

1. The electronic exchange of official documents began on a trial basis in July 2000, and today all government agencies have implemented electronic official document exchange. This step has drastically reduced document transmission time and raised the level of document computerization. As of the November of 2003, 57% official documents were exchanged electronically in the government.
2. The government has installed the “Government Procurement System” and established the online “Government Procurement Information Center” to provide contractors government e-procurement services. Besides bid request and bid award announcements, the e-procurement system also offers a database of unacceptable contractors, openly requests contractors’ reference data, and openly solicits proposals or written price quotations. As of the June of 2003, government agencies had posted 1,064,822 public bid request announcements via the system, an average of 500,000 queries were being made every month, and a cumulative total of 18.6 million queries had been made. Apart from this procurement information announcement system, the government has also established an online bidding system and an online vendor catalog and price inquiry/quotation system. These systems are doing much to promote fair competition and put the procurement market on a sound footing.  
(<http://gpic.pcc.gov.tw/> ).
3. The government has promoted online access to laws and regulations by compiling a national legal database; this has greatly increased the transparency of information on government laws and regulations (<http://law.moj.gov.tw>).
4. The government has also increased its administrative efficiency by implementing online personnel affairs (<http://www.cpa.gov.tw/>), project management, and government publication services (<http://gpnet.nat.gov.tw>).

E. Development of online public service applications:

1. The government has developed an online tax reporting system, an online income

tax system, a business income tax system, a business tax system, and a tax examination system to provide businesses and the public with faster and better tax services. (<http://www.itax.com.tw/>) In 2003, 14.46% of taxpayers filed income tax via Internet, and 16% of them used electronic certificates.

2. An online motor vehicle oversight services system provides 21 application and payment services, including payment of traffic fines, payment of auto fuel taxes, reporting of stolen motorcycles, and reporting of change of motor vehicle ownership or address. (<http://www.mvdis.gov.tw/>)
3. A database for job vacancies and job applicants has been completed and is used to provide online employment services. Online public safety, business and industry, health care, and utilities service systems provide convenient 24-hour public service.

F. The government has established a centralized government portal site (<http://www.gov.tw/>) to integrate all online government services and information. This site provides variety of electronic services, including information retrieval, interactive communications and electronic service delivery. In addition, in coordination with an e-government common platform project, the government portal site will be able to provide general basic services for government agencies, including electronic certificates, payment methods, form generators, and work flow utility systems to speed the development of online application services.

G. The government has established an Internet certificate mechanism to provide network identification services. According to the e-government Public Key Infrastructure (PKI), the government has established a Government Root Certificate Authority (GRCA, <http://grca.nat.gov.tw/>). Under the GRCA, three certificate authorities were established, including a Government Certificate Authority (GCA, <http://www.pki.gov.tw/>), a certificate authority of Ministry of the Interior (MOICA, <http://moica.nat.gov.tw/>), and a certificate authority of Ministry of Economic Affairs (MOEACA, <http://moeaca.nat.gov.tw/>). These CAs provide public key certification services needed in various types of application procedures. The MOICA and MOEACA began operating in 2003. From 1988 to 2003 the GCA provided a variety

of electronic certification services to government agencies, business organizations, and citizens. As of November, 2003, more than 530,000 electronic certificates of all types have been issued. The certificates have been used for such applications as online tax filing (<http://www.itax.com.tw/>), motor vehicle registration (<http://www.mvdis.gov.tw/>), electronic payment, electronic procurement (<http://gpic.pcc.gov.tw/>), and electronic official document exchange.

To insure the security of online information, the government has set up auditing standards and information security norms for its subordinate agencies, and holds training classes for auditing personnel.

H. The government has deployed a “Gateway System” to integrate interdepartmental information and simplify related operating processes. The purpose of this is to lessen the need for redundant copies of official documents and to improve the efficiency of administrative procedures.

1. Company information and for-profit business registration data (implemented on a trial basis in five counties and cities) query, inspection, and file transmission functions had been completed by the end of 2001, enabling government agencies to share information and sparing bidding vendors the inconvenience of attaching redundant copies of corporate information.
2. The “Inter-county (-city) Land Title Transcript Application and Checking System” went into use in May 2001 throughout Taipei City, Taipei County, Taichung City, and Kaohsiung City.
3. Other trial Internet gateway systems include the residential and conscription information system providing online data query services for police, taxation, legal affairs, immigration entry and exit, road management, fiscal administration, and health care/National Health Insurance information. The motor vehicle information system provides online data query services for taxation, legal affairs, police and judicial system. The industry and commerce information system provides online access for tariffs, investigations, and public construction, etc.

In response to the rapid advance of information technology, the government has started an e-government common platform project since 2002. Based on the



foundation laid by the Gateway System, this project is to provide advanced integration services among different departments and information systems. In 2003, using the common platform, the government is developing two kinds of e-government cluster services, which will integrate interdepartmental workflow to provide innovative services.

A survey of the state of e-government in 198 nations published by Brown University in 2002 ranked Taiwan first. More recently, in the Global Information Technology Report 2002-2003 published by the World Economic Forum, Taiwan was ranked second in Government Readiness and fourth in Government Usage. This indicates that Taiwan's e-government efforts have attracted a degree of international recognition. The survey by Brown University primarily assessed the service content and functionality of government websites. Taiwan was one of the few nations worldwide that had actually used electronic certificates in e-government services. On the other hand, Taylor Nelson Sofres conducted a survey of public use of e-government services in 31 of the most progressive nations in 2002. Taiwan was ranked fourteenth. Compared with the result of the survey by Brown University, this study suggests that the government still needs to make more efforts to alleviate the gap between the supply and demand of e-government services.

### **VIII. Anticipated Program Benefits and Impact**

The Electronic Government Program is expected to deliver the following benefits:

1. It will promote government data sharing, enable online application services, effectively lessen the need for document transcripts, improve administrative efficiency, cut the wasted time and effort of citizens traveling to and from government offices, and dramatically conserve government agencies' human resources and social costs.
2. A variety of channels will be used to provide the public speedy, real-time, integrated services. The government's online service network will be accessible at all times and in almost all places. Online information and application services will



reflect innovative government operating methods and improved administrative procedures.

3. Government information and services will be accessible at times and places most convenient for citizens. It will be possible to use a computer at work or at home, or in an information kiosk, to obtain government services. This will achieve the goals of openness and transparency, while allowing government to quickly learn about and respond to public opinion.

It is anticipated that the implementation of e-government will have the following impacts:

**1. Government agencies will become more flexible and responsive:**

Because modern information technology allows real-time communications and synchronous or parallel processing, e-government operating procedures can overcome the restrictions of departmental boundaries, organizational levels, geographical locations, and administrative districts, and deliver on the promise of “Streamlined Government” and “Seamless Government.” Government decision-making will become more public-oriented and sensitive to citizens’ needs. Government will consequently become more flexible and responsive, and able to react faster to the development of society.

**2. Government will be able to act faster:**

E-government can provide a wide variety of speedy, real-time services tailored to users’ needs. Users’ wait time will be reduced and benchmarks established for government service procedures.

**3. Government service times will be extended:**

Using information and communications technology, government services will be available 24 hours a day, all year round. This will supplant the conventional 9-to-5 government service mindset and satisfy the Information Age needs of the public and all types of businesses.

**4. Government service points will become ubiquitous:**

The long reach of the Internet will bring e-government services deep into the private sector and the community, providing service as accessible as those of corner



convenience stores. Citizens' will be able to obtain government services at practically any location, even within their own homes.

**5. An even broader range of government services will be available:**

In line with the public's right to choose, e-government's use of information and communications technology allows the provision of "customized" services meeting different needs.

**6. The cost of government services will fall:**

The use of information and communications technology enables e-government to simplify service procedures in the spirit of modern business management. This will sharply reduce service costs and allow government to provide services as economically and effectively as a well-run corporation. The public's transportation and social cost of obtaining government services will fall as well.

