

Government-wide Enterprise Architecture

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Organisation: Ministry of Security and Public Administration

Country: Korea

Level of government: Central government

Sector: General public services

Type: Digital, Organisational Design, Public Service

Launched in: 2009

Overall development time: 24 months

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Description

The Government-wide Enterprise Architecture (GEA) - Korea's whole-of-government enterprise architecture approach - was applied to provide integrated services to citizens, businesses and government agencies. GEA has many components consisting of framework, architecture models, meta-model, portals, and education programmes. GEA proves that the whole is greater than the sum of its parts. GEA recognises the information resources available at government organisations and the structure of the resources. This approach made it possible to improve the service quality by integrating the information resources and making them more transparent among all governments.

Why the innovation was developed

- Korean e-government projects have achieved significant improvements in the quality of public services. However, as each government agency widened the scope of e-government services, systems became more complex with high level of investment. As a result, many problems had emerged for the governments both internally and externally. Citizens experienced inconveniences since e-government systems were neither integrated nor aligned at the whole-of-government level. Following are the problems Korea's e-government encountered: (1) barriers between government agencies; (2) strong need for a single unified government to interact with citizens; (3) competition among governments for e-government system investments and; (4) seeking a solution to exchange public information resources.
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Objectives

Develop staff capacity, Enhance public trust, Enhance transparency, Improve access, Improve effectiveness, Improve service quality, Improve user satisfaction

- Alignment: National IT Strategic Plan is aligned with agency-level IT projects/resources.
 - Integration: Information resources are integrated to provide high quality services to citizens.
 - Transformation: GEA provides a roadmap for government-wide business innovation in the public sector.
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Main beneficiaries

Civil Society, General population, Government bodies, Government staff

- The improvement of transparency and accountability of e-government investments.
- Collaboration between government agencies.
- Integration of e-government services for citizen.

Results

Efficiency

- GEA reduced the information technology investments by reusing hardware and software and saved the public budgets for new investment opportunities. GEA reviewed individual information systems by checking their duplicability and incompatibility.
 - As a result, approximately USD 240 million were saved over the last 3 years by eliminating unnecessary investments (USD 88 million in 2009, USD 98 million in 2010, and USD 53.3 million in 2011), which helped secure financial resources for new investments.
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Effectiveness

- GEA had analysed the e-government services and planned target service architecture for citizens. As a result, processing times have been shortened and quality of services has been improved.
 - In the past, it took 4 weeks and 75 different stages for businesses to complete the international trade process. However, since the service integration using GEA, the business procedures were reduced to only 15 stages and only took one week to complete.
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Other improvements

- GEA was able to provide the to-be-featured goals by services for each government agency, as well as the whole-of-government. GEA suggested goals and criteria for services and date in 10 areas, which were in urgent need of improvement in order to enhance convenience for customers (citizen, business, etc.) not at government agency level, but the whole-of-government level.
- GEA is also available at the government enterprise architecture portal (e.g. GEAP at www.geap.go.kr) and this portal has been integrated EA information of each government agency by service classification. The information of individual agencies along with the whole-of-government was integrated and shared. As of 2012 October, information on about 15 000 e-government systems of more than 1 400 institutions is shared through the GEAP. Furthermore, the dashboard shows the information on the current informatisation-related projects of individual government as well as the amount of money invested.

Development

Design

- GEA is the output of all collaboration efforts by the President's Council on National ICT Strategies (NICS), Korea's central and local governments, agencies, and civil organisations. Since many parties were involved in building the solution, roles and responsibilities were clarified and divided into each group.
- GEA was first being initiated by NICS, which consists of governmental and private sector experts and serves as the highest decision making body. GEA was implemented by Ministry of Public Administration and Security (MOPAS), which was responsible for coordinating all GEA-related affairs, including formulation of laws and policies.
- In addition, the National Information Society Agency (NIA, www.nia.or.kr) - supporting organisation dedicated to national informatisation - has been managing the whole-of-government Enterprise Architecture (EA) and research and development for the EA. NIA has continuously submitted opinions for individual organisations and provided consultations under the guidelines and tools to upgrade GEA.
- Other government agencies, such as other central ministries, local governments, and public agencies, participated in this programme to design future goals by service areas with numerous experts from different organisations.

Design time: 3 months

Testing

- GEA adopted an incremental strategy to minimise risks at different stages. The strategy is to review the results of each stage and redirect the tasks for next stage.
- The project management office identified risks by the implementation stages, which were classified into three stages of planning, execution, and feedback.

Testing time: 1 months

Implementation

Tools used:

- Government service quality improvement for citizens.
- Utilisation of laws and regulations.
- Incremental implementation by stages.

Resources used:

- It was not easy to get funds for implementing GEA and the alternative was to connect GEA to the Korea e-government projects. The reason was that the Korea's e-government programme has a history of more than 10 years but the EA implementation was new. With the support of NCIS, GEA projects were executed in three phases and a total of USD 5.9 million were invested. After 2009, USD 150 000 were invested to maintain GEA system.
- Also, the integration and alignment by target architecture as a result of the whole-of-government EA business have been annually funded by the independent e-government support business.

Implementation time: 4 months

Diffusion

- Korea's GEA evaluates the current information resources to be reused or to be abandoned and provides a basis for integrating government duplicated information resources scattered. From GEA and GEAP, it is easy to identify which government organisation has what kinds of information resources in real time. These experiences and outputs could serve as references for other national governments. In summary, GEA provides the complete picture for the managing of information resources by any country. Also, other countries can use this as a template for managing the e-government for current systems as well as new systems. Furthermore, this whole-of-government approach can be used to leverage the roles and responsibilities between central ministries and local governments. Finally, GEA can provide a project management method for IT investment in government organisation by a series of activities in planning, implementing, operating, and evaluating.

Diffusion time: 16 months

Challenges and solutions

- The main obstacles encountered by GEA were a lack of understating of EA and the low level of capability at both a human resources level and at an organisational level. Accordingly, most individual governments were against the implementation of GEA. In order to resolve these problems, the GEAP and GEA supplemented the quality improvement program of EA information. As a result, information sharing and utilisation were possible among all government organisations.
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Partnerships

Other Government Agencies

Other Public Sector

Other government agencies (such as other central ministries, local governments, and public agencies etc.) participated in designing future goals of Administration Service Areas.

Lessons Learned

Lessons Learned

- The importance of setting clear goals: GEA shows more than 15 000 information systems of 1 400 government organisations through a single window. The information about current situation of information system investment, costs, and results are available and make them transparent among government organisations. There could be multiple objectives in building the enterprise architecture but the clear objectives can further save the budget to bring positive outcomes.
 - The significance of securing strong sponsorship: this is not related to the investment decision in information system; however, it is more relevant to the overall management of e-government, making it possible to plan and implement GEA with the strong leadership of Korea NCIS as the top decision maker.
 - The importance of communication: the barriers in governments were eliminated due to the endless efforts of communicating issues among government organisations. In addition, the top-down approach may not be successful since the EA requires effective communication among stakeholders. Therefore, a competent government such as MOPAS is needed to stimulate horizontal as well as hierarchical communications. Each government organisation can participate in seminars and conferences in order to exchange their information to create common values, making efforts by promoting cooperation government-wide.
 - The institutional ground: the governance rule of diffusing EA in government organisations is critical as this rule mandates and directs the workflow. The whole-of-government as one government service for citizens requires centralised governance for national information management. All government organisations are encouraged to introduce and operate the EAs and also utilise the EAs for evaluating the validity and appropriateness of tasks on national information system. It may not be possible without centralised governance rule. Therefore, connection with government budgeting process is very important for the successful building of EAs.
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