Regional platform for e-governments and e-governance

Concept paper

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Abstract — **A concept of a common regional (among several countries) platform for e-government and e-governance is presented and discussed.**

Keywords — platform, e-government, e-governance

I. INTRODUCTION

The aim of this concept paper is to outline a proactive and systematic approach to the implementation of e-governments and e-governance within a regional group of countries.

E-government is the use of information and communication technologies (ICTs) to improve the activities of public sector organisations. E-governance is the use of ICTs to improve the manner in which power is exercised in the management of the affairs of a nation, and its relations with other nations. Also e-governance improves the communication between government and its stakeholders: citizens, businesses and other social organisations.

E-government is a powerful way to introduce efficiency, transparency and accountability in public administration. Digitalization of governments will follow wider digital trends in society. Governing to a large extent involves processing of information, whether it is law enforcement, elections or provision of public services. For this reason, all aspects of government will be affected by the digital revolution.

Although there are several e-government and e-governance projects within a region, at present, those projects are still disjoint, not-reusable, and overlapping.

This concept note proposes a platform-based approach for the cost-effective implementation of e-governments and e-governance for all regional countries. Build once and use for all regional countries. Also, the approach guarantees the integration among different countries.

The platform is similar to a city plan together with the good horizontal infrastructure (not "hard" but "soft" one) and a local building industry (software development by regional software companies) – all of them are architected together to facilitate the quick construction of innovative software-intensive solutions.

II. WHY: E-GOVERNMENT AND E-GOVERNANCE AS THE FOUNDATION FOR REGIONAL TRANSFORMATION

A. Proven advantages of e-government

The World Economic Forum's Global Agenda Council on the Future of Government in its report "The Future of Government: Lessons Learned from around the World" [1] recommends "... flatter, agile, streamlined and tech-enabled (FAST) government".

The UN global surveys [2, 3] have proved that the deployment of e government brings the following advantages:

- public trust that is gained through transparency;

- better financial regulation and monitoring thus reducing in the possibilities for corruption;

- increase in the performance of governmental agencies;

- bridging the digital divide by reaching out to vulnerable populations.

Also, e-government and e-governance are strongly associated with the country's level of democracy.

B. The synergy of considering together e-government and e-governance

The both, e-government and e-governance, must work together because:

- e-governance needs that e-government supplies trustable data to take informed decisions;

- e-government needs that e-governance steers to the direction which is the best of nation otherwise the government will fail.

In an analogy with the transportation, it is necessary to consider together:

- the steering wheel and the dashboard of a car (governance tools);

- the car (the whole government as a system);

- the roads (public-private computing facilities), and

- other parts of the transportation infrastructure.

C. Regional platform as a leverage point

Considering that it is necessary to build e-government and e-governance for several regional countries, it is proposed to join efforts, introduce the coordination, share knowledge and act proactively to accelerate the implementation and save the resources.

For example, in case of Africa [4,5], the practicality of the platform is insured by a unique combination of the several enabling factors which correspond to the African Development Bank Strategy 2013-2022 operational priorities (as show in table I). This proofs that the platform-based approach is a leverage point for this region.

TABLE I.   AFRICA EXAMPLE

Enabling factor	Operational priorities
Overdue need for improving governance, transparency, performance, and traceability of the public sector	Governance and Accountability
E-government and e-governance is a green-field project which can be done with high level of quality at the entry point	Infrastructure Development (soft one)
Higher level of e-government and e-governance is associated with the higher level of democracy	Governance and Accountability
Real example of regional public goods	Regional Economic Integration
Progress of ICT tools in the world	Skill and Technology
Advancement of the ICT infrastructure in Africa	Infrastructure Development (soft one), Skill and Technology
Entering of major IT vendors to Africa	Private Sector Development
ICT potentials as a value-adding industry for Africa's transformation	Skill and Technology, Private Sector Development

III.   WHAT: REGIONAL PLATFORM

The platform offers various ready-to-use and coherent technical, functional, and business capabilities optimised for typical public sector activities: education, order enforcement, civil protections, healthcare, finance, people benefits and rights, land, natural resources, legal system, governance, local business enabling, etc.

To cover variations between different regional countries, the platform will enable a high level of adaptability to

- policies and priorities of the government,
- structure of ministries and departments,
- legislation,
- operational business processes,
- available budget, and
- level of computerisation.

As those public sector activities share many common capabilities, the latter can be implemented as a platform which serves all activities (see figure 1). This architectural pattern combines the advantages of the platform and opportunities for quick delivery:

- standardise and simplify core functionality as a coherent foundation and

- speed up the implementation of new innovative solutions on top of the foundation.
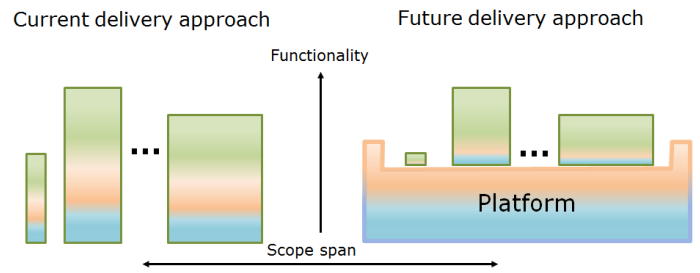

Fig. 1.   The foundation architectural pattern

The platform is a coherent set of governance rules, architectural principals, best practices, integration patterns, shared ICT tools and solutions. Key characteristics of the platform are:

- incremental creation and gradual deployment;
- high maturity level of corporate basics, e.g. with records management, risk management, electronic management of documents, and management by processes;
- high maturity of IT operations, management and governance;
- everything is transparent and traceable (thus trustful):
    - design of e-government as a system
    - execution e-government and e-governance services
    - management of data & document repositories
    - some data are open
    - evolution of e-government and e-governance
- risk-awareness (including proactive risk evaluation) is built-in by design;
- paperless exchanges between government, citizens, business, and other partners from the civil society;
- on demand involvement of remote experts (external oversight);
- government operational excellence;
- building a development supply-chain;
- made in the regional and run by regional ICT companies.

Being matured and gradually enriched, the platform will enable the agile implementation of e-government and e-governance services in regional countries Also, the platform will guarantee the seamless integration and interoperability of those services on national and regional levels.

IV. HOW: IMPLEMENTATION STRATEGY

A. General

The implementation is fundamentally incremental. Platform's architecture is built incrementally in the top-down manner, tools are incorporated incrementally by demand, regional countries are addressed incrementally in accordance with their priorities, business domains are covered as demanded, and different components of the platform are implemented as typical development projects. At the same time, architecture, tools, and other components are re-usable among regional countries.

An ideal implementation scenario would be:

1. Quick development of the architectural foundation for the platform

2. Identification of current development projects

3. Guidance for those projects

4. Coordination and evolution of the platform's architecture

5. Repeating steps 2-5

B. Principles of implementation

1. E-government is treated as a complex socio-economic and human-machine system which is developed with the use of the enterprise architecture methodology (following the recommendation of [1]). Use of this methodology will allow synchronizing a complex system development strategy with opportunities carried by emerging technologies.
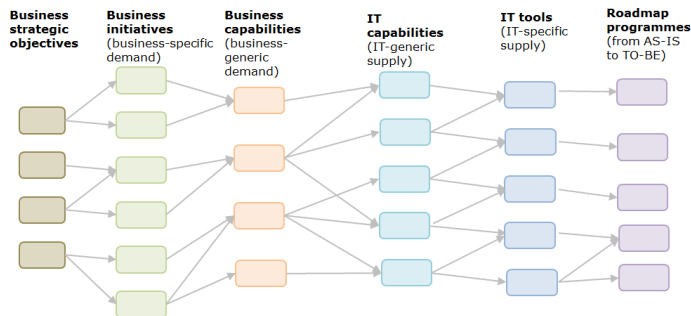
Fig. 2. Enterprise architecture methodology connects the "dots"

2. The natural growth of ICT infrastructure in the region to be coordinated with the growth of the platform as mutually-reinforcing factors. The ICT infrastructure is a necessary (but not sufficient) condition for the development of e-government and e-governance.

3. The modern information technologies, e.g. mobile, cloud, unified communication, electronic transactions are to be used.

4. The use of the benefits of the platform depends on the readiness of each regional country: each must identify a suitable pace. A "ladder" or "maturity model"

(Figure 3) is a metaphor for suggesting how a set of countries with different abilities might achieve common goals and plan their progress. The "ladder" has a few levels of capability from "not able" to "fully capable".
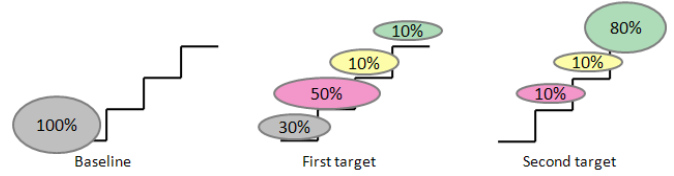
Fig. 3. Maturity ladder

The possibility for regional countries to advance to the same direction at their own pace will be guaranteed by the proper enterprise architecture.

6. The platform is built from commercial and open software (Figure 4). Free and open source software is used by preference. The global partnership with big IT vendors: Apple, IBM, Microsoft, SAP, Oracle, etc. is to be established.
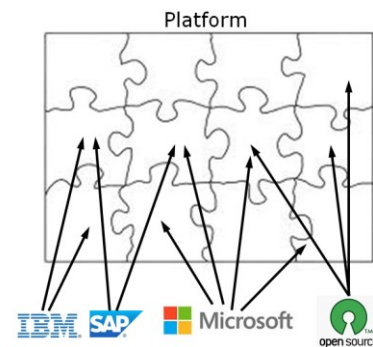
Fig. 4. Platform implementation from different sources

7. A strong and robust eco-system for start-ups, innovation clusters and centres of excellence is to be created.

8. Close collaboration with existing similar and related initiatives is to be established. For example, Switzerland is trying to develop a common approach for all 26 cantons to avoid "piecemeal" [6].

C. Implementation structure

The ideal implementation structure should be able proactively coordinate the creation, design, implementation, and evolution of the platform. It should be a mixture of competence centre, centre of excellence, centre-of-expertise, solution centre, knowledge centre, and programme management office. For example:

- steering committee

- advisory board

- portfolio management office and director

- several transversal projects

- architecture committee
- external resources (eco-system)
- temporary ad-hoc groups (as necessary)

The implementation structure will need to deal with a rather complex and dynamic dependencies between initiatives, capabilities, projects, tools, etc. Those dependencies are quantified by the enterprise architecture (Figure 5) to allow linking between the business objectives and implementation priorities.
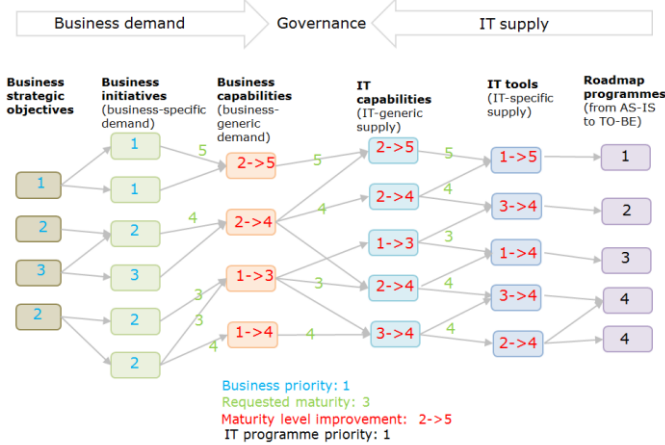
Fig. 5. EA quantifies the dependencies between the "dots"

Business priority: 1
Requested maturity: 3
Maturity level improvement: 2->5
IT programme priority: 1

Fig. 6. Enterprise architecture quantifies the dependencies between the "dots"

Note that although "dots" and connections between them may be different for each regional country, there is a huge potential for the reusability of tools, methods and services among the region.

D. Initial deliverables

- inventory of existing and current projects
- involvement of international knowledge and experience
- initial regional architecture (with the help of big IT partners)
- explanation of the platform for all stakeholders (the annual meeting)
- "quicksilver" portfolio

- country & region e-government and e-governance roadmaps
- methodology for evaluation of e-government and e-governance impact in any project (safeguards)
- identification of first opportunities
- launch and assist first projects
- monitoring, learning, coordination, refinement of architecture

The initial platform architecture will comprise the following deliverables:

- big picture
- reference model
- standards
- reference architectures
- nomenclatures of recommended tools
- deployment practices
- integration practices

V. CONCLUSIONS

This concept paper shows that the regional platform for e-government and e-governance is feasible from methodological and technological perspectives.

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