

Interoperability is a key enabler of the information and knowledge sharing necessary for Information and Communication Technologies (ICTs) to deliver on the promise of government transformation. Interoperability is not an end in itself; interoperable systems deliver value to the public through the opportunities they enable. Value is realized through better coordination of government agency programs and services and through opportunities for information to be shared among, and used by, networks of government, private sector, and other key actors to serve the priorities of society and its institutions. The United Nation's Millennium Development Goals(1) offer a "blueprint" for bettering the world's poorest countries and interoperability contributes to the critical foundation necessary to meet those goals. Interoperable systems cannot replace basic supplies like food and shelter; but they can assist nations in their efforts to make the best use of scarce resources and provide services to citizens in new and innovative ways. This paper focuses on why interoperability is an issue for government leaders, and what must be done specifically by these leaders to build the critical foundation of interoperability.

Interoperability The creation of systems that facilitate better decision making, better coordination of government agency programs and services in order to provide enhanced services to citizens and businesses, the foundation of a citizen-centric society, and the one-stop delivery of services through a variety of channels. United Nations Development Programme, *e-Government Interoperability: Overview*, 2007

To understand why government leaders should make interoperability a top priority, consider the ways it contributes to the value of government as a public asset; to creating a government worth having.

Democracy and Citizen Participation

- Access to information for engaging in political action activities such as advocating, debating, and voting.
- Creation of new electronic forums for citizen engagement.

Transparency and Citizen Trust

- Access to integrated, holistic views of government resources and operations contribute to transparency and citizen trust in and allegiance to government.
- Access to information about government processes for public scrutiny influences decision makers and other officials to pay closer attention to public interests and desires.

Citizen and Business Services

- Information about benefits and services available to citizens that they would otherwise be unaware of or unable to acquire.
- Easy to use, accessible, and geographically distributed citizen and business services (multi-channel access to payment services and applications and forms).
- Facilitate the connecting of citizens and businesses into the global economy.

Government Management and Economic Development

- Internal, modernized infrastructure for government operations to support the back office processing of citizen and business services.
- Make government much more capable in financial, human resources, and equipment management to support government decision making, wise use of resources, and provide information for financial transparency and accountability.
- Improved government wide coordination of crisis responses.
- Stimulate local, regional, and national economies by attracting investments through enhanced reputation for improved government operations and new and innovative services available to citizens and businesses.

Achieving interoperability across the boundaries of agencies, levels of government, and even across national boundaries, requires the kind of leadership and authority only available at the top most levels of government. The reason for this has much to do with the number and diversity of the organizations that need to become interoperable. We refer to this distinct and interdependent group of organizations as an "enterprise." For example, linking two databases and a case management process within a single social services agency within a single government requires one set of capabilities. Creating a public safety communications network consisting of many different agencies at several levels of government, even across national boundaries, with different, but overlapping business processes, using similar but not standardized information, requires quite a different set. This briefing is focused on the second of these scenarios—enterprise interoperability initiatives.

Enterprise A defined network of organizations that share either a policy area (e.g., public health, public safety,

poverty alleviation, and economic development) or need to provide services (e.g., government procurement and financial management, health services, and the administration of justice) that no single agency or organization provides alone or exclusively.

While public sector officials at all levels of government play important roles in a wide range of interoperability efforts, government leaders alone have the power to alleviate the institutional constraints that impede these potentially transformative, but highly complex enterprise interoperability initiatives. Interoperability depends on the combination of capabilities that exist within the enterprise. Not all organizations need to develop the same capability profile. Instead, the combination of interoperability capability profiles across a set of organizations seeking to share information determines the effectiveness of an initiative. Four assumptions about capability underlie this perspective.

1. **Capability is multidimensional**—is made up of several dimensions, all of which contribute to overall interoperability.
2. **Capability is complementary**—high or low overall levels of capability can result from different combinations of factors; high levels in some dimensions can often compensate for lower levels in others.
3. **Capability is dynamic**—it can increase or diminish due to changes within an initiative or in its external environment.
4. **Capability is specific to its setting**—some elements of capability apply to all settings, but capability for any particular project must be assessed relative to its own specific objectives and environment.(2)

Figure 1. Capabilities for interoperability

Governments need a mix of policy, management, and technology capabilities to create interoperability (see Figure 1). Government leaders alone have the authority to influence the political environment to the extent necessary to enable and support the creation of such capabilities. How authority is delegated and shared must be reconsidered in the context of intergovernmental networks. These new authority relationships must be used to establish joint understanding of problems and priorities and to establish a scope of vision and focus of effort. Collaboration must be institutionalized as a principle and facilitated as a management strategy within our traditional bureaucratic institutions. Unfortunately, while leaders have the unique power to make these changes, experience shows that the policy environments they have created, or in many cases inherited, often limit the capability of governments to share authority, to collaborate, and to jointly and strategically manage enterprise initiatives. To change this, leaders must understand the link between their policy decisions and the capability of governments to create the systems necessary to share information across boundaries. The transformation of government depends on these new capabilities: interoperability and information sharing across borders, jurisdictions, agencies, and sectors.

To create interoperability government leaders must understand:

1. Regardless of context; local, national, or international, interoperability is an important foundational capability for government transformation.
2. The complex nature of interoperability.
3. The institutional and organizational constraints that impede efforts to create interoperable systems.
4. New kinds of capability for sharing authority, leadership and funding across organizational and maybe even governmental lines must be created.

As a starting point for change, this briefing provides insights into the gap between the capability that exists and the capability required, as well as current institutional and organizational constraints on interoperability efforts. This briefing describes a unique focus on the creation of policy and management capability rather than technical capability. Technical capability is central to interoperability, but the creation of policy and management capability should be considered essential requirements as well. Without a solid policy and management foundation oriented toward creating interoperability, governments should proceed with great caution, if at all, in the implementation of technical interoperability. A set of recommendations to guide leaders in the development of policies and principles for action are presented as well. The list of suggested readings and resources found in the Appendix of this briefing includes additional information on this important topic.

(1) <http://www.un.org/millenniumgoals/>

(2) http://www.ctg.albany.edu/publications/guides/why_assess.