

E-Government Interoperability is the ability of two or more diverse government information and communications technology systems or components to meaningfully and seamlessly exchange information and use the information that has been exchanged. (UNDP Overview 2007, p. 1).

We define interoperability as the mix of policy, management, and technology capabilities (e.g., governance, decision making, resource management, standards setting, collaboration, and ICT software, systems, and networks) needed in order for a network of organizations to operate effectively. Government interoperability emphasizes the ability of network members to share knowledge and other resources **in addition to** creating interoperable technological infrastructures. In addition, it also assumes that governments must take responsibility for improving their own capabilities in order to be effective partners with other non-government network organizations (e.g., private corporations, non-profit groups, and academic institutions). While recognizing that there are multiple definitions of interoperability currently in use, we believe that by using this broader definition and others like it—rather than those interoperability definitions that are focused on the technology systems aspect—governments are more likely to realize and understand those non-technical yet essential capability dimensions needed to improve government programs and services through interoperability.(1)

As Luis Guijarro discusses in his work on European investments in IT for e-government services, new ways of public service delivery involving a customer-centric approach tend to hide the complexity of the administrative procedures and involve a high degree of interaction between local, regional, and national administrations (2007, p. 92). A citizen-service focus can give governments a false sense of calm and distract them from the significant cost of creating the capabilities needed for governments and non-governmental organizations to work effectively together. These changes in service delivery strategies as well as many other occurring in government require government managers to be prepared to face three distinct but related problems:

1. Creating interoperability requires potential network members to invest in changes to internal organizational arrangements, practices, and technical resources in response to an externally agreed upon set of priorities.
2. Creating interoperability requires potential network members to create new, and in some cases, renew cross-boundary relationships; recognize and manage the challenges to network formation including the creation or modification of a sufficient legal framework to enable new ways of sharing resources including money and data, as well as barriers to communication, collaboration, and issues such as divergent policies and practices.
3. Participants seeking to improve interoperability for coordination across government agencies do not know in advance all the tools or resources needed or how to acquire them, or precisely what configuration of old and new capabilities will be needed to achieve initiative goals (Cresswell et al 2007, p. 125).

The term **e-health interoperability** is used to signify an overall capability of all participants to interoperate, spanning information, technical, as well as organizational perspectives (NEHTA 2007, p. 117).

In addition to accepting this broader understanding of interoperability, government managers must also realize that improving government interoperability does not automatically assume the need to invest in new technical and organizational capabilities and discard existing ones (e.g., replace all computer systems and software and hire new employees). Rather, they should view government interoperability as a set of **multidimensional, complementary, and dynamic** capabilities that are **specific** to both a defined network of organizations and achieving a particular goal. Therefore, if some of the necessary capabilities already exists within the defined network, it gives governments the opportunity to take advantage of existing strengths and focus valuable and limited resources on those capabilities that are missing.

Capability is.... multidimensional – it is made up of several dimensions, all of which contribute to overall interoperability; **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; **dynamic** – it can increase or diminish due to changes within an initiative or in its external environment; and **specific to its setting** – some dimensions of capability apply to all settings, but capability for any particular government interoperability initiative must be assessed relative to its own specific objectives and environment (Cresswell et al 2005a).

(1) For 34 examples of interoperability definitions see Ford et al. (2007). **A Survey on Interoperability Measurement**. Paper presented at the 12th International Command and Control Research and Technology Symposium (ICCRTS) "Adapting C2 to the 21st Century." June 19-21, Newport, RI. (http://www.dodccrp.org/events/12th_ICCRTS/CD/html/papers/096.pdf)