

GIFs form the foundation of a number of important e-government initiatives. The framework helps collaboration between government agencies, resulting in more integrated services. For example, in New Zealand, customers can now register for a company Inland Revenue Department (IRD) number online when they incorporate a company. This service eliminates the need for new companies to deal with the Companies Office and IRD separately. It makes the registration process faster by eliminating duplication of information between agencies and the need to provide paper-based IRD number applications. These online services and resources have been made possible by the GIF.

Most governments are publishing their own GIFs. This trend is not just limited to developed countries. Bangladesh, China, India and Sri Lanka are some developing nations in the Asia region building their own GIFs.

How is GIF being defined?

These select extracts from two GIFs explain what GIF is and what it intend to achieve.

“Better public services tailored to the needs of the citizen and business, require the seamless flow of information across government. The GIF sets out the government’s technical policies and specifications for achieving interoperability and Information and Communication Technology (ICT) systems coherence across the public sector. It defines the essential prerequisites for joined-up and web-enabled government and sets the underlying infrastructure, freeing up public sector organisations so that they can concentrate on serving the customer through building value-added information and services.”¹

“GIF defines a collection of specifications aimed at facilitating the interoperability of government systems and services. It supports the government’s strategy of providing client-centric joined-up services by facilitating the interoperability of technical systems between government departments, as well as between government systems and systems used by the public (including citizens and businesses). By bringing together the relevant specifications under an overall framework, IT management and developers can have a single point of reference when there is a need to identify the required interoperability specifications that should be followed for a specific project. By adopting these interoperability specifications, system designers can ensure interoperability between systems while at the same time enjoy the flexibility to select different hardware, and systems and application software to implement solutions.”²

¹ United Kingdom - e-Government Interoperability Framework Version 6.1.
[http://www.govtalk.gov.uk/documents/eGIF%20v6_1\(1\).pdf](http://www.govtalk.gov.uk/documents/eGIF%20v6_1(1).pdf)

² The HKSARG Interoperability Framework Version 4.0.
<http://www.ogcio.gov.hk/eng/infra/download/s18.pdf>

Some governments go a step further by defining specific objectives of GIF. Malaysia is an example.³

Its specific objectives are to:

- *enable different Government systems and applications, both within Government and external to Government, communicate and interoperate efficiently and effectively;*
- *promote and foster the adoption of Extensible Markup Language (XML) that enables the exchange of data between applications;*
- *promote the addition and use of Metadata to Government information resources;*
- *align with the Internet by adoption of common specifications used on the Internet and World Wide Web for all Government information systems; and*
- *adopt Open standards and specifications that are widely supported by the market in order to reduce the total cost of ownership of Government information systems.*

How are standards being classified in GIFs?

The most important feature of any GIF is the standards. As of now, GIFs can be divided into two groups according to how the standards are clustered together. The European IF and the German SAGA group classify standards by services. While some of the other countries prefer to classify standards according to interoperability layers. This difference occurs because the first group of GIFs focuses on the organizational, semantic and technical dimensions of interoperability. The second group simply focuses on the technical interoperability.

GIFs that focus on technical interoperability employ the layer model in categorizing standards. The Australia, Brazil, Malaysia, New Zealand and UK GIFs are some of the countries that follow this model.

Several key layers are prominent in the layer model:

- The **Interconnection Layer** contains standards and technologies for connecting systems and enabling communication between them. HTTP, FTP, WSDL and SOAP are the common standards found in this layer.
- The **Data Integration Layer** contains standards related to processing data. The standards in this layer allow for recognition of data. XML is the key technical policy in this layer.
- The **Information Access and Presentation Layer** contains standards related to the means of citizen’s access to services and the way information is presented to them. This layer is further divided according to the mode of service

³ Malaysian Government Interoperability Framework Version 1.0.
<http://www.mampu.gov.my/mampu/bm/program/ICT/ISPlan/isp/doc/Interoperability%20Framework.pdf>

delivery (personal computer, handheld digital organizers, mobile phones, etc.) and the corresponding standards on how the documents are presented (PDF, RTF, DOC, JPEG, etc.)

- The **Metadata Layer** contains standards and elements related to the storage and retrieval of government files.
- The **Security Layer** contains standards regarding the safety of information processed through the government e-services.

What are the common features of GIFs?

No two GIFs are the same. They vary from country to country depending on numerous reasons. Yet, there are many overlapping areas. Below are some common features of GIFs:

Agencies bound - Generally, all government agencies are bound by GIF, but the definition for 'government agency' varies. Australia, Denmark and Hong Kong do not specify what agencies are covered. The UK Government, on the other hand, includes central government departments and their agencies, local government, and the wider public sector, e.g. non-departmental public bodies and the National Health Service. Some countries like Malaysia extend the limits to cover local authorities as well. In New Zealand, it includes all public service departments, Police, Defence Force, Parliamentary Counsel Office, Parliamentary Service, and Security Intelligence Service.

Legality and scope - Almost every government agrees that GIF should be used as a guide. However, only few give it legal status. In Malaysia, standards and specifications are mandatory on all new system implementations, while for legacy systems, agencies are supposed to assess if any integration is required. If it is required, interfaces need to be defined to allow that. In New Zealand, the GIF standards and specifications are mandatory for some agencies, while for the rest it functions as a guide.

Principles - GIFs mention the values it prioritizes in the selection of standards. The common principles are: scalability, reusability, flexibility, preference for open standards, preference for standards with wide market support, and preference for nationally-legislated or -adopted standards.

GIF and Open Standards

Well-known open source exponent Bruce Perens argues that an open standard is more than just a specification, and that the principles underlying the standard and the practice of offering and operating the standard are what make the standard open. He proposes that open standards should follow the principles of availability, and maximize end-user choice. In addition, there should be no royalty, no discrimination, extension of subset and predatory

practices, and certain practices should be followed to ensure that these principles are adhered to.⁴

Open Standard, as defined in the Danish GIF:⁵

- *Should be accessible to everyone free of charge (i.e. there is no discrimination between users, and no payment or other considerations are required as a condition of use of the standard).*
- *Remains accessible and free of charge (i.e. owners renounce their options, if indeed such exist, to limit access to the standard at a later date, for example, by committing themselves to openness during the remainder of a possible patent's life).*
- *Well documented (i.e. all aspects of the standard are transparent and documented, and both access to and use of the documentation is free).*

Mention of open standards is important in GIF because otherwise one or few vendors may have a monopoly/oligopoly over the supply of IT products and services. Open standards place suppliers on an equal footing and widen the choice for a government. Furthermore, fair competition will bring down the cost of ownership.

The attributes of open standards and the model for establishing open standards are what will allow for sustainable information exchange, interoperability and flexibility. Where public funds are concerned, adopted standards should be vendor neutral and open to all to implement without royalties.

Many GIFs explicitly specify that open standards should be followed. One good example is the New Zealand GIF.⁶ It states that: *agencies and service sectors are encouraged to draw from open standards to facilitate a greater level of uptake for bundled services in the future.* Further, in the introduction it states that it intends to: *enable any agency to join its information, ICT or processes with those of any other agency using a predetermined framework based on "open" (i.e. non-proprietary) international standards.*

Increasingly, governments are asking for open standards now and this is a good sign as they are usually the biggest buyers and consumers of IT products and software. The vendors will have to comply with open standards and open up any proprietary file formats or specifications in response to these demands. In conjunction with this, it is hoped that more and more users will follow suit.

⁴ UNDP-APDIP and IOSN FOSS e-Primer on Open Standards <http://www.iosn.net/open-standards/foss-open-standards-primer/> and http://en.wikibooks.org/wiki/FOSS_Open_Standards

⁵ Danish e-Government Interoperability Framework Version 1.2.14. <http://standarder.oio.dk/English/>

⁶ New Zealand E-government Interoperability Framework Version 3.0. <http://www.e.govt.nz/standards/e-gif/e-gif-v-3/e-gif-v-3-total.pdf>

