

The Governance of e-Government Interoperability Frameworks

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Status of this White Paper

This document is Version 1.0 of the White Paper, published in September 2011. We will keep its contents under review, posting updated versions of the White Paper at www.cstransform.com to reflect the ongoing development of this agenda and comments on this version by users and practitioners.

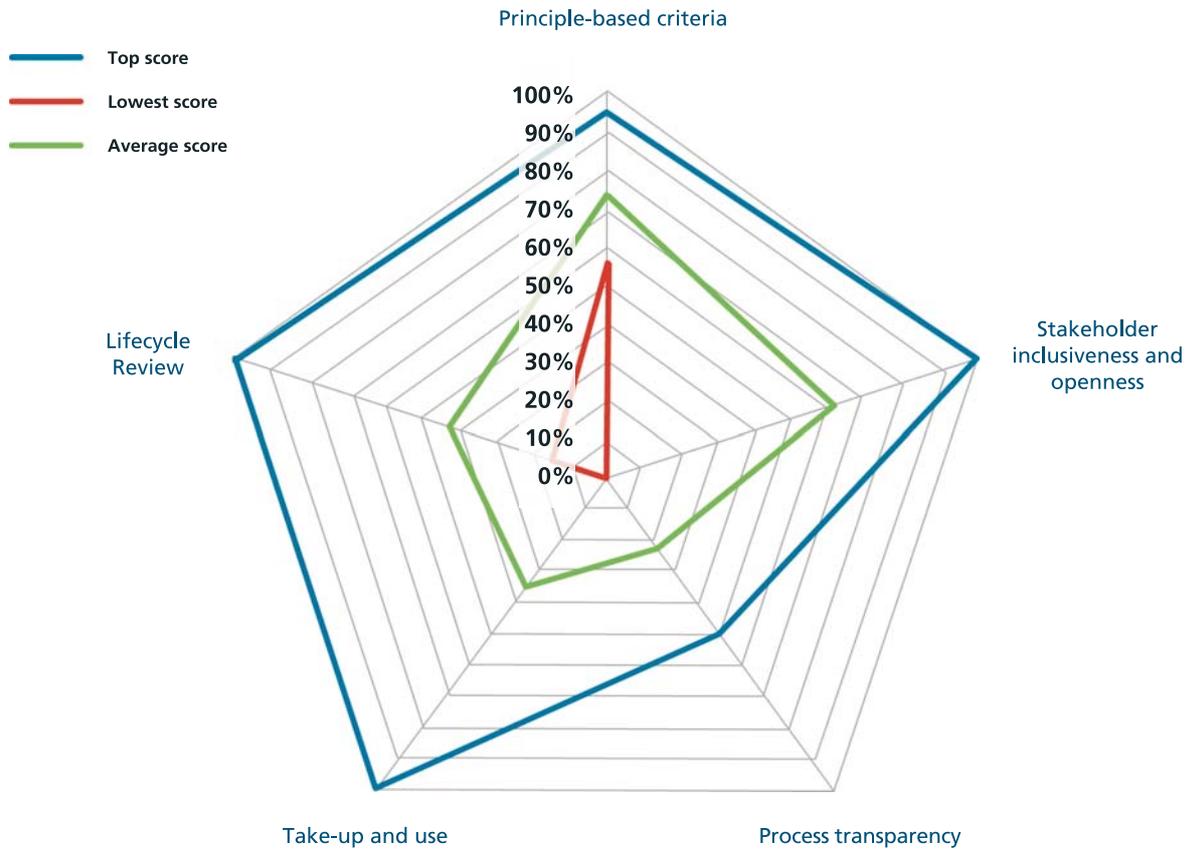
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Executive summary

This White Paper benchmarks governments across their world in terms of how they manage the development and deployment of e-Government Interoperability Frameworks (e-GIFs). It is a companion paper to our earlier White Paper, "e-Government Interoperability: a comparative analysis of 30 countries". Whereas that earlier paper undertook a comparative analysis of the **content** of e-GIFs, here we look at the **governance processes** which governments are deploying to develop and manage those e-GIFs.

Key findings

We have identified five key dimensions of "e-GIF Good Governance". As the chart shows below, although significant best practice exists on each dimension, there is also significant variation between governments.



e-GIF Good Governance benchmarking results

Conclusions and recommendations

There remains significant scope for all governments to strengthen their e-GIF governance regimes through adoption of best practices which are already being deployed by other governments. The diagram below summarizes our recommendations on *good practices* which we believe should be deployed by any government looking to implement an e-Government Interoperability Framework, and also *best practices* which governments should also seriously consider as an extra investment which will bring additional benefits.



1 Introduction

This White Paper compares the governance arrangements which governments around the world have put in place to manage e-Government Interoperability Frameworks, and recommends a set of best practices.

CS Transform is a consulting business which is committed to helping governments deliver citizen service transformation. As part of that commitment, we are publishing a series of White Papers dedicated to understanding citizen service transformation and how governments can make it a reality. This White Paper forms part of that broader series, which can be accessed at www.cstransform.com. Specifically, it is a companion paper to our two earlier White Papers on Interoperability:

'Beyond Interoperability: towards a new policy framework for e-government'

published in November 2009; and

'E-government Interoperability: a comparative analysis of 30 countries'

which was first published in July 2010 and then updated in February 2011

In these white papers, we argued that the e-government interoperability agenda - despite being espoused by an increasing number of governments around the world, and despite being actively promoted as best practice by organisations such as the World Bank and the United Nations - is failing to deliver on the expectations which policy-makers have for it. We identified three major pitfalls which governments fall into in this area:

Over-engineering

Much of the technical content in many Interoperability Frameworks is at a level of detail which, nowadays, is unnecessary. The market has matured significantly in recent years, so the solutions to many of what were previously seen as technical barriers to interoperability are now 'designed in' to a wide choice of competitive, commercial products. Yet over-detailed specification of long lists of standards by governments is still common, with potential market-distorting effects.

Lack of focus on government-wide business transformation

Although in theory the interoperability agenda is commonly claimed to be business-driven, in practice we found the focus of published Interoperability Frameworks is almost entirely technical.

Inadequate implementation

Finally, many governments struggle in moving their Interoperability Framework from being a written document to a delivered reality. Despite the concerns raised above about the limitations of the interoperability agenda, there is no doubt that it also contains much which is good and useful. Too often though, governments find that a published framework can be difficult to translate into sustained and transformational change in practice.

In our work so far, we have published guidance on how to deal with the first two of these problems, as summarised in Figure 1 below. All of the key elements of that guidance have now been adopted by OASIS - the global, not-for-profit Internet standard body - as integral components of their new Transformational Government Framework (TGF)¹.

The TGF has been developed by government and industry representatives from across the world through an open and consultative process, and draws heavily on the CS Transform methodologies described in our White Papers, which we have been delighted to contribute into the OASIS process.

The TGF is “a practical “how to” standard for the design and implementation of an effective program of technology-enabled change at national, state or local government level”, which “puts the needs of citizens and businesses at the heart of that process and which achieves significant and transformational impacts on the efficiency and effectiveness of government”.

However, our published work has not so far focused in detail on the third problem listed above: ineffective implementation. In other words, what are the good practices which governments can follow in order to ensure that their technically-focused e-Government Interoperability Framework is effectively implemented and leads to sustained benefits in practice?

The purpose of this White Paper is to address this gap, by using a pragmatic and practitioner-led approach to identifying the key dimensions of e-GIF good governance. CS Transform would be delighted to contribute this work into the OASIS process for developing future versions of the Transformational Government Framework.

The paper is in three main parts:

Section 2

Explains the methodology we have followed in order to identify best practices, and to measure how governments compare in the extent to which they follow best practice.

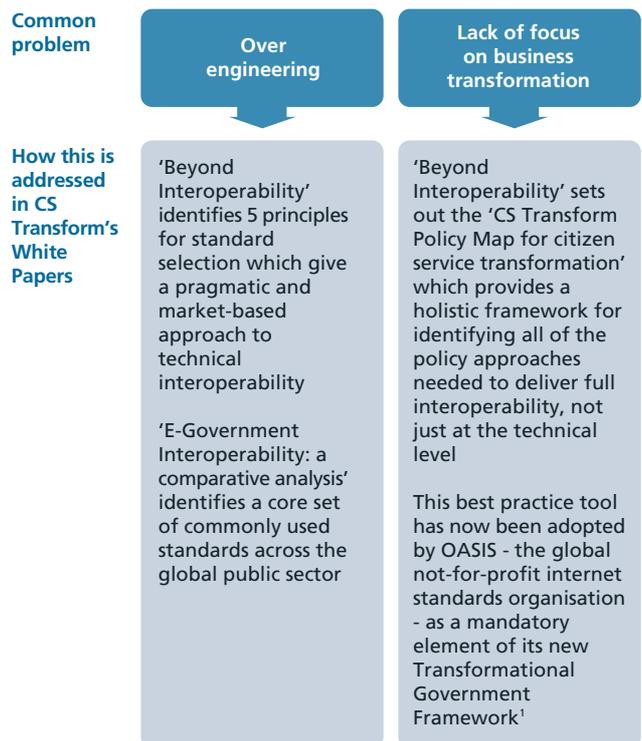
Section 3

Presents the results of our benchmarking analysis, which compares the governance regimes for interoperability across nine governments.

Section 4

Draws together our conclusions and recommendations.

Figure 1: How common e-GIF problems are addressed by advice in CS Transform White Papers



¹ <http://docs.oasis-open.org/tgf/TGF-Primer/v1.0/TGF-Primer-v1.0.docx>

2 Methodology

A top level view of the methodology we have followed in this research is shown at Figure 2.

First, we identified a set of initial hypotheses as to what the key dimensions of e-GIF “good governance” are, based on our team’s experience of working on interoperability with many governments around the world over the last decade. These are summarized in Figure 3 on the next page.

We then underpinned this with a Maturity Framework, which identified a set of objective criteria against which the governance regimes for different objectives could be assessed on a common, quantified and comparable basis. The Maturity Framework and scoring system used is shown at Annex A.

Figure 2: Research methodology

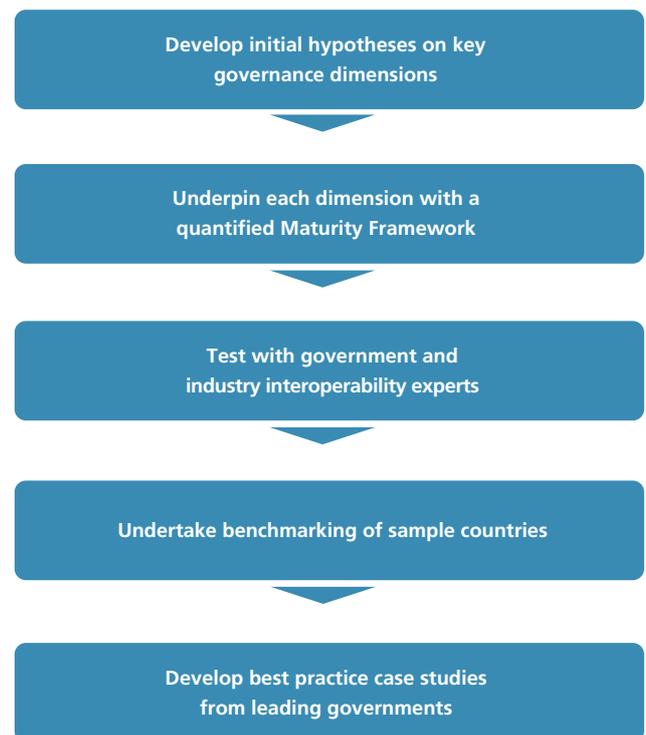
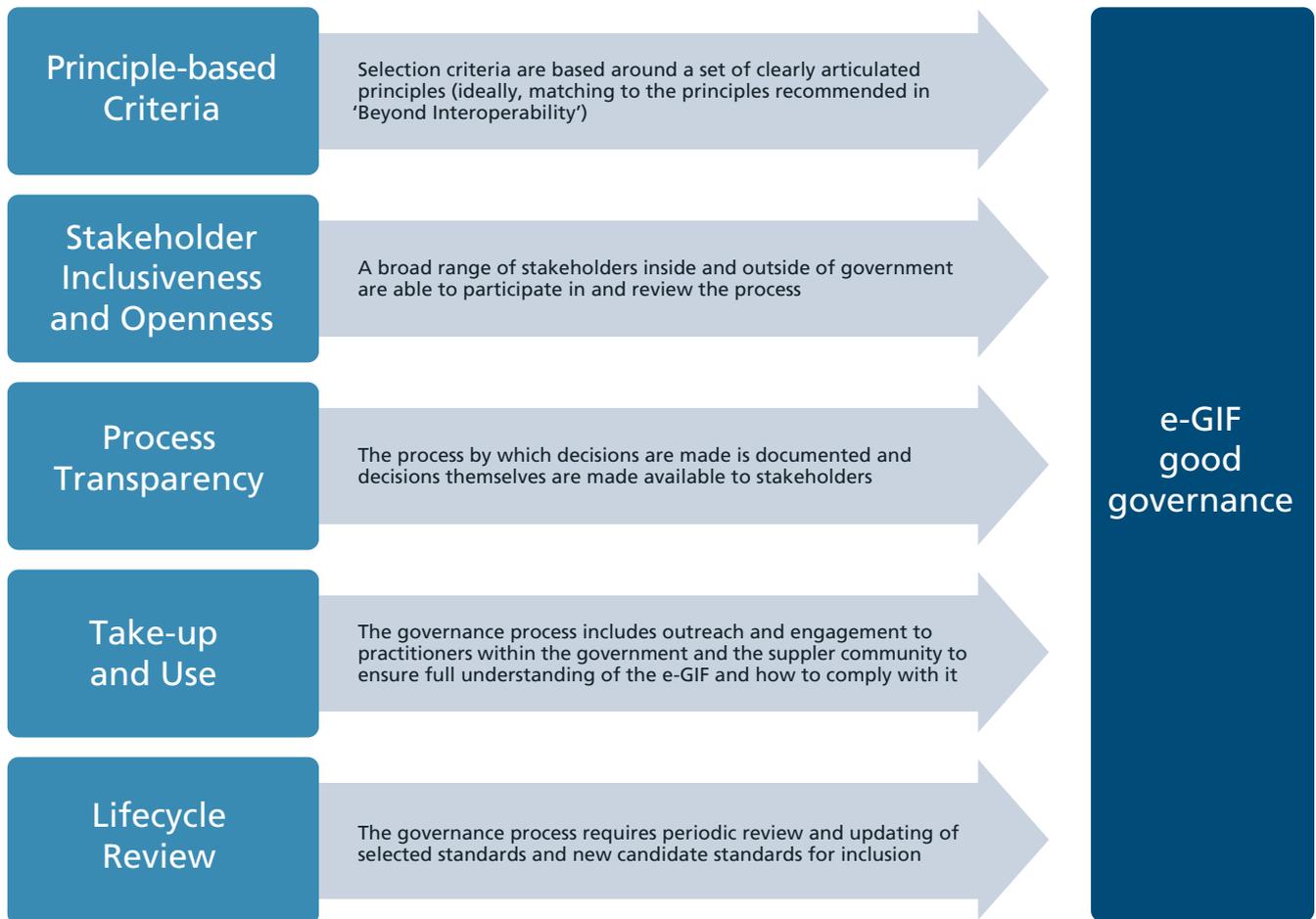


Figure 3: the dimensions of e-GIF Good Governance



Having undertaken an initial validation of this e-GIF Governance Maturity Framework with a number of respected government and industry leaders on interoperability, we then undertook an initial benchmarking review, using desk research to review the stated e-GIF approach of a number of different governments. The chosen governments - selected to give a broad range in terms of both size and level of national development - were:

- Australia
- Brazil
- Europe (the European Commission's European Interoperability Framework, Version 2.0)
- Germany
- Hong Kong
- India
- Mauritius
- New Zealand
- UK²

For each country, we reviewed its latest published e-GIF, and also other related content, guidance and tools on the government web site which publishes the e-GIF.

These sources are listed at Annex B. The initial results of this review were then validated through interviews with interoperability practitioners in the relevant countries.

The findings from our research are set out in the following section.

² The UK e-GIF regime is currently in transition under the new Coalition Government. Version 6.1 of the UK e-GIF, published in 2005, is technically still in force. However, in May 2011, the Government closed a public consultation on a new set of guiding principles for e-GIF standard selection, and on a potential new list of technical standards. In our analysis, we have assessed the new UK principles when looking at the "Principle-Based Criteria" dimension, but taken the 2005 e-GIF policy as the baseline for assessing the other dimensions - on the assumption that any changes to principles and standards that flow from the 2011 consultation will subsequently be embedded in a revised version of the e-GIF governance system described in e-GIF Version 6. This results in an overall average score for the UK of 78%: the highest of all the countries we looked at. However, if the outcome of the current consultation is that the new government simply adopts the proposed new principles and standards list, and decides to abandon the wider governance processes of e-GIF 6.1, this would reduce the UK's overall score to 39%.

3. Benchmarking results

A summary of the results is shown in Figure 4 below, which illustrates the average score across all the surveyed governments for each dimension - alongside the score of the lowest and highest ranked government for that dimension.

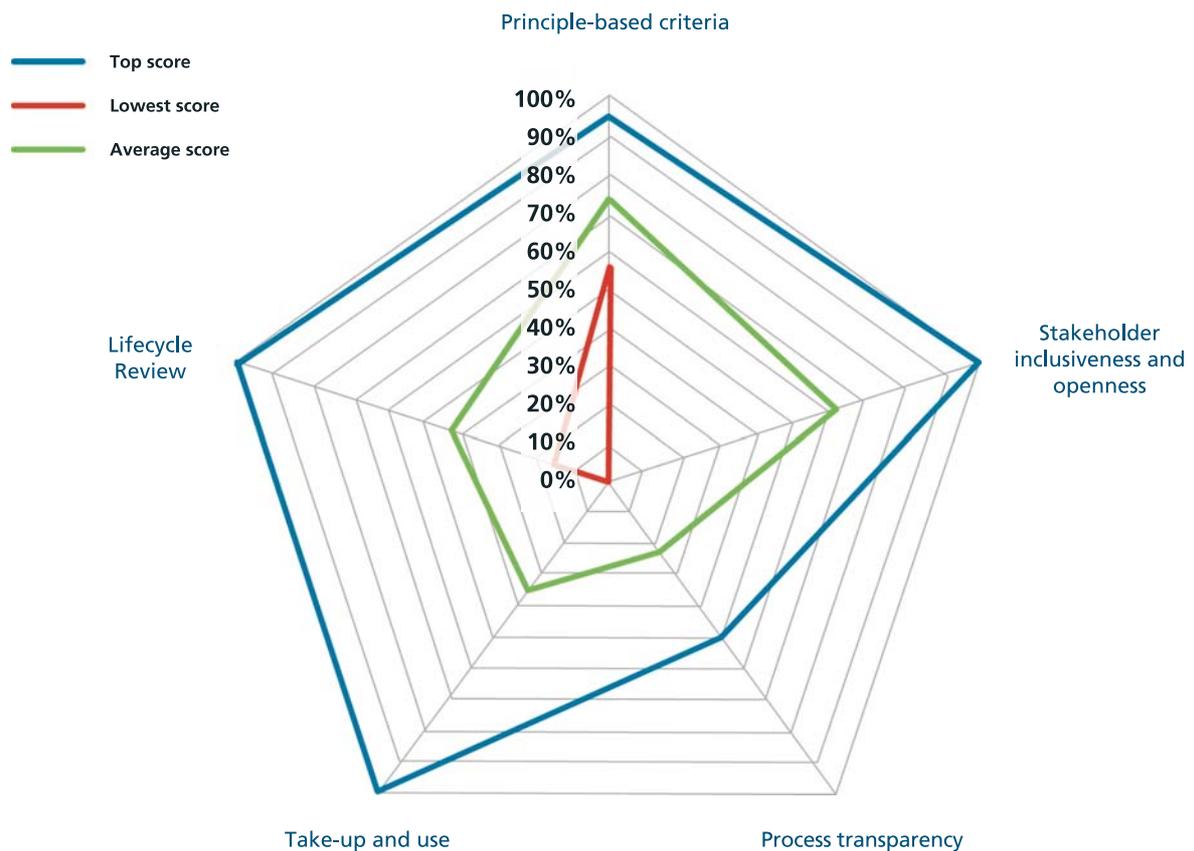


Figure 4. e-GIF Good Governance benchmarking results

Some key conclusions which emerge from this overview analysis are as follows:

Good practice exists

On three of the five dimensions, we found at least one government which was scoring 100% in terms of the governance maturity model we assessed (see Annex A). And of the other two, the European Commission scored 95% for "Principle-based Criteria" - reflecting the very strong alignment between the principles articulated in the new European Interoperability Framework Version 2 and those recommended by CS Transform in our White Papers.³

Only on "Process Transparency" - which measures the extent to which decisions around changes to the e-GIF are documented and made transparent to stakeholders - did we find no government which displays the full range of good practices.

However, the gap between leaders and laggards is significant

Despite the existence of clear examples of good practice, the average performance lags significantly behind on each dimension - and the lowest levels of performance all include governments which have adopted none of the good practices being measured (with the exception of Principle-Based Criteria, on which even the lowest scoring government registers at 55%.)

The weakest areas, on average, are Take-up & Use, Lifecycle Review, and Process Transparency

On each of these dimensions, the average score was less than 50%. In other words, while governments tend to be reasonably strong in terms of the policy framework established to drive the e-GIF (as measured by Principle-based Criteria) and on enabling a wide range of stakeholders to engage in the process, they tend to be weaker on:

- Providing an audit trail which helps stakeholder understand what decisions are being taken around development of and changes to the e-GIF (as measured by Process Transparency).
- Undertaking follow-up activity - such as embedding the e-GIF in procurement policies, undertaking marketing and awareness across government and industry, and providing tools to assist with conformance (which are all activities measured under the Take-up and Use dimension).
- Keeping the e-GIF up-to-date after initial publication. It is common for e-GIFs to go many years with no updating, despite the pace of market and technological change in this area. One of the e-GIF's studied (Mauritius) seems to have been dormant since its initial publication in 2002.

The sections that follow explore in more detail our findings under each of the dimensions.

³ See "e-Government Interoperability: a comparative analysis of 30 countries", which undertakes a detailed comparison of the two sets of principles. Under the scoring framework being used for this white paper, the EIF V2 dropped only 1 out of a possible 20 marks - because its preference for global standards in preference to European ones and European ones in preference to national ones is only implicit, not set out as a formal principle.

3.1 Principle based criteria

All of the e-GIFs we reviewed set out principle-based criteria for the selection of e-government standards. This simple fact enables each government we assessed to score 50% of the available marks in the scoring system we used. This is because we believe that it is vital to set out clear principles rather than simply catalogue a list of standards.

Even if the principles used are not ones which CS Transform would recommend, simply by publishing them a government brings transparency to the process and enables productive debate among stakeholders both about the principles and about the extent to which specific standards map against those principles.

We then awarded additional points based on the extent to which the best practice principles recommended in our "Beyond Interoperability" White Paper are reflected in the e-GIF. On this basis, as can be seen from Figure 5 below, Hong Kong, Brazil, Mauritius, the UK and the European Interoperability Framework all scored over 80%. At an average of 73% across all of the countries, this is the strongest scoring dimension of all the dimensions of e-GIF good governance that we have reviewed.

By far the strongest example of best practice which we identified in this area was the European Interoperability Framework. This contains an explicit and comprehensive set of criteria for the selection and prioritisation of standards, which align almost exactly to the recommended criteria set out by CS Transform in the 'Beyond Interoperability' white paper. The EIF defines the openness principle in detail, with references to the openness of the decision-making process for the standard, the easy availability of standard documentation, and ability to use the standard for free or on fair, reasonable and non-discriminatory terms.

Moreover, the EIF recognizes that openness is not the only important criteria in standard selection, highlighting also the pragmatic importance of standards being mature and well-supported in the market-place. Lastly, the document also contains clearly articulated recommendation statements throughout as further guidance for the user.

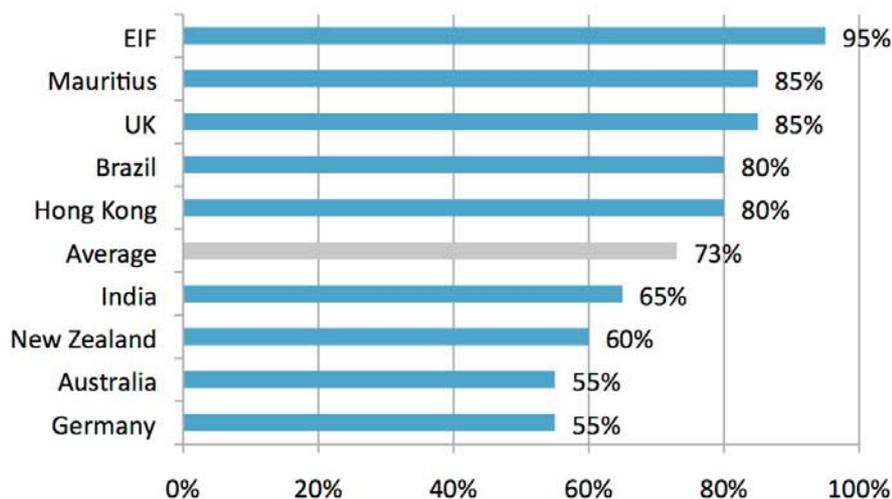


Figure 5. Principle-based criteria

3.2 Stakeholder inclusiveness and openness

Here we looked at the extent to which stakeholders - both inside and outside the government - are easily able to engage with and influence the process of e-GIF development and implementation. As can be seen from Figure 6, we find a wide variation in practice, with some governments having very unclear processes for e-GIF development, and others using a full and open process of stakeholder engagement.

Notable best practices which emerged from the research include:

- UK:** Full stakeholder participation is actively encouraged within the UK's e-GIF across all central government departments and their agencies, NDPBs, local government, the NHS, industry and the citizen, both in terms of suggested ways of improving the strategy and improving the implementation support that is available. There are numerous working groups through the formal governance route, or comments can be received via discussion forums and 'Requests for Proposal/Comments' submissions on the govtalk section of the Cabinet Office website. In 2011, a major public consultation is taking place to review both the principles for standard selection and the detailed standards that should be listed.
- Germany:** There are very clear mechanisms for all stakeholders to engage with and influence the e-GIF. The SAGA 'expert group' comprises representatives from business, science and administration. There is a public discussion forum where users can discuss issues related to the application and further development of the standards, and a contact form on the SAGA website.

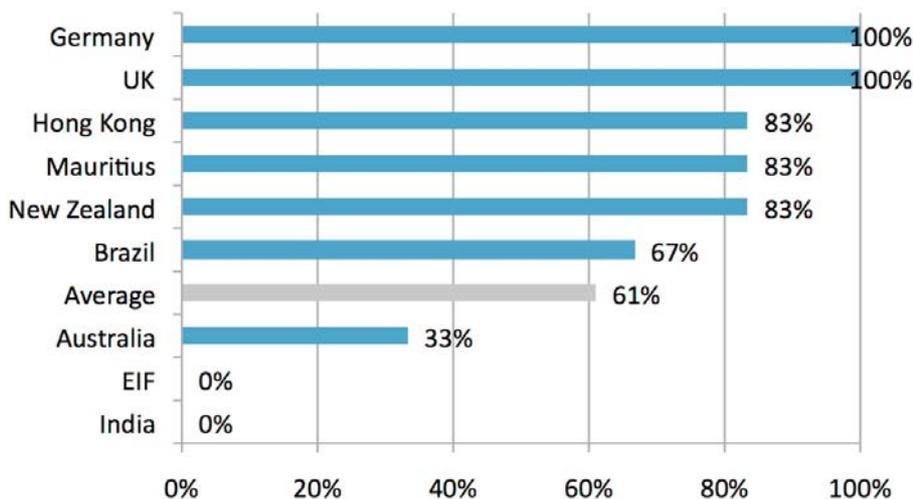


Figure 6. Stakeholder inclusiveness and openness

3.3 Process transparency

Here we measure the extent to which decisions taken on e-GIF development, and the reasons for these, are made transparent to stakeholders.

This is the weakest of the five dimensions we have measured, with scores across the sample group ranging from 0-50%. Although every element of best practice being measured in our Assessment Framework was being deployed by at least one government in our sample, no government was deploying all of them. With an average score of only 22%, it is clear there is scope for significant improvements in this area.

Notable best practices which emerged from the research include:

- Germany:** The Standards and Architectures for e-government Applications (SAGA) is an example of best practice in the way that it evolves over time through a clearly defined process that is inclusive and transparent across all its stakeholder groups. While many governments publish an audit trail to show which standards have been added to a new version of the e-GIF, Germany is the only one which also publishes a list of standards which have been proposed for inclusion in SAGA by stakeholders, but rejected by the government. (However, no explanation is given on the reasons for changes, unlike in the example of Hong Kong highlighted below.)
- Hong Kong:** Within an accompanying document entitled 'Analysis Underpinning the HKSARG Interoperability Framework Recommendations', the Hong Kong government has published a full audit trail of changes to the e-GIF that is made visible to the public. This contains an explanation of the rationale for the inclusion of all standards, promoting transparency of decision-making within their governance processes.

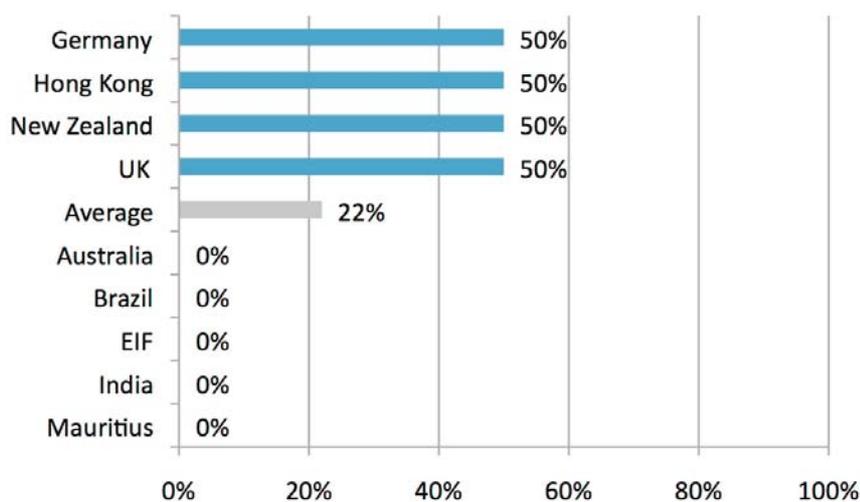


Figure 7. Process transparency

3.4 Take-up and use

Here we look at the extent to which the government promotes adoption and use of the e-GIF, both by embedding it in procurement policies and also through investment in marketing the e-GIF to users and providing them with tools to assist in e-GIF compliance. The graph at figure 8 illustrates the large variance in ratings, with the UK scoring all available points, and Australia and India not scoring any points. Germany, Hong Kong, Mauritius and the UK were the only countries to mandate their e-GIF across both central government and the wider public sector.

There is very little evidence immediately available to the public to demonstrate that each government is investing in marketing, communication and training to promote the understanding and use of the ICT by the public and private sector as a whole.

Notable best practices which emerged from the research include:

- **UK:** There is a vast array of supporting materials available to support the UK's e-GIF on their website, including toolkits to support the production of XML schemas, best practice information, case studies and FAQ documentation. In addition to this, initiatives like the Compliance Assessment Tool and accreditation authority demonstrate real investment by the government to increase awareness and compliance to this e-GIF.
- **Germany:** The SAGA website emphasizes the importance of interoperability across government systems, and that 'mandatory standards are the foundation of this interoperability'. To support the understanding and implementation of the e-GIF, there are a number of tools published on the SAGA website to help users, such as developers' guides, business process modeling tools and test cases.

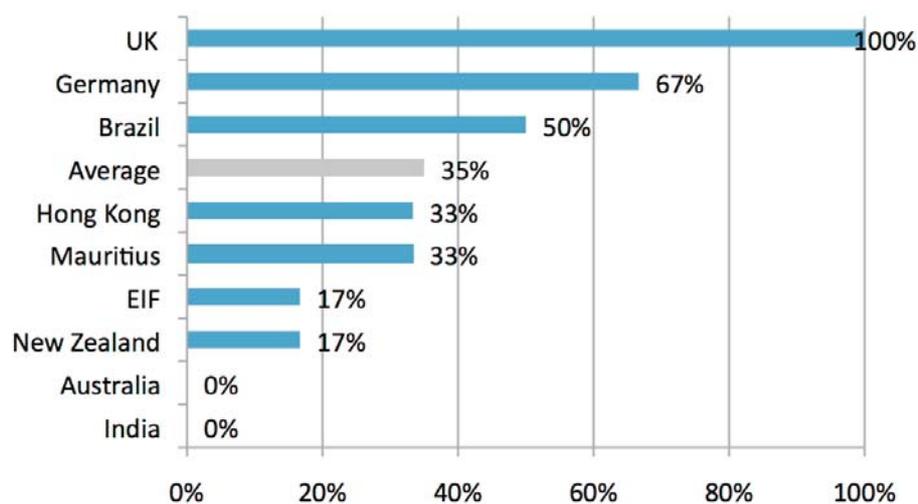


Figure 8. Take-up and Use

3.5 Lifecycle review

The graph at figure 9 illustrates the wide variety of scores across the sample group for the life cycle review criteria. Many e-GIFs fall into the trap of publishing a very explicit policy review timetable at the outset, but the actual frequency of republished documentation goes to prove that this commitment has not been met by the majority of countries.

The strongest example of best practice which emerged from the research was Hong Kong. Hong Kong is the only country that has published a precise schedule to regularly review the e-GIF and supporting technical specifications, and has fully adhered to this commitment in reality. The current documentation is at version 9.0 published in December 2010, and there is also a comprehensive audit trail of changes that is published alongside the ongoing development of the e-GIF.

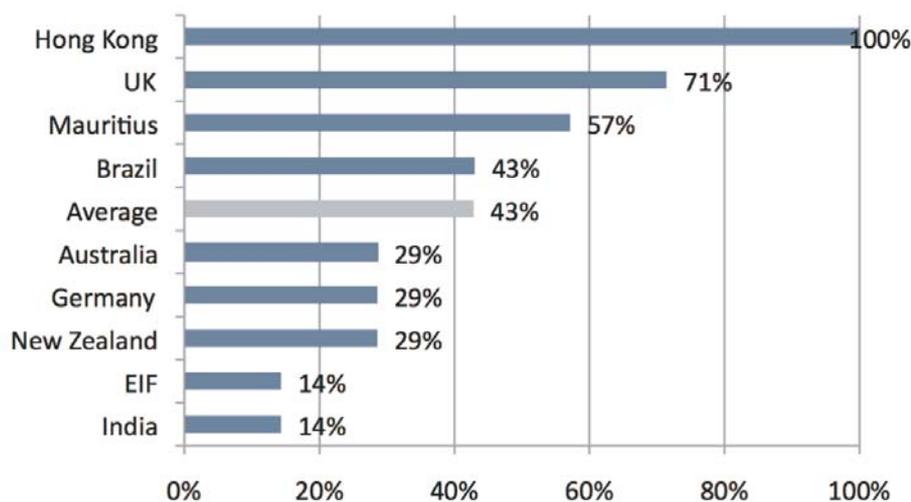


Figure 9: Lifecycle review

4 Conclusions and recommendations

Our key conclusion from this analysis is that there remains significant scope for all governments to strengthen their e-GIF governance regimes through adoption of best practices which are already being deployed by other governments.

This does not mean that it necessarily makes sense for every government to implement in full every aspect of best practice which we have been able to identify. Doing so clearly has a cost, and these costs need to be balanced against the benefits which the governance improvements will bring.

That said, our strong recommendation is that any government implementing an e-Government Interoperability Framework should develop a plan for addressing all five of the “e-GIF Good Governance” dimensions identified in this white paper. As a tool for assisting governments in this process, CS Transform has developed the e-GIF Good Practice / Best Practice Framework illustrated at Figure 10 below.

Against each of the five dimensions, this lists:

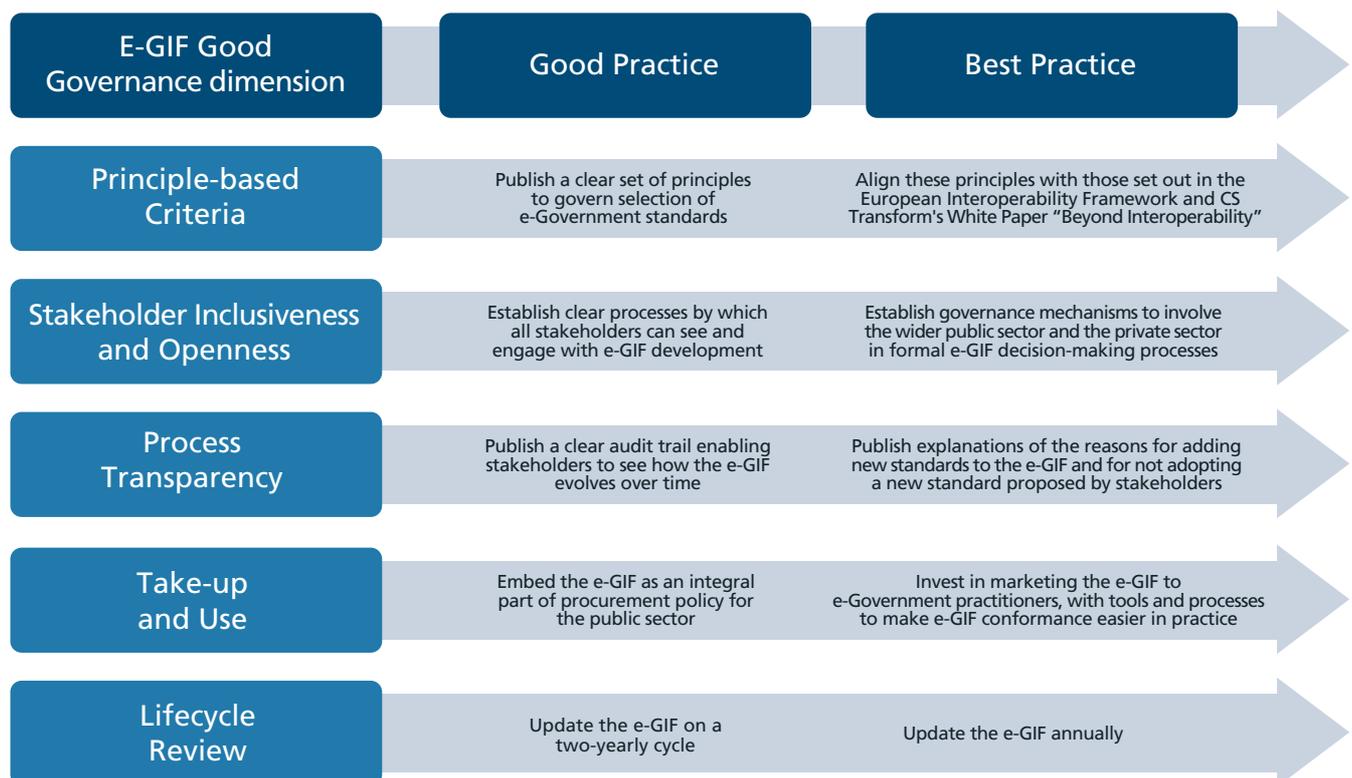
A set of recommended good practices:

that is, the approaches which are commonly used by the higher scoring governments in our analysis, and which we believe are important for all governments to adopt

Some additional best practices:

that is, approaches which are being implemented by at least one of the governments we studied and which go beyond the good practice level. These best practices will bring additional benefits, but also additional costs which may not be justifiable for all governments.

Figure 10. e-GIF Good Practice / Best Practice Framework



Annex A:

e-GIF Governance Maturity Framework

1. Principle-based Criteria: selection and prioritisation criteria are based around a set of clearly articulated principles (ideally, matching to the principles recommended in CS Transform's "Beyond Interoperability" white paper)	
Maximum score	20
Scoring system	
Choose one of the following	
<i>No, there are no principle-based selection and prioritisation criteria</i>	0
<i>Yes, there is a clear set of principle-based selection and prioritisation criteria</i>	10
If yes, score an additional 1 point if the e-GIF addresses the CS Transform principles in part, or an additional 2 points if it addresses the CS Transform principles fully:	
<i>Open - have been developed through an open decision-making process</i>	2
<i>Mature - have been around for some time and therefore are tried and tested</i>	2
<i>Internationally accepted - are global in nature and not parochial to any specific country or region</i>	2
<i>Easily deployable - are openly published (including availability of specifications and supporting material), either with no royalties and other restrictions on reuse, or with any such restrictions offered on reasonable and non-discriminatory terms</i>	2
<i>Well supported in the market place - a standard is more than a ratified specification, it should have gained acceptance in the marketplace, including a choice of suppliers whose products support the standard and a broad level of adoption by users</i>	2

2. Stakeholder Inclusiveness and Openness: A broad range of stakeholders inside and outside of government are included in the list making and updating process, and the process is open to participation and review by stakeholders	
Maximum score	6
Scoring system	
Choose one of the following	
<i>No, it is unclear how any stakeholders can engage with and influence the standards list</i>	0
<i>Yes, there are clear mechanisms for some or all stakeholders to engage with and influence the standards list</i>	
If yes, score 1 for each of the following stakeholder engagement processes which is in place:	
<i>Central government stakeholders have clear mechanisms by which to engage with and influence the standards list</i>	1
<i>Wider public sector stakeholders have clear mechanisms by which to engage with and influence the standards list</i>	1
<i>Non-governmental organisations and individuals have clear mechanisms by which to engage with and influence the standards list</i>	1
<i>Central government stakeholders have representatives engaged in formal e-GIF governance and decision-making processes for the e-GIF</i>	1
<i>Wider public sector stakeholders have representatives engaged in formal e-GIF governance and decision-making processes for the e-GIF</i>	1
<i>Non-governmental organisations have representatives engaged in formal e-GIF governance and decision-making processes for the e-GIF</i>	1

3. Process Transparency: The process by which decisions are made is documented and decisions themselves are made available to stakeholders		
Maximum score		4
Scoring system		
Choose one of the following		
	<i>No, there is no publicly-visible change control process over the e-GIF</i>	0
	<i>Yes, there is a clearly visible change control process over the e-GIF</i>	
	<i>If yes, score 1 for each of the following processes which is in place:</i>	
	<i>A published audit trail shows the history of any changes to the e-GIF</i>	1
	<i>There is a published explanation of the reasons for making significant changes / additions to the e-GIF</i>	1
	<i>A published audit trail shows all suggestions for inclusion in the standards list which have then not been adopted by the government</i>	1
	<i>There is a published explanation of the reasons for not including standards which have been suggested for inclusion in the standards list but then not adopted by the government</i>	1

4 Take-up and use: there are clear processes aimed at embedding the e-GIF in actual practice of ICT systems in government		
Maximum score		6
Scoring system		
Three equally weighted sub-components:		
Status: Choose one of the following		
	<i>The e-GIF is advisory/recommended only</i>	0
	<i>The e-GIF is mandated within central government, and advisory/recommended only across the wider public sector</i>	1
	<i>The e-GIF is mandated across both central government and the wider public sector</i>	2
Support: Score 1 for each of the following that applies		
	<i>Support and tools are available to help public sector organisations conform with the e-GIF</i>	1
	<i>Support and tools are available to help ICT suppliers conform with the e-GIF</i>	1
Outreach: Score 1 for each of the following that applies		
	<i>The government invests in marketing, communication and training to promote understanding and use of the e-GIF by public sector organisations</i>	1
	<i>The government invests in marketing, communication and training to promote understanding and use of the e-GIF by ICT suppliers</i>	1

5. Lifecycle Review: The governance process requires periodic review and updating of selected standards and new candidate standards for inclusion	
Maximum score	3.5
Scoring system	
Two equally weighted sub-components:	
Lifecycle <u>policy</u>: Choose one of the following	
<i>There is no published policy on reviewing and updating the e-GIF</i>	0
<i>There is a published policy on reviewing and updating the e-GIF, but with no specific timetable</i>	1
<i>There is a published commitment to review and update the e-GIF, with a timescale of every 24 months or more</i>	2
<i>There is a published commitment to review and update the e-GIF, within a timescale of every 24 months or less</i>	3
<i>There is a published commitment to review and update the e-GIF, within a timescale of every 12 months or less</i>	4
Lifecycle <u>practice</u>: Choose one of the following	
<i>The e-GIF has never been updated</i>	0
<i>The e-GIF has been updated, but more than 24 months ago</i>	1
<i>The e-GIF has been updated, within the last 24 months</i>	2
<i>The e-GIF has been updated, within the last 12 months</i>	3

Annex B:

Sources analyzed in the research

Country	url of e-GIF	website
Australia	http://www.finance.gov.au/publications/agimo/docs/Information_Interoperability_Framework.pdf	www.finance.gov.au/agimo
Brazil	http://www.governoeletronico.gov.br/acoes-e-projetos/e-ping-padres-de-interoperabilidade	www.governoeletronico.gov.br
Europe	http://ec.europa.eu/isa/strategy/doc/annex_ii_eif_en.pdf	www.europa.eu
Germany	http://www.cio.bund.de/DE/Standards/SAGA/saga_node.html	www.cio.bund.de
Hong Kong	http://www.ogcio.gov.hk/eng/infra/download/s18.pdf	www.ogcio.gov.hk
India	http://www.mit.gov.in/content/policy-open-standards-released	www.mit.gov.in
Mauritius	http://www.gov.mu/portal/goc/cib/file/egif.pdf	www.gov.mu
New Zealand	http://www.e.govt.nz/standards/e-gif-v-3-3/	www.e.govt.nz
UK⁴	<p>e-GIF v6.1:</p> <p>v6.1:http://interim.cabinetoffice.gov.uk/govtalk/schemastandards/e-gif.aspx</p> <p>New principles for standard selection proposed at :</p> <p>http://www.cabinetoffice.gov.uk/resource-library/procurement-policy-note-ppn-use-open-standards-when-specifying-ict-requirements, with a public consultation conducted at www.surveymonkey.com/s/UKGovOpenStandards</p>	www.govtalk.gov.uk

⁴ The UK e-GIF regime is currently in transition under the new Coalition Government. Version 6.1 of the UK e-GIF, published in 2005, is technically still in force. However, in May 2011, the Government closed a public consultation on a new set of guiding principles for e-GIF standard selection, and on a potential new list of technical standards. In our analysis, we have assessed the new UK principles when looking at the "Principle-Based Criteria" dimension, but taken the 2005 e-GIF policy as the baseline for assessing the other dimensions - on the assumption that any changes to principles and standards that flow from the 2011 consultation will subsequently be embedded in a revised version of the e-GIF governance system described in e-GIF Version 6.

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