



Office of the *e-Envoy*

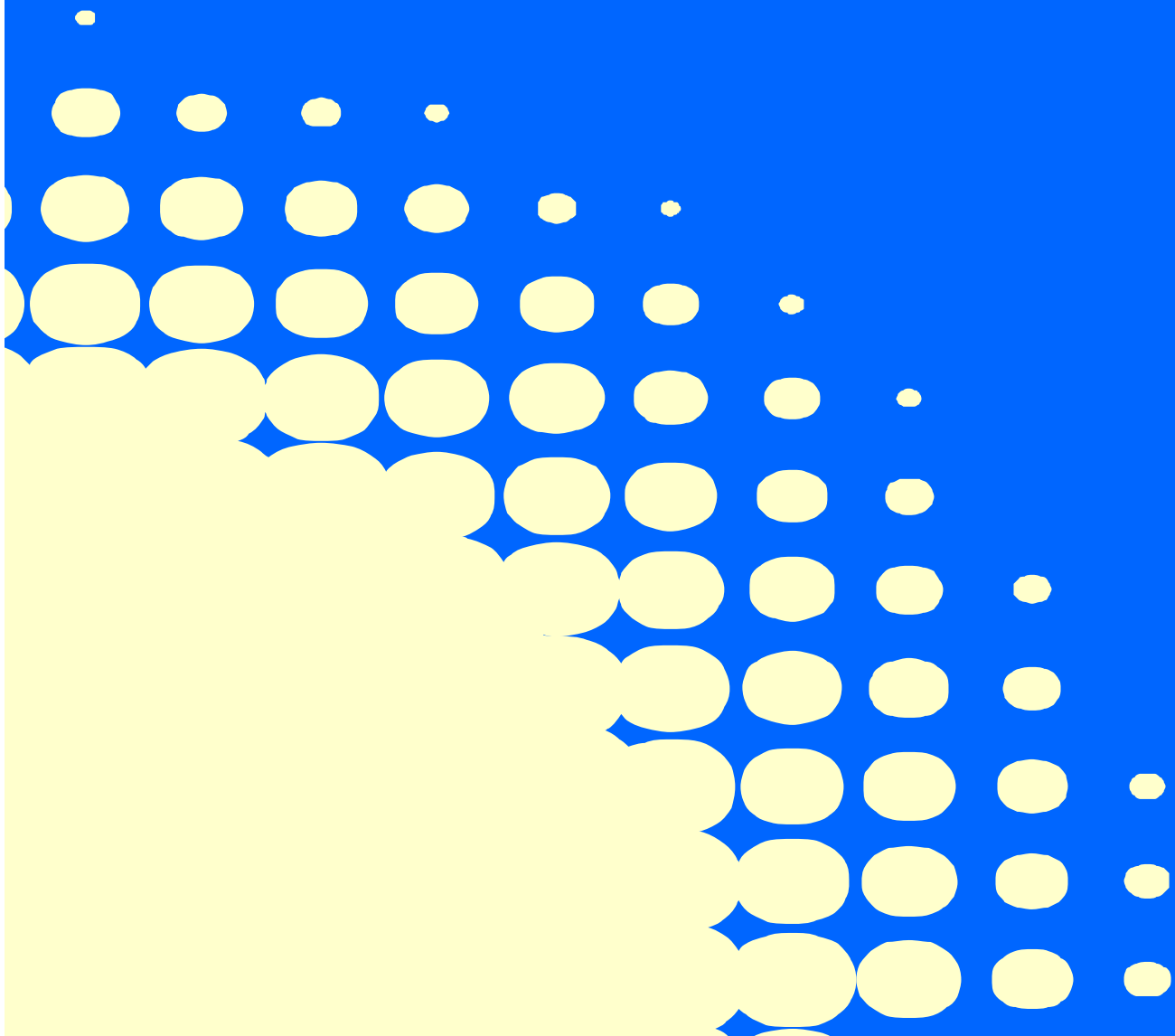
Leading the drive to get the UK online

delivering



Change Control procedures for e-Government resources

1.0
September 2002



Contents

1. Introduction	4
2. e-Government resource owner	5
3. Outcomes	6
4. Lifecycle of an e-Government resource	7
4.1 Drafting	8
4.2 Published for Consultation	8
4.3 Acceptance	9
4.4 Release for use	9
5. Change Control Procedure	10
5.1 Proposing Changes	10
5.2 Assessing Impact of Changes	10
5.3 Approving or Rejecting Proposed Changes	11
6. Evaluation	12
7. GovTalk XML Schema Repository	13
ANNEXE A	14
ANNEXE B	15

Document Control

Abstract

This document defines the procedure for managing changes to 'e-Government resources'.

Current Version

Date	Version	Status	Editor	Comment
16 September	1.0	Approved	Adrian Kent	Approved for publication on GovTalk. It is intended to include this document in the next major update of E-GIF Part 1.

Change History

Date	Version	Status	Editor/ Author	Comment
12 September	0.1c	Draft	Adrian Kent	Amendments made after consultation with Interoperability Group
16 August 2002	0.1b	Draft	Adrian Kent Adrian.Kent@e-envoy.gsi.gov.uk	Amendments made after consultation with Schema Group, 21 August 2002 Diagram showing change control added
17 July 2002	0.1a	Draft	Adrian Kent Adrian.Kent@e-envoy.gsi.gov.uk	First draft released from e-envoy's office for comment

1. Introduction

This document defines the procedure for managing changes to 'e-Government resources'.

'e-Government resources' are key components of the e-Government Strategy. Examples include the Government Data Standards Catalogue; the Government Category List; the e-Services Development Framework; parts 1 & 2 of the e-Government Interoperability Framework; and published XML Schema that are used to define the structure and content of messages between systems.

XML Schemas, and other code-based resources, will be treated as special cases. XML Schemas will need to undergo a test program before being used in an electronic service. Changes to XML Schemas will also have to be carefully assessed, as they can potentially have a high impact. Such changes are particularly difficult to manage in large organisations. In some organisations it is estimated that a year is needed to implement a change to a core Schema. As a consequence changes to agreed XML Schemas need to be managed carefully, with proper processes in place to ensure that all involved parties to the change are properly consulted and agree to the change. A formal change control procedure will reduce the impact of change on an existing e-service.

Also, given that the XML schemas carry data that forms part of organisations' business information exchange processes, there is the potential for mutual dependency between the business processes of a number of organisations, encapsulated in the agreed XML schemas.

XML Schemas also have an interdependency with the Government Data Standards Catalogue, and so changes to both should be carefully co-ordinated.

2. e-Government resource owner

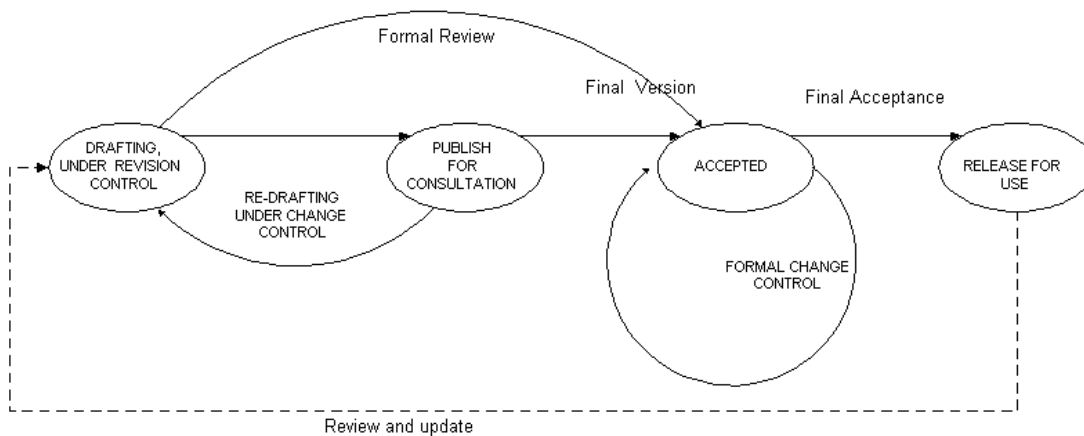
Every e-Government resource must have a designated owner (a role or organisation, not a named person). The ownership of the changes should be vested in the organisation(s) who own(s) an e-Government resource. However, the change may not affect just this owning organisation, so it is essential that 'user' or peer level organisations have the opportunity to contribute to the change process, in a structured and formal way.

3. Outcomes

An effective change control procedure should:

- Identify an 'owner' for each e-Government resource. The 'owner' is then responsible for the change control of the resource.
- Provide a mechanism for accepting changes that improve the e-Government resource overall while rejecting those that degrade it.
- Facilitate changes to e-Government resources during their initial formative development while avoiding unnecessary overhead or formality.
- Provide revision control and backup safety for e-Government resources during their formative development.
- Allow for formal acceptance (approval) of e-Government resources after their initial formative development has been completed.
- Facilitate efficient changes to e-Government resources after their initial acceptance, recognizing that the impact of a change to an e-Government resource is dramatically different after the e-Government resource has been accepted.
- Allow all parties materially affected by proposed changes to accepted e-Government resources to assess the resource, schedule, and/or impact of the changes. Parties should have a means to register their interest in a resource and access to them should be facilitated.
- Allow changes to an accepted e-Government resource to be proposed and evaluated, schedule and quality impact assessed, and approved or rejected in a controlled manner.
- Notify interested parties regarding change proposals, their assessed impact, and whether the changes were approved or rejected. This notification will include a forecast of expected changes, where this is possible.
- Provide an historic trail of the development of e-Government resources, including all proposed changes.

4. Lifecycle of an e-Government resource



As an e-Government resource develops, changes are made informally and work progresses using revision control. The e-Government resource may be published for consultation. At this stage the resource should come under formal change control. Feedback, usually results in changes being made. Whilst a resource is undergoing development interested parties should be notified of the outline timetable for its publication.

When the e-Government resource reaches an expected state of completeness, it undergoes formal review and acceptance. Once accepted, the e-Government resource enters a state of *acceptance* where changes are no longer permitted to the item without formal change control (which this document describes). Finally, after final acceptance, the e-Government resource is frozen in preparation for either

- being released for use in a live electronic service;
- being published as a reference document.

Note the distinction being made between *informal revision control* and *formal change control*. Informal revision control refers to the use of *tools* which allow changes to a rapidly evolving e-Government resource to be sequentially captured and retraced, if necessary. This allows an e-Government resource to undergo rapid development while retaining the safety of backup copies and some measure of control.

Formal change control refers to a *procedure* by which changes to accepted e-Government resources are carefully proposed, assessed, conditionally accepted, and applied. It also applies to the procedure of bringing e-Government resources to an accepted state. *Formal change control* provides a measure of stability and safety beyond that of the underlying revision control tools in use.

4.1 Drafting

During this initial stage of creation, the e-Government resource is undergoing frequent and rapid change before it becomes stable. At this stage, it is inappropriate to apply formal change control since the overhead of controlling changes merely obstructs efficient creation of the e-Government resource. However, this stage of development may comprise a significant body of work which would be quite costly to lose. Therefore, an informal determination will be made on the part of the creator(s) as to when to place the resource under revision control. Revision control differs from change control in that it provides automated support for saving and restoring versions of project e-Government resource without the burden of a formal change process.

Since revision control at this stage of development is informal, it is the responsibility of each writer/creator to use prudent judgement and professional practice to store revisions of the e-Government resource at appropriate intervals and to be diligent in maintaining master sources of the project on the file server. Despite being informal revision control should still be rigorous.

4.1.1 e-Government resource version numbers: (see 4.1.2 for Schemas)

Published documents will have a version number in the form n.m (e.g. 1.2), while drafts will have a version number of the form n.ma (e.g. 1.2b).

The major version number (n) is changed when the changes from the previous version of the document are substantial following the evaluation process.

The minor version number (m) is changed when the change to the document is of limited scope, for example corrections.

The version letter (a) should change every time a new draft is issued. In the example above, the version 1.2b is the second draft based on an existing release 1.2, and will lead to a new release 1.3 or 2.0.

4.1.2 XML Schema version numbers:

In accordance with current W3C practice, indicate a Schema version number using the version attribute. A published XML Schema will have a version number in the form n.m (e.g. 1.2), while drafts will have a version number of the form n.ma (e.g. 1.2b).

The major version number (n) is changed when the change from the previous version of schema will cause existing documents to fail to validate. This could occur, for example, if a new mandatory element is added.

The minor version number (m) is changed when the change to the schema will result in all existing documents continuing to validate. However, some new documents which validate against the new version will fail against the old version. For example, this could occur with the addition of a new optional element.

The version letter (a) should change every time a new draft is issued. In the example above, the version 1.2b is the second draft based on an existing release 1.2, and will lead to a new release 1.3 or 2.0.

Care should be taken to distinguish these versions from software developers' 'alpha' and 'beta' versions.

4.2 Published for Consultation

Some resources, such as the e-Government Interoperability Framework, will need to be published for formal consultation. The length and methods of consultation should follow the government guidelines currently in force. However all assets should be made available for comment by interested parties if they do not undergo formal consultation. Changes made during the process should follow the formal change control procedure, outlined below.

4.3 Acceptance

At the close of formative development, each e-Government resource reaches a stage where it represents a complete body of work. The determination of this point in the development process is best performed by the developer(s)/creator(s) of the e-Government resource (guided by the project milestones and deliverables). At this point, the e-Government resource undergoes a formal acceptance procedure which includes:

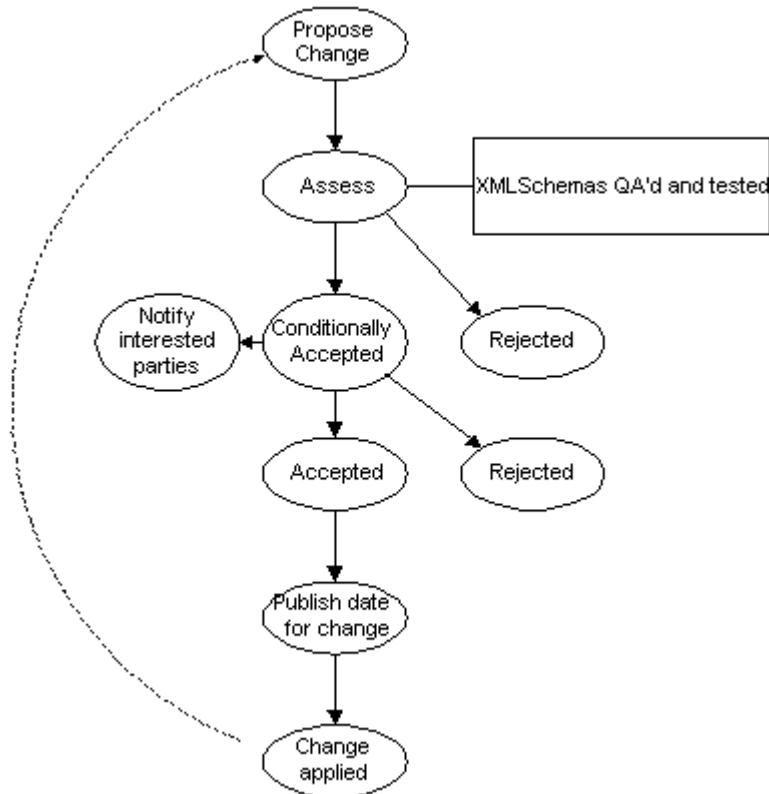
- Review of the e-Government resource content to determine whether it is complete and fairly represents the needs of its customers. The Schema Group will review the quality of an XML Schema and the Process Group will check the validity of the Schema against the requirements.
- Public consultation on the GovTalk web site, where considered necessary.
- Formal sign-off of the e-Government resource by the Interoperability Working Group or the Metadata Working Group or any other Change Control Board, plus any additional persons the Office of the e-Envoy determines are appropriate.
- Code based resources need to undergo a test procedure, and XML Schemas also need to be Quality Assured against the XML Schema Guidelines.

At this point, the e-Government resource is said to have been "accepted" (thereafter known as an *accepted e-Government resource*) and enters into formal change control. That is, subsequent changes to the e-Government resource must undergo review as described below.

4.4 Release for use

Once a resource has been “accepted” it can then be released for use in the Public Sector.

5. Change Control Procedure



5.1 Proposing Changes

Whenever any party determines that some aspect of an accepted e-Government resource should be changed, then that party submits a change proposal to the owner. The change proposal:

- Identifies the e-Government resource in question.
- Describes the aspect of the e-Government resource that the party feels is in need of change.
- Includes a description of the impact, from the submitting party's point of view, of leaving the resource unchanged compared with incorporating the suggested change. This gives the owner a better understanding of why the change is being submitted and what importance it has from the perspective of the submitting party.

An example change control form is given at [Annexe A](#).

5.2 Assessing Impact of Changes

Once a change proposal has been submitted to the owner, the change proposal is circulated to those parties that the owner identifies may be impacted by the change.

These parties are responsible for producing an estimate of the effects of implementing the proposed change. An impact assessment form is given at [Annexe B](#). The principle should be that all changes are made visible to all interested parties.

In the interest of efficiency, the owner may decide to queue a series of change proposals to be processed as a group. This will depend upon the frequency and importance of change proposals as determined by the owner.

5.3 Approving or Rejecting Proposed Changes

Once the impact of the proposed change to each area is assessed, the owner must make a decision whether to accept or reject the proposed change. The owner may reject a proposed change out-of-hand if it determines that the cost of formally assessing the impact of the change outweighs its perceived benefit. Since defects are treated like all other change requests, the owner selects for correction only those defects which represent an acceptable benefit/risk trade-off.

Regardless of whether a change is approved or rejected, the following information is recorded and made available to the party submitting the change proposal (and any other interested parties that desire to monitor the progress of the e-Government resource):

- The date, description, and party submitting the proposed change.
- The estimated impact of the change.
- The date when the change was accepted, conditionally accepted, rejected, or deferred.
- If rejected, the reason for rejection.

It is suggested that those parties who have a stake in the development of the e-Government resource may register their interest with the owner. The owner should publish the process for the registration of interest. The owner will then put a mechanism in place (probably by memo, e-mail, or GovTalk web page) to provide notification of meetings and their agenda and to disseminate the results of its actions. Interested parties may elect to attend a Change Control Board meeting in order to represent their interests.

Once a change has been accepted then a date should be announced for implementation of the change, before applying the change to the 'e-Government Resource'.

6. Evaluation

When a document is published and is in use it is important to evaluate the use of the e-Government resource with reference to the intended outcome. Evaluation may range from informal feedback to formal cost/benefit analysis.

7. GovTalk XML Schema Repository

It is envisaged that the GovTalk website will provide a central repository tool allowing implementation of the guidelines, for XML Schema, as described above.

ANNEXE A

SECTION 1. CHANGE DETAILS

Raised by:	Department:	Contact Tel:	Authorised by:	Contact tel:				
Title:	(Short Name of Change)							
Reason for proposed change:								
Details of proposed change:								
Priority:	LOW		MED		HIGH		Pref Release Number/Date	

ANNEXE B

SECTION 2 ITS IMPACT

Business Assessment

Date assessed:		Assessed By:		Contact Tel:	
Assessment:					
Accepted:	Yes/No (<i>Delete as necessary</i>)				
Rejection Reasons:					
*Impact of other aspects of the Business					

Technical Assessment/Delivery Information

Impact by:					
Impacted On:		Impacted By:		Contact Tel:	
Commentary:					
Accepted	Yes/No (<i>Delete as necessary</i>)				
Rejection Reasons:					
Implementation Details					
Implementation plan:	Task List	Start	Finish	Person-days	
Estimated Costs (H/W, S/W)					
Ongoing Costs:					
Risks/Issues:					

© Crown Copyright 2002

The text in this document may be reproduced free of charge in any format or media without requiring specific permission. This is subject to the material not being used in a derogatory manner or in a misleading context. The source of the material must be acknowledged as Crown copyright and the title of the document must be included when being reproduced as part of another publication or service.

Online copies of this document will be made available at: www.govtalk.gov.uk

Office of the e-Envoy, Stockley House, 130 Wilton Road, London, SW1V 1LQ

