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A DIGITAL PRESERVATION POLICY FOR PARLIAMENT

**1st Edition
March 2009**

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Acknowledgements

The present document has been prepared by Adrian Brown, based on a previous draft by Malcolm Todd. Elements of it draw upon the author's previous unpublished work on preservation strategies at The National Archives in the UK. It has also benefited greatly from the comments of the internal project team, and a number of external reviewers, including Neil Beagrie, Dave Thompson, Andrew Wilson, and Matthew Woollard.

1 Purpose and context

The longevity of all Parliament's digital resources is under threat. Without access to the trusted digital information it needs to preserve (up to and including in perpetuity) neither House will be able to support the work of its members or its administration, nor the requirements of the public for access to Parliamentary information wherever and whenever they want it in the future.

Parliament has set out the business case and high-level strategy to address these risks in its Digital Preservation Strategy¹. This Strategy was agreed by a working group of the two Houses' Information Services and Parliamentary ICT in March 2008 and subsequently endorsed by both Management Boards. It is accompanied by a roadmap with milestones towards implementation of a full digital preservation solution proportionate to Parliament's needs.

The Strategic Plans for the administrations of both Houses provide the business context for digital preservation in the areas of:

- Promoting public knowledge and understanding of the work of both Houses;
- Effective information management to support the work of the administrations and provision of ready access to it by the public;
- Maintenance of the integrity of Parliament's heritage collections;
- Effective corporate governance and risk management; and
- Enabling both Houses to deliver these strategic goals as they relate to the longevity of Parliament's digital information.

The purpose of this Policy is to state and communicate the principles that guide Parliament's activities to secure the preservation of its digital information resources. Further policy documents, procedures, standards, and guidance will be developed in future to address specific aspects of the Strategy.

This Policy relates to other key initiatives in Parliament, including:

- **I/KM Strategy** – the Digital Preservation Strategy is a sub-strategy of the Information and Knowledge Management Strategy being developed by the Information Services Directorates of both Houses.
- **IT Strategy** – the PICT IT strategy complements the I/KM Strategy. Digital Preservation appears on the IT Strategy roadmap in the Application Route map under critical business systems, but there are also synergies with the Infrastructure Route map under servers and hosting. Ultimately the data and storage strategies are also affected by digital preservation issues.
- **Parliamentary Archives' Aims and Objectives** - The Archives' mission is to safeguard the records of Parliament throughout their lifecycle - that is, from their creation or receipt to their destruction or archiving - and to maintain their accessibility thereafter, *no matter what their format*, so it is an excellent fit with this Policy. However, this Policy includes not just digital records, but digital assets as well.

¹ See Parliamentary Archives (2008)

- **SPIRE** – the archival outputs from any Electronic Document and Records Management System which are identified as digital records will require preservation along with the other digital resources created by Parliament.
- **Digitisation Policy** – the outputs from digitisation projects represent significant digital assets which will require preservation.

2 Scope

This Policy applies to information resources in digital form which are in Parliament's custody. These can be categorised as follows:

1. 'Born-digital' resources, which were created and managed electronically for business purposes.
2. 'Made-digital' resources which were created in non-digital form, but have been subsequently converted to digital form for one of the following purposes:
 - 2.1. Business. These are functionally equivalent to category 1.
 - 2.2. Preservation. This may be required where the original form can no longer be considered viable for preservation, for example due to physical decay or technical obsolescence. These are functionally equivalent to category 1.
 - 2.3. Access.
3. 'Re-made' digital resources, which were created digitally, have been managed in non-digital form for business purposes (e.g. under a 'print to paper' policy), but have been subsequently re-digitised for business, preservation or access purposes. They can be regarded as functionally equivalent to categories 2.1 to 2.3 respectively.

Digital resources encompass both digital records and other digital assets (as defined in Section 13). A digital resource can be considered a compound entity, comprising content and descriptive components. The content constitutes the original object to be preserved; the descriptive components constitute metadata describing, or otherwise associated with, that content. Both components are information objects, which may be represented as a bitstream, a part of a bitstream, or set of bitstreams within a computer file system. Physically, the metadata may be integral to the content, or separate. For recordkeeping purposes, a record can only exist when both the content and its metadata are present and associated via a persistent bond. This Policy therefore provides for the preservation of both content information objects and their associated metadata, the maintenance of a persistent bond between the two, and the creation of new metadata to document the preservation processes undertaken.

3 Preservation principles

The objective of this Policy is to ensure that Parliament's digital resources will remain authentic and accessible in the future to anyone who needs them. To do so it must counter the threats of rapid technological obsolescence and the inherent fragility of digital media, by providing mechanisms to identify and predict the impacts of those threats on its resources, and to plan and execute appropriate preservation strategies to mitigate these impacts.

Digital objects are not inherently human-readable; they are encoded in a form which requires the mediation of technology to render their information content accessible. This access depends, at both the logical and physical level, upon a complex set of interconnected technologies – sometimes referred to as its ‘representation network’ - which comprises all of the elements required to correctly represent the object. These include the formats in which information is encoded, the software required to interpret these formats, the operating systems and hardware required to execute that software, and the physical media on which that information is stored. The absence or failure of any part of this network will potentially render the object inaccessible. However, information technology is a rapidly advancing field, with new and improved technologies regularly being developed. As new products are brought to market, existing products cease to be supported. The currency of a given technology is therefore typically very short – perhaps five to ten years. A principal challenge of digital preservation therefore lies in maintaining the means of access to digital objects in the face of rapid technological obsolescence.

Furthermore, digital storage media are susceptible to alteration, damage and decay over short timescales. The resultant potential for information loss must also be mitigated.

However, maintaining access in itself is not enough. The definition at the beginning of this section referred to preserving the authenticity of the record, from which its continued value derives.

3.1 Authenticity

The authenticity of an electronic record derives from three essential characteristics²:

- **Reliability:** The record must be a full and accurate representation of the business activity to which it attests. This requires the establishment of trust in the record keeping and archival processes used to manage the record throughout its lifecycle, and the continued ability to place the record within its operational context. In this Policy, reliability is ensured through the operation of transparent and fully documented preservation strategies, and the provision of the metadata required to describe the content, context and provenance of the record.
- **Integrity:** The record must be maintained to ensure that it is complete, and protected against unauthorised or accidental alteration. In this Policy, integrity is ensured through the bitstream preservation function (see 5.4), and through the provision of metadata to describe all authorised actions undertaken in the course of content and bitstream preservation.
- **Usability:** The record must be capable of being accessed by authorised users, across time and changing technical environments. This requires that the record be locatable and retrievable by users, that it must be capable of representation in a current technical environment, and that it support interpretation by users. In this Policy, usability is ensured through the content preservation function (see 5.5), and the provision of metadata sufficient to allow the record to be located, retrieved and interpreted.

² Based on ISO 15489

This Policy is based on the following set of premises:

- The authenticity of an electronic record derives from a set of quantifiable properties of that record.
- These properties are independent from any given technical representation of that record.
- The Parliamentary Archives, where possible in conjunction with record creators, will define the properties of any given record type which are significant to its authenticity. These properties will be defined in a measurable form, preferably at, or before, the point of transfer to the Archives.

An electronic record is therefore considered to be authentic if, and only if, it meets all of the following criteria:

- It retains all significant properties defined prior to transfer to the Archives, within defined tolerances, and irrespective of its technical representation.
- The integrity of every representation can be demonstrated.

In the specific context of long-term preservation, Parliament will therefore ensure the authenticity of its electronic records through the following measures:

- **Significant properties:** Identifying and maintaining those properties of an electronic record which are significant to its authenticity. By declaring in measurable form the properties which Parliament considers significant, the validity of preservation processes can be asserted.
- **Audit:** Maintaining a full audit trail of all preservation actions performed on a representation of a record. This ensures that the actions applied to that representation are documented in sufficient detail for present and future users to understand their nature and consequences.
- **Integrity:** Maintaining the integrity of all stored record representations. This ensures that, once a given representation of a record has been determined to be authentic, it is preserved from any alteration.

Standards for the creation and management of authentic electronic records prior to transfer will be developed as part of the Digital Preservation project.

3.2 Multiple manifestations

Digital preservation requires the management of objects over time, using techniques which may result in frequent and profound changes to the technical representation of that record. Any preservation policy must therefore be underpinned by a rigorous logical framework which supports the concept of multiple technical representations of an object, and the processes of change through which they arise. This may be achieved through the concept of 'multiple manifestations', where a manifestation is defined as follows:

A technological instantiation of an electronic record, characterised by specific bitstream encodings, and dependent upon a specific technical environment to provide access.

Parliament will implement a model which provides a means to describe each manifestation, including its component objects, nature, currency, and derivation, and the preservation actions which generated it.

3.3 Metadata

Metadata (literally "data about data") is required to support a wide range of activities, including records management³, preservation management⁴, cataloguing⁵, and resource discovery⁶. Different types of metadata, and different schemas, may be required for each of these various purposes. In particular, Parliament will maintain detailed metadata to support the management of authentic digital resources. This metadata describes the logical record and its context, each physical manifestation of that record, and the preservation processes which have been performed on those manifestations.

The metadata model used by Parliament must be capable of describing multiple manifestations of digital resources, and a complete audit trail for the preservation actions by which they have been generated. This model must also take into account the issue of dependencies between digital objects. This is of particular importance, given that many digital resources are compound objects composed of many inter-related files. It is essential to understand the nature of these dependencies in order to predict the full impact of a preservation action: for example, a preservation action may require a complex set of format conversion processes, emendation processes, and management of the associations between objects. All actions undertaken as part of the preservation process must therefore be fully documented in the preservation metadata associated with each record, to provide an audit trail.

Subject to an assessment of the reliability of the source, Parliament will always seek to generate and process metadata automatically. Wherever possible, Parliament will source record metadata from the creation environment to ensure its authenticity. This may be supplemented by metadata which is automatically extracted from the objects themselves. Manual metadata creation will normally be feasible only at a very high-level of description.

3.4 Strategies for preservation action

A powerful framework for describing digital preservation strategies is provided by the 'performance' model, developed by the National Archives of Australia⁷. Section 3 has already discussed how digital resources are dependent upon complex 'representation networks' of technologies to render them into a meaningful form. This can be restated by saying that a digital object (the source) requires the application of a set of technologies (the process) to render its information content (the performance). The record can therefore be defined in terms of this performance, rather than the underlying objects: provided that the essential performance can be replicated over time, the particular source and process used to render it can be changed. Thus, one preservation strategy would be to maintain the original object, but change the processes required to render it over time (emulation-based strategies), whilst another would be to change the object so that it can always be rendered by current processes (migration-based strategies). The performance is defined in terms of the significant properties, or

³ E.g. ISO 23081-1

⁴ E.g. PREMIS (PREMIS Editorial Committee, 2008)

⁵ E.g. ISAD(G) (International Council on Archives, 2000)

⁶ E.g. Dublin Core (ISO 15836: 2009)

⁷ See Heslop, David and Wilson (2002)

'essence', of the record, which is what must always be preserved. The continued survival of these properties is fundamental to the authenticity of the record.

Parliament may implement different preservation strategies over time, and for different types of digital resource. These strategies will be selected according to the requirements of particular resources, evolving international best practice, and an assessment of the resources required to execute the strategy. Whichever strategies are employed, Parliament will always retain the original manifestation of the digital resource, and may optionally retain all intermediate manifestations.

4 Standards

Standards can play an important role in digital preservation. In particular, they can provide unambiguous benchmarks for defining requirements and measuring outcomes, and can support interoperability both between contemporaneous systems and across time. Standards in this area are still very much evolving, and Parliament will monitor their development, and implement those which are appropriate. Of particular relevance in this context is the Open Archival Information Systems (OAIS) Reference Model⁸, which defines a high-level functional model for a digital repository. This was developed in the space science community and is widely used in the digital preservation community. Parliament will seek to align its policies with the OAIS model wherever practicable. A number of other relevant standards are listed in Section 13 (References).

5 Policy requirements

Digital preservation requirements can be broadly subdivided into two essential activities:

- **Bitstream preservation:** This form of preservation is concerned with the maintenance of existing manifestations of a digital resource. Its function is to ensure the continuing integrity of, and controlled access to, the digital objects which are contained within the preservation storage environment, including their associated metadata. It is sometimes referred to as passive preservation.
- **Content preservation:** This form of preservation seeks to ensure the continued accessibility of digital resources over time, in the face of technological change, through active intervention. It may generate new technical manifestations of those resources through processes such as format migration. These new manifestations are then incorporated into the preservation storage environment for ongoing bitstream preservation. It is sometimes referred to as active preservation

The following sections describe Parliament's more detailed requirements, including bitstream and content preservation.

5.1 Infrastructure

The infrastructure required for digital preservation must itself be sustainable for as long as the digital resources it manages. Parliament will ensure that the architectural design for that infrastructure supports its long-term sustainability. For example, the use of loosely-coupled services with well-defined interfaces can reduce the impact upon the overall system when individual components need to be replaced or upgraded. Parliament may choose to source some preservation

⁸ See ISO 14721: 2003.

services and infrastructure components from third-party providers (see Section 9); however, it remains responsible for ensuring that these comply with this Policy and are themselves sustainable.

5.2 Creation

The sustainability of digital resources must be considered at the earliest possible stage in the lifecycle, if expensive 'digital archaeology' is to be avoided later: investment in careful planning at creation can substantially reduce the subsequent costs of preservation. Parliament will therefore define standards and guidance to ensure that sustainability issues are adequately addressed as part of the planning, creation, and active management of digital resources. These may include consideration of file format and other technology selection issues, metadata standards, and wider information management standards.

5.3 Selection and accessioning

Appraisal and selection procedures will comply with Parliament's Records Management Policy⁹ and Collection and Acquisition Policy¹⁰. Detailed policies relating to the selection and accessioning of digital resources will be developed separately.

Digital resources requiring preservation may come from a wide variety of sources, and use a diverse range of technologies. Examples include:

- Parliament's procedural and publication systems
- Email systems
- Office systems
- Parliamentary broadcast feeds
- Website content and transactions
- Digitisation projects
- Collaboration tools
- Specialised business applications, e.g. CAD tools
- Shared drives
- Information management systems, e.g. PIMS and Library OPACs
- A future implementation of an electronic document and records management system (EDRMS)
- 'Retiring' applications

Digital resources which are selected for preservation will be accessioned into an appropriate preservation environment. The process of accessioning encompasses both steps to bring those resources under intellectual control (e.g. cataloguing and transfer of custody), and the more technical processes of ingest, which may

⁹ See Parliamentary Archives (2006)

¹⁰ See Parliamentary Archives (2009)

include characterisation (see 5.5.1), quarantine, validation, and the physical transfer of digital objects and metadata into a digital repository environment.

5.4 Bitstream preservation

Bitstream preservation services may, in part, be provided by some form of digital repository, a secure storage environment which ensures the continuing integrity, security and availability of the digital resources stored within it. However, this Policy is concerned with the combination of functions through which bitstream preservation is achieved, rather than physical systems.

The functions which are required to implement bitstream preservation are described in detail in the remainder of this section.

5.4.1 Security and access control

This encompasses physical and system security, and user and system access controls. In addition to the security and access control considerations which apply to any archive, digital resources raise a number of specific issues: firstly, they are vulnerable to changes which may be difficult to detect; secondly, copies can be easily created, which are identical at the bit-level.

Parliament will ensure that the physical infrastructure required to store and manage its digital archives is protected from accidental or deliberate damage. A range of controls may be used, including physical access controls and intruder detection systems, fire detection and suppression systems, and backup power supplies.

The IT systems must also be protected from intrusions and malicious damage, either by external attackers and other unauthorised users, or by malicious code or other forms of software attack. Countermeasures may include the use of password controls, firewalls, air gaps, and anti-virus software.

Parliament will ensure that users and other systems have appropriate access rights to archived resources, which comply with their access status and protective markings. Appropriate systems for authenticating and authorising user and system access will be implemented.

The deletion of objects and metadata will only be allowed under strictly controlled and authorised circumstances. This includes both hard and soft deletion.

5.4.2 Integrity management

The integrity of a digital resource arises from the assurance that it has not been altered in any unauthorised manner. Possible threats to that integrity include accidental corruption, deliberate alteration by an unauthorised user, and alteration caused by malicious code, such as a virus. These threats will be controlled prophylactically through the security and access measures described in the previous section. However, the integrity of every preserved digital resource will also need to be periodically checked: preservation of integrity is the fundamental goal of bitstream preservation, and integrity checking therefore provides the ultimate assurance that this function is being successfully performed. The frequency and method of integrity checking will be determined with regard to the susceptibility of the current storage media to corruption, and its performance limitations, and will be periodically reviewed. Parliament will implement procedures to rectify any integrity errors detected, through recovery from an alternative copy.

5.4.3 Metadata management

Bitstream preservation must support the maintenance of metadata. All actions taken as part of content or bitstream preservation processes, which result in any physical or logical change to a digital object, will be logged and recorded in the associated metadata, to provide an audit trail. All changes to metadata will themselves be audited.

It is a fundamental requirement of this Policy that the relationship between any digital object and its metadata be maintained persistently. This Policy is neutral as to the manner in which this is achieved. However, it does require the assignment of a persistent, unique identifier to every digital object at the point of ingest, and the recording of this identifier within the associated metadata to provide a persistent link.

5.4.4 Storage management

Storage management is concerned with the physical storage of the collection and, in particular, the media on which it is recorded. It comprises the following activities:

- **Media selection:** No computer storage medium can be considered archival, irrespective of its physical longevity – technological obsolescence is inevitable. In many cases, the technologies required to access a certain medium will become obsolete long before deterioration of the medium itself. The need to periodically refresh electronic records onto new media is inescapable for the foreseeable future. Nevertheless, through careful selection of appropriate media, Parliament will seek to maximise the periods between refreshment cycles, and simplify the refreshment process itself, in addition to providing the most secure storage environment possible. Detailed criteria and methods for selecting appropriate storage media at any given point in time will be developed as part of the Digital Preservation Project.
- **Media refreshment:** The inevitable requirement for periodic media change will be managed through the technique of media refreshment, which entails the periodic transfer of digital information from one storage medium to another instance of the same type, or to an instance of a different type. Which of these alternatives is required at a given point will depend upon the relationship between the longevity of the medium, and that of its supporting technology. Every media refreshment action will be verified at the bit level, to ensure that the content has been copied without corruption or loss. Parliament will implement procedures to rectify any errors or losses identified as a result of media refreshment
- **Redundancy and backup:** Parliament will maintain multiple redundant copies of all archived resources, through appropriate replication and backup processes. At least one complete set of backup copies will be maintained at a remote secure facility, located at least 100 km from the main Parliamentary estate. The viability of backup copies, including the ability to restore from backups, will be periodically tested.

5.4.5 Business continuity planning

Digital preservation requirements will be incorporated into Parliament's Incident Management Framework and Business Continuity Planning process, to ensure the

continued availability or restoration of archived resources in the event of an incident or disaster. The relevant plans will be periodically tested through various types of disaster recovery exercise.

5.5 Content preservation

Content preservation comprises three basic activities, operating in a continuous cycle, and described in the following sections.

5.5.1 Characterisation

Characterisation underpins all subsequent preservation activities: if the precise technical characteristics of a digital object are not sufficiently understood, it is impossible to preserve it in an accessible, authentic form. Specifically, it is necessary to understand the significant properties of the object, which must be preserved over time if it is to be regarded as authentic, and its technical characteristics, which will influence the specific preservation strategies which may be employed.

Parliament may implement a number of different characterisation activities, including identification of the file formats of digital objects, validation of objects, and the measurement of a range of properties relating both to the conceptual digital resource and its technical representation.

5.5.2 Preservation planning

Preservation planning provides the decision-making core of the content preservation process. Its role is to identify and monitor technological changes and their potential impacts on digital resources, and to develop preservation strategies to mitigate the impact of these technological changes.

Parliament's approach to preservation planning will comprise a number of activities, including:

- **Risk assessment:** Parliament will take a risk-based approach to determining the need for preservation action. Risk assessments will be based upon a set of standard criteria, selected as key indicators of the current risks posed to the continuing accessibility of the resource. The result of the risk assessment would be used to determine the urgency of preservation action: a low risk may simply indicate that the risk assessment should be recalculated at a future date, whereas a high risk will trigger immediate action.
- **Technology watch:** Parliament will maintain a technology watch function to monitor technological change within Parliament and the external environment. Significant changes may require risk assessments to be revised. Parliament will ensure that all activities which will lead to technology change take proper account of their preservation impact, and incorporate appropriate mitigation.
- **Impact assessment:** Parliament will analyse the results of risk assessments and technology watch, to determine their impact upon Parliament's digital resources, and prioritise preservation action.
- **Preservation plan generation:** The final stage of preservation planning is to determine the detailed preservation action required. Parliament will devise appropriate preservation plans to meet its identified needs. These

plans will define the precise steps required to perform the required preservation actions, and the relevant success criteria. Parliament will develop a rigorous process to test, approve and document potential preservation plans.

5.5.3 Preservation action

Preservation action represents the enactment of the preservation plan. Parliament will implement approved preservation plans in a timely manner. All preservation actions will be validated, to ensure that the preservation plan has been executed successfully. In this context, the criterion for success is that the preserved object remains authentic, according to the authenticity criteria that have been previously defined. Validation therefore requires that the significant properties of the preserved object (i.e. its performance) be measured and compared with the benchmark provided by the equivalent performance of the original object. The process for automatically deriving the significant properties of an object, using characterisation tools, has previously been described, and validation will be achieved through comparison of these significant properties.

5.6 Access and reuse

Where possible and subject to constraints of feasibility, cost, IPR, and the protection of sensitive information, public access will be provided to preserved content. Detailed policies relating to access and reuse will be developed separately.

6 Skills and training

Parliament will ensure that its digital preservation activities are carried out by sufficient staff with the appropriate skills. Parliament may use a combination of in-house staff, contractors, and consultancy to achieve its objectives.

Parliament will provide training opportunities to allow staff to develop, maintain or enhance their digital preservation expertise. These opportunities may include participation on courses, self-directed learning, attendance at national and international seminars, workshops and conferences, study visits, internships, and working exchanges with other institutions and professionals.

Parliament will also raise awareness of digital preservation issues across both Houses and, where necessary, provide appropriate training to all staff.

7 Research and collaboration

Parliament's core role as the legislature, and the size of the Parliamentary Archives, precludes it from supporting a significant digital preservation research function of its own. However, it is essential that its preservation activities be informed by new research and current best practice. In limited cases which directly support an agreed business need, Parliament may also conduct some practical research in its own right; wherever possible, this will be undertaken in collaboration with partner organisations.

To these ends, Parliament will maintain professional relationships with the wider digital preservation community in the UK and internationally. Where appropriate it may actively participate in wider initiatives, through partnerships and collaboration with appropriate organisations, e.g. the Digital Curation Centre, Digital Preservation Coalition, International Internet Preservation Consortium, and UK Web Archiving Consortium. Parliament may also collaborate with external

research projects such as InterPARES, and those funded by the EU (e.g. CASPAR, Digital Preservation Europe, and Planets) and JISC.

Parliament welcomes comment and external peer assessment of its digital preservation activities, and will actively seek such input as appropriate.

8 Roles and responsibilities

Implementing a digital preservation solution will require working across traditional boundaries within Parliament and, from time to time, with external partners. Broadly, the Parliamentary Archives will be responsible for setting, maintaining, and monitoring compliance with, digital preservation strategy and policy; acquisition and collection policy; Technology Watch (with PICT); preservation planning; preservation action (with PICT); and presentation (with HC and HL Information Services). PICT will be responsible for ensuring that the ICT strategy and all ICT projects comply with this Policy and associated standards. Content creators will be responsible for ensuring that digital resources are created and managed in accordance with this Policy and associated standards.

Detailed roles and responsibilities will be agreed as part of the Digital Preservation Project.

9 Custody and hosting

Parliament may use the services of external contractors or partners to provide preservation and access services for some or all of its digital collections. Decisions about this will be based on the requirements of the collections, and Parliament's existing or planned capabilities with regard to the required services. Where external services are used, proper arrangements must be in place to ensure that:

- Parliament's ownership remains clear;
- Formal custody and control of the information by the Corporate Officers (e.g. Parliamentary copyright) are not jeopardised;
- Preservation services meet the same standards as are applied to in-house services;
- Parliamentary privilege and Parliament's constitutional position are maintained;
- The two Houses can continue to properly discharge their responsibilities as data controllers under the Data Protection Act 1998 and as public authorities under the Freedom of Information Act 2000 and Environmental Information Regulations 2004;
- Information assurance standards (including closure or redaction of information) can be met;
- Public presentation of open access information is under Parliament's control, adheres to Parliamentary standards (e.g. corporate identity) and can be integrated with presentation of Parliament's other information resources; and
- Information, including metadata, can be transferred either to Parliament or to another nominated third-party, at a future date, and in accordance with appropriate interoperability standards.

10 Communication of the Policy

This Policy is intended to inform a wide audience, including:

- Information Services in both Houses, including the Parliamentary Archives
- Parliamentary ICT
- Project owners, managers and teams responsible for designing and implementing systems which will manage digital information of long term value
- The administrations of both Houses as creators and users of Parliamentary information
- Users of both Houses' information services, including Members and the general public.
- The archival, library and digital preservation communities in the UK and abroad.

It will be communicated to all stakeholders via the Parliamentary intranet, as well as through presentations, newsletters and other appropriate channels. It will also be made publicly-available on the Parliament website. A communication plan has been developed and will be reviewed on an annual basis by the Parliamentary Archives. Procedures will be instituted to assess the effectiveness of the plan.

Further information on this Policy and its implementation may be obtained from the Parliamentary Archives, Houses of Parliament, London, SW1A 0PW.

11 Audit

Parliament will develop and implement procedures to monitor compliance with this Policy, and will undertake periodic audits. These audits will be used to measure the effectiveness of its implementation, identify future priorities, and inform future reviews of the Policy (see Section 12).

12 Policy review

This Policy will be reviewed as required to take account of changing circumstances or at least every two years. Reviews will be conducted by the Parliamentary Archives, in conjunction with the Directorates of Information Services in both Houses, and other stakeholders. External review will also be sought for changes of substance.

13 Glossary

Accessioning	The process of bringing digital resources under the intellectual and custodial control of a preservation environment.
Bitstream	A set of bits embedded within a file.
Bitstream preservation	The aspect of preservation which seeks to ensure the continuing integrity of existing manifestations of a digital resource.
Content presentation	The aspect of preservation which seeks to ensure the continued accessibility of digital resources over time, in the face of technological change, through active intervention.
Digital asset	The material produced as a result of digitisation, or digital photography; as well as more complex, structured accumulations such as online learning resources, web pages, virtual reality tours and digital audio/visual files.
Digital object	A physical component of a digital resource. This may be represented as a bitstream, a part of a bitstream, or set of bitstreams within a computer file system.
Digital record	Any information that is recorded in a form that only a computer can process and that satisfies the definition of a record as stated in <i>Parliamentary Archives (2006)</i> .
Digital resource	Encompasses both digital records and digital assets.
Emulation	The class of preservation actions which entail transforming a technology environment to allow a digital object to be accessed in its original form.
Ingest	OAIS process to capture digital resources into a preservation environment.
Manifestation	A technological instantiation of a digital record, characterised by specific bitstream encodings, and dependent upon a specific technical environment to provide access.
Media refreshment	Moving data from one carrier medium to another to mitigate the risk of loss through physical degradation of the medium.
Metadata	Literally "data about data". Generic term used to denote structured data associated with content in some way to assist in its management and use.
Migration	The class of preservation actions which entail transforming a digital object to a form which can be accessed in a new technology environment.
OAIS	Open Archives Information System reference model. An international standard (ISO 14721: 2003) defining a high-level functional model for a digital repository. This was developed in the space science community and is widely used in the digital preservation community.
Presentation	The process of making a digital resource available to a user or user community.
Technology watch	The process of monitoring technological changes, in order to detect those which may impact the continued ability to access a digital resource.

14 References

BS 4783, Storage, transportation and maintenance of media for use in data processing and information storage

Part 2: 1988, Recommendations for magnetic tape on open spools

Part 3: 1988, Recommendations for flexible disk cartridges

Part 4: 1988, Recommendations for magnetic tape cartridges and cassettes

Part 5: 1991, Recommendations for 12.7mm magnetic tape cartridges for data interchange, recording at 1491 data bytes per millimetre on 18 tracks

Part 6: 1993, Recommendations for optical disk cartridges

Part 7: 1993, Recommendations for optical data disks (CD-ROM)

Part 8: 1994, Recommendations for 4mm and 8mm helical scan tape cartridges

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Note: Format-specific standards are not included at present.