

Appendices

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A FORM OF OFFER

To: National Library of Australia
By: (Name of Tenderer including if a corporation, its ACN)
(Registered Address of Tenderer)

1. Basis of Offer

1. We, (In block letters)

the undersigned, offer to participate in the subsequent Tender process in accordance with the RFT and on the basis of:
 - a) the Tender submitted in accordance with the RFT and annexed at Annexure A to this Form of Offer; and
 - b) the prices set out at Annexure B to this Form of Offer.
2. We undertake, if our Tender is accepted and a Contract acceptable to the Library is executed by both parties, to provide the System in accordance with the contract.
3. We acknowledge that, whether or not the Library exercises its rights under the RFT, we are responsible at our own expense for:
 - a) examining the RFT any other information made available to us by or on behalf of the Library;
 - b) making all arrangements and obtaining and considering all information relating to the preparation, delivery and lodgment of our Tender which is obtainable by making reasonable enquiries;
 - c) satisfying ourselves as to the correctness and sufficiency of our Tender;
 - d) answering any queries and providing any further information sought by the Library;
 - e) dealing with any issues, including disputes, that may arise out of the Tender process; and
 - f) engaging in any further process or discussions with the Library that may result from the Tender.
4. We agree:
 - a) to be bound by this Tender for the RFT stated validity period of 9 months or such longer period as is stated in our Tender; and
 - b) that this Tender may be accepted by the Library at any time before the expiration of that period or any additional period to which we may agree.
5. This Tender will not be deemed to have been accepted except as specified in the RFT.
6. We understand that the Library is not bound to accept the lowest or any Tender the Library may receive, and that the Library may make use of tenders as specified in the RFT.

7. We warrant that in preparing our Tender for the proposed System we did not communicate (verbally or otherwise) or have any arrangement or arrive at any understanding with any of the other Tenderers or with any employee of an association of which we or any of the other Tenderers are a member concerning the RFT or any aspect of the RFT and without limitation further warrant that we did not engage in:
- a) any discussion or correspondence with such persons concerning the amount or detail of our Tender;
 - b) any collusive tendering or other anti-competitive practices with any of the other Tenderers or any other person; or
 - c) any conduct or have any arrangement or arrive at any understanding with any of the other Tenderers;
- which in any way was or could have the effect of reducing the competitiveness of the Tender process.
8. We acknowledge that each party constituting the Tenderer is bound jointly and severally by this Tender.

2. Contract

9. Subject to the RFT, we will execute 2 copies of the contract in a form contained in the RFT if required by the Library.

3. Address of Tenderer

Address or Registered Office of Tenderer

Address for service of notices (NOT PO BOX)

Telephone Number: Fax Number: Email address:

If a firm, the names and addresses of the individual members are:

DATED this day of 19
If a Corporations Law Company – (not a single director/secretary company)

THE COMMON SEAL of [*name of party*], the
fixing of which was witnessed by:

Signature of director

Signature of director/secretary

Name of director

Name of director/secretary

If a Corporations Law Company – (single director/secretary)

THE COMMON SEAL of [*name of party*], the
fixing of which was witnessed by its sole director
and sole secretary

Signature of sole director and sole secretary

Name of sole director and sole secretary

If an Individual
SIGNED by [*name of party*] in the presence of:

Signature of party

Signature of witness

Name of witness

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B STATEMENT OF COMPLIANCE

Tenderers must specifically respond to every general condition contained in this Request for Tender, every statement of capabilities sought and every request for information. To assist Tenderers in this regard, a Statement of Compliance spreadsheet is provided that lists every section or clause for which a response is required. Tenderers should use this spreadsheet for their responses.

Tenderers must record their level of compliance against every section or clause using one of the following terms:

“Complies”	Means that where the Library imposes a condition, that condition is agreed to, and where a provision specifies a characteristic or performance requirement, that the Tenderer will provide that requirement as specified.
“Exceeds requirement”	Means that the offer exceeds capability sought. Full details, including the price effect, of the variation from the specific capability are to be stated.
“Partially complies”	Means that the Tenderer, subject to certain qualifications, which are stated in full, can meet the condition, characteristic or performance requirement.
“Alternative offered”	Means that the functionality can be satisfied in another way for which full details are provided.
“Non-compliant”	Means that the Tenderer does not meet the complete condition or characteristic or performance requirement of the provision.
“Understood and agreed”	Means, in the case of a provision giving information only, that the provision has been read and understood.

Indefinite terms such as "**noted**" will not be considered an adequate response.

Statements of compliance against sections or clauses in the form below will be deemed by the Library to apply to the whole section or clause. If there are multiple conditions or requirements within a section or clause and only some of the conditions are agreed to or requirements met, Tenderers should respond "**partially complies**" and provide full details of the variation from compliance.

Where there is no response to a condition or requirement of the Request for Tender, the Tenderer will be deemed not to comply with the stated condition or requirement for evaluation purposes.

Tenderers should note that a Tender that is not in accordance with these instructions may be treated as an inadequate Tender and be excluded from further consideration.

This page should be replaced by *Tenderers Statement of Compliance* from the Microsoft Excel spreadsheet *AppendixB.xls*.

C UNIT PRICE AND COST SCHEDULES

This appendix contains templates for the following Unit Price Schedules and Configuration Cost Schedules required for each Tender:

- a) Unit Price Schedule 1 – Computer hardware
- b) Unit Price Schedule 2 – Computer software
- c) Configuration cost schedule 1 – Summary
- d) Configuration cost schedule 2 – Computer hardware
- e) Configuration cost schedule 3 – Computer system software
- f) Configuration cost schedule 4 – Application software
- g) Configuration cost schedule 5 – Data migration
- h) Configuration cost schedule 6 – Training
- i) Configuration cost schedule 7 – Implementation service costs
- j) Configuration cost schedule 8 – Post Implementation service costs

Explanations and instructions for completing each schedule are given in Chapter 3.

This page should be replaced by *Unit Price Schedule 1 – Computer Hardware* from the Microsoft Excel Workbook at *AppendixC.xls*.

This page should be replaced by *Unit Price Schedule 2 – Computer Software* from the Microsoft Excel Workbook at *AppendixC.xls*.

This page should be replaced by *Configuration Cost Schedule 1 – Summary* from the Microsoft Excel Workbook at *AppendixC.xls*.

This page should be replaced by *Configuration Cost Schedule 2 – Computer Hardware* from the Microsoft Excel Workbook at *AppendixC.xls*.

This page should be replaced by *Configuration Cost Schedule 3 – Computer System software* from the Microsoft Excel Workbook at *AppendixC.xls*.

This page should be replaced by *Configuration Cost Schedule 4 – Application Software* from the Microsoft Excel Workbook at *AppendixC.xls*.

This page should be replaced by *Configuration Cost Schedule 5 – Data Migration* from the Microsoft Excel Workbook at *AppendixC.xls*.

This page should be replaced by *Configuration Cost Schedule 6 – Training* from the Microsoft Excel Workbook at *AppendixC.xls*.

This page should be replaced by *Configuration Cost Schedule 7 – Implementation Service Costs* from the Microsoft Excel Workbook at *AppendixC.xls*.

This page should be replaced by *Configuration Cost Schedule 8 – Post-Implementation Service Costs* from the Microsoft Excel Workbook at *AppendixC.xls*.

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D STATUTORY DECLARATION

1. I, [name, address and corporation of person making the declaration], do solemnly and sincerely declare that:

Definitions

2. In this statutory declaration:

"System"	means products and/or services sought to be provided by the Supplier to the Library as specified in the RFT;
"Library"	means the National Library of Australia;
"Tenderer"	means [details of tendering corporation as appropriate]; and
"Tender Price"	means the total fees indicated by a Tenderer as being the lowest amounts for which that Tenderer is prepared to provide the System.

Preamble

3. I hold the position of [*managing director or other title*] of the Tenderer and am duly authorised by the Tenderer to make this declaration on its behalf.
4. I make this declaration on behalf of the Tenderer and on behalf of myself.
5. I declare as follows:

Collusive Tenderers'

6. Neither the Tenderer nor any of its employees, agents or contractors had knowledge of the technical proposal or the Tender Price for the System of any other Tenderer prior to being provided with access to the Request for Tender for the Digital Collection Management System Project.
7. Neither the Tenderer nor any of its employees, agents or contractors disclosed the technical proposal or the Tender Price for the System submitted by the Tenderer to any other Tenderer who submitted a Tender for the System prior to the RFT Closing Time specified in **Section 2.2.2** of the RFT.

Cover Bidding

8. Neither the Tenderer nor any of its employees, agents or contractors provided information to any other Tenderer, person or organisation, to assist another Tenderer to prepare a Tender known in the building and construction industry as a "cover bid", whereby the Tenderer was of the opinion or belief that another Tenderer did not intend to genuinely compete for the contract.
9. The Tenderer is genuinely competing for the contract and its Tender is not a "cover bid".

Unsuccessful Tenderers' Fees

10. Prior to the Tenderer submitting its Tender for the System neither the Tenderer nor any of its employees, agents or contractors entered into any contract, agreement, arrangement or understanding that the successful Tenderer for the System would pay any money, or would provide any other benefit or other financial advantage, to or for the benefit of any other Tenderer who unsuccessfully responded to the RFT.

And I make this solemn declaration by virtue of the *Statutory Declarations Act 1959*, and subject to the penalties provided by that Act for the making of false statements in statutory declarations, conscientiously believing the statements contained in these declaration to be true in every particular.

[Signature of person making declaration]

Declared at [] the []
day of [] 19[]

Before me,

[Signature of person before whom the declaration is made]

[Title of person before whom the declaration is made]

E DESCRIPTION OF CURRENT SYSTEMS

The Library operates a distributed computing environment based on a mixture of hardware and software. The communications infrastructure is based on a routed TCP/IP network running over 10baseT and 100 baseT Ethernet within the building with multiple Internet connections via a firewall. Major library and business systems are based on the Unix and Windows/NT operating systems and run on a variety of hardware platforms, including IBM RS/6000, Sun UltraSparc, Digital Alpha and Intel, with IBM, Sun and Wintel being the major platforms. A StorageTek tape system provides corporate backup across all these systems. The desktop is based on the Windows 95 operating system. The minimum desktop configuration is a Pentium 200 with 32 megabytes of memory, 2 gigabytes of disk and a 10 megabit Ethernet connection.

The Library's Kinetica service is operated under a services contract with IBM GSA and does not form part of the environment described above. Kinetica is based on the AMICUS product running on IBM servers. AMICUS is used to deliver bibliographic utility and union catalogue services. A separate Web search service is provided via an HTTP/ Z39.50 gateway using the LibriVision software package.

Also forming part of the Kinetica service but owned and operated by the Library are:

- a) An Interlibrary loan utility service based on Fretwell-Downing's OLIB VDX product running on a Sun server.
- b) The National CJK Service based on Innopac library system software running on an Alpha server.

The Library's integrated library management system is Dynix running on an IBM RS/6000. The Library is currently installing the Dynix WebPac Java applet as its major OPAC service for both internal and external users.

The NLA Information Server provides Web access to a variety of information services developed by the Library. These services include the Library's static HTML pages together with a range of Web-based information systems such as the Australian Libraries Gateway, PANDORA, Images 1 and RAAM. The information server is based on an IBM RS/6000 platform running the Apache Web server, a variety of Oracle databases and a range of PERL and Java (servlet) applications. This service is currently being migrated to a Sun platform. A number of packages are also installed to provide indexing, statistical and other administrative functions.

The Library operates a number of corporate systems, the major ones being a financial system using Finance-1, a records management system using TRIM and e-mail using Exchange.

A number of in-house systems have been developed using Microsoft Access and Visual Basic, including the Images 1 and PANDORA management systems.

The APAIS and AMI data maintenance services are managed using DB Textworks operating in the Windows environment.

The Library's audio recordings are managed using professional audio workstations supplied by Sonic Systems linked through a proprietary high-speed network.

A detailed description of the current PANDORA and Images 1 systems are available in the following sections.

E.1 PANDORA TECHNICAL INFRASTRUCTURE

E.1.1 Introduction

Since 1997 the National Library of Australia has been building and making available a collection of Australian web-based Internet publications through the PANDORA project. The majority of the material has been acquired by direct capture (gathering) of content provided on the publisher's web site. The Library's archived copy is made available on the Library's web site. In June 1999 the PANDORA archive contains 213 titles. The collection currently includes 170 titles that are scheduled for regular gathering at least annually.

This section documents the IT infrastructure that has been implemented to support PANDORA, assesses its performance and identifies directions for further development. The current PANDORA technical infrastructure must be replaced by the new Digital Collection Management System.

Further information on the PANDORA project is available on the web at: <http://www.nla.gov.au/pandora>.

The PANDORA infrastructure is considered as three components:

- a) Collection System.
- b) Storage and Display System.
- c) Management System.

E.1.2 Collection System

The collection system supports the selection, gathering and quality assurance processes for Internet publications archived within PANDORA. The majority of the material held to date has been collected by gathering (pulling) material directly from the publisher's web site. The issues associated with publishers depositing a copy (pushing) with the Library are not considered.

E.1.2.1 Selection

Selection of titles is a manual process carried out by Library staff in the Electronic Unit using a standard web browser (Netscape Navigator or Internet Explorer) from their Windows 95 desktop. Each title is assessed against the Library's selection criteria. Titles that meet the selection criteria are recorded in the PANDORA Archive Management System (PAMS) as an item selected for national preservation. Once selected a title may be assigned to a staff member in the Electronic Unit to be assessed as to its technical suitability for archiving. Issues considered in this assessment include:

- a) Size and likely storage requirements.
- b) Need for specialised browser plugins for access.
- c) User interface, that is, the title's content substantially accessible via embedded hotlinks that can be automatically followed during gathering or does the site have a form or similar style of interface (e.g. a front-end to a database) whose navigation requires title specific knowledge?

E.1.2.2 Gathering

The gathering system is Unix-based and uses locally modified open source software, scripts and the Unix cron service to provide an automated gathering system. Library staff use an in house web and e-mail service called PANTRACK to specify and schedule titles to be

gathered, and to monitor and report problems with the gathering process. PANTRACK is also used to support the post-gathering quality assurance process.

Through PANTRACK Electronic Unit staff select a title to be gathered by specifying a starting URL and a set of URL-based filters that are used to limit the extent of the gathering (e.g. limit gathering to particular web site or to URLs with a common stem). Electronic Unit staff also select how the gathering is to be scheduled (one off, weekly, monthly, quarterly, half yearly, and annually) and which Unix directory will be used to store the results of the gathering. PANTRACK uses this information to build suitable configuration files for the gatherer which runs nightly. PANTRACK also provides an interface to allow Electronic Unit and IT staff to view the gathering schedules and to monitor the log files that are produced during gathering. PANTRACK is based on Jitterbug (see: <http://jitterbug.samba.org/>), an open source message handling system.

The gathering software uses a modified version of the Harvest (see: <http://sunsite.bcc.bilkent.edu.tr/pub/infosystems/Harvest/Index.html>) indexing software to gather web-based content.

The result of gathering is a collection of Unix files in a working area of the PANDORA archive that correspond to contents of the web pages matching the URL filtering rules specified by the Electronic Unit staff for that title.

E.1.2.3 Quality Assurance

A manual quality assurance process is used to ensure that the captured files are complete and can be displayed on the Library's web site retaining the look and feel of the publisher's web site. Electronic Unit staff check the gathered material using the web browser on their desktop. The gathered files can be viewed by Electronic Unit staff either through the Library's web site (see section E.1.3) or by viewing individual files on their desktop computers. The open source SAMBA (see: <http://www.samba.org>) software under Unix is used to allow the windows desktop machines to access the gathered files as a file share.

Electronic Unit staff identify and where possible rectify problems in the gathered material as part of the quality assurance process. Problems that cannot be resolved by Electronic Unit staff are referred to IT staff and tracked until resolution using PANTRACK. Once all problems have been resolved the collection of files making up the title are transferred to the archive and made available for public access.

Problem resolution can be categorised as follows:

- a) Missing files: these are gathered and added to the title
- b) HTML file changes: an HTML file needs to be hand modified in order to display correctly on the Library's web site. In this case a preservation copy of the file is created by duplicating the file and adding an extension of .orig, and the non preservation copy is modified as required.
- c) Display system: an enhancement to the display system (see section E.1.3) is required for this title (e.g. support for a new HTML construct or support for a particular mime type or new service such as RealAudio).
- d) Unsuitable title: the title cannot successfully be gathered because of issues associated with the technical assessment requirements outlined in section E.1.2.1. At this point a decision is made to either abandon this title or to retain only a partial copy in the archive.

E.1.3 Storage and Display System

E.1.3.1 Storage

The archived titles are stored on a standard Unix file system using the URLs of each object in the title to specify a file name and directory organisational structure. The system architecture assumes that a single unmodified copy of the files gathered for each title will be used for both long term preservation and on-going public access. An exception to this architecture is noted in section E.1.2.3 when it is sometimes necessary to manually create distinct preservation and display files.

The storage system is managed as a standard Unix file system with directory/file level protection used to control read and write access by particular Library staff with Unix accounts on the server.

E.1.3.2 Display

The display system is based on the open source Apache web server (see: <http://www.apache.org>). Since the files making up a title may contain URLs that refer explicitly to the publisher's copy of objects within that title each HTML file is parsed on the fly during the display process and such URLs automatically mapped to the corresponding URL within the archived copy. Similarly hotlinks referencing objects that are outside the archive are automatically mapped to a web page that warns users that they are leaving the archive.

The remapping described above is achieved by forcing references to material in the archive through a CGI script that uses a HTML parser (based on Harvest) to identify and dynamically remap embedded URLs.

The display system uses Apache's logging capability to maintain access logs on material held in the archive.

E.1.4 Management System

Metadata concerning titles in PANDORA is held in three repositories: PAMS, Title Entry Page and Library catalogues. In each case these repositories are independently and manually maintained.

E.1.4.1 PAMS

The PANDORA Archive Management System (PAMS) is an Access database used by Electronic Unit staff to record administrative metadata concerning the selection, negotiation with publisher, acquisition and use of titles. A visual basic front end provides a user-friendly interface. PAMS is a stand-alone system.

E.1.4.2 Title Entry Page

A static HTML Title Entry Page is created and maintained manually by Electronic Unit staff for each title archived in the PANDORA collection. This page provides information about the archived title, including:

- a) Link to publishers site
- b) Links to all instances of the title held in PANDORA (including date of gathering)
- c) Copyright statement

All title pages are stored in a Unix directory on the PANDORA web site.

A persistent identifier in the form of a PURL (see: <http://purl.nla.gov.au/>) is assigned by Electronic Unit staff to each Title Entry Page. This PURL is recorded in the catalogue entry for the title and is used to provide a permanent name for that title. The PURL is a resolvable name can be entered into a web browser to display the Title Entry Page.

E.1.4.3 Library Catalogues

Bibliographic information concerning each title in PANDORA is held in the National Bibliographic Database (Kinetica) and also in the Library's Catalogue. These records contain hypertext links to the Title Entry Page through use of PURLs (Permanent URLs).

E.1.5 Technical and Operational Assessment

This section describes a number of weaknesses that have been identified in the current PANDORA implementation.

E.1.5.1 Gather Duplicate Files

The Harvest gatherer calculates a MD5 signature for each object it gathers. This signature is used to ensure only one copy of an object is gathered and prevents the gatherer "cycling" if objects, as they often are, are linked in circular paths. This technique works well for an indexing system where there is clearly no need to keep copies of identical objects. It does not work in the context of PANDORA where identical copies of an object may be replicated in different parts of the title (e.g. an icon image file may be replicated in different directories rather than being held in a common directory). If the object is not replicated in the archive then the archived title will contain broken links and missing images.

E.1.5.2 Preserve Server Semantics

The Harvest gatherer does not record the mime type of each object it gathers. As a result, on display the web server uses the file extension of the archived object to determine the type of the object being displayed. This creates a manual and time consuming process of identifying new file extensions and updating the web server configuration to assign the correct mime type. It also gives rise to a situation where the same file extension in different titles may be used for objects of different type.

The Harvest gatherer also does not record the type of server from which a title is gathered. Thus an archived title is displayed using the semantics of the Apache/Unix environment on which the PANDORA archive is based. For example, a title developed in a Windows NT environment will assume that names are case insensitive (<http://nt.site.com/page1.htm> is equivalent to <http://nt.site.com/Page1.htm>). This assumption is not true within the PANDORA archive and as a result archived titles appear to contain broken links because the case of names within a title may not be consistent.

E.1.5.3 Java Applets

Java applets are increasingly commonly used to enhance the user interface of web-based material. These applets often have associated image and sound files that they download. Currently these applets must be "decompiled" and a form of forensic examination undertaken to determine what files are required by the applet, to download them and store in the correct part of the title.

E.1.5.4 Title Page Maintenance

When a title is added to the archive a Title Entry Page is created using an HTML editor. This page is updated as additional "snapshots" of a title are gathered. This process is manual and prone to error.

E.1.5.5 Title Specification

The current model of specifying a title requires the identification of a root or home URL then the identification of a set of URL based filters to describe the boundaries of the title. This model works well for pure HTML documents but fails when techniques like JavaScript, server side scripting (e.g. Active Server Pages), Java applets, etc are used to enhance a title's user interface.

E.1.5.6 Access Control

PANDORA currently provides no mechanism to selectively control access to archived material. In particular two access control mechanisms are required. The first is to allow a title or part thereof to be archived but not made publicly available. This situation typically takes the form of an embargo on the date which a title may be made publicly available (e.g for a publication requiring user payment, the current issue should not be publicly available in PANDORA archive although back issues may be). The other control mechanism is to allow selective users to access a title, e.g. a password protected title or a title that can be accessed from a particular environment such as a Reading Room of the National Library.

E.1.5.7 Management Metadata

A common thread through many of the issues discussed above is the need to maintain and use metadata to create efficient tools and work flows. The current Access-based repository PAMS is not suitable and needs to be replaced with a more flexible management system that can be integrated into the collection, and storage and display systems.

E.1.5.8 Storage System

The current archive uses a Unix files system to store objects with URL resolution dependent on creating an appropriate directory structure. It is not clear that this model is optimal to:

- a) Scale to support an archive of the size to which PANDORA will eventually grow
- b) Support the requirements for long term preservation
- c) Allow future navigation and resolution user interface models to be captured

E.1.5.9 Title Profiling

The technical evaluation of a title during the selection process is again a time consuming manual process. In particular, a web browser does not allow Electronic Unit staff to identify the size, the range of object types and the linking structure of a title.

E.1.6 Conclusions

The current PANDORA system does not provide a robust and stable long term repository for Australian electronic publications. There are a number of problems identified with the current system. These can be viewed in two contexts. Firstly in the human context, PANDORA uses the traditional manual Library acquisition and cataloguing model. It must therefore provide a highly productive work flow based environment for the Librarian to operate within. This is essential in order to process the volume of titles needed to build a useful collection of electronic publications within an affordable level of human resource. This area is the major challenge facing the IT component of the PANDORA project.

Secondly, the IT infrastructure must scale to support the volume of material that must be managed in the medium term. Although there are possibly significant technical and cost issues in this area, current experience together with likely technology trends suggests that it will continue to be possible to provide an IT infrastructure that can support PANDORA.

E.2 IMAGES 1 TECHNICAL INFRASTRUCTURE

E.2.1 Introduction

The Library provides access to digital copies of selected items from the Pictorial Collection through its Images 1 service. This section briefly describes the existing business processes and IT infrastructure relating to this service.

E.2.2 Functions

The IT systems supporting the Images 1 service provide the following functions:

- a) Tools for identifying/labelling of items within a pictorial collection
- b) Work flow tools to manage the digitisation process
- c) Indexing tools to generate searchable indices
- d) File management tools to allow scanned images to be renamed and loaded into the pictorial archive
- e) A web accessible pictorial archive
- f) A user friendly web-based search facility to locate and display images

Images 1 uses a in-house developed Visual Basic and Access database system called Pictorial Manager to carry out most of the administrative processes needed to identify, create and archive the digital surrogates. The functions currently supported by Pictorial Manager must be supported by the new Digital Collection Management System. The publicly available web-based search and retrieval system for Images 1 is Unix-based and uses an Oracle database of the pictorial indexes with a number of Perl, lex, PL/SQL and CGI scripts. The public user interface is available on the NLA web site, see: <http://www.nla.gov.au/images1/>.

E.2.3 Workflow

A typical workflow for maintaining Images 1 is as follows:

- a) MARC format catalogue records of all new pictorial acquisitions are provided from the National Bibliographic Database (Kinetica) every two weeks. Records of pictorial items in the Catalogue are often only recorded at the collection level. These records are converted and loaded into Pictorial Manager to serve as templates for the individual records that will be created for each picture in a collection.
- b) Photographic colour transparencies, black and white negatives or prints of Pictorial Collection items are selected for digitisation. The selected items are then checked to ensure they are not in copyright; any in copyright material is not digitised unless permission of the copyright holder has been obtained.
- c) Pictorial Manager is used to batch, track and caption items to be sent for digitisation. Batches of 25 colour transparencies or 100 black and white negatives or prints are sent to a contractor for digitisation. A Kodak Pro PhotoCD and a JPEG CD are supplied by the contractor with images from these batches. The PhotoCDs contain high-resolution images for reproduction. The JPEG CDs contain thumbnails and medium resolution images which are made available through the Internet-accessible Images 1 service.
- d) On receipt by the Library the PhotoCDs and JPEG CDs are checked against the original transparencies and any comments are recorded in Pictorial Manager. A duplicate of each PhotoCD is made by Photographic Services as a backup. Most of

the master PhotoCDs and duplicates are housed in the Pictorial Unit; some earlier ones are housed in the Photographic Section.

- e) On a bimonthly basis all new digitised images are renamed using Pictorial Manager loaded using ftp to the pictorial archive on Unix web server. Pictorial Manager is also used to generate indexes (e.g. master, creator, subject, ...) that are also loaded to the Oracle database on the web server.

F GLOSSARY

ABN	Australian Bibliographic Network
AES	Audio Engineering Society
AES/EBU-format	AES-1985 (ANSI S4.40-1985). A serial transmission format for linearly represented digital audio data
AGLS	Australian Government Locator Service
Agrigate	An Australian subject gateway for agricultural resources
AIFF	Audio Interchange File Format. A format developed by Apple Computer for storing audio information.
AIX	Advanced Interactive eXecutive. IBM's Unix based operating system.
AMI	Australian Medical Index
AMICUS	The product used by the Library to deliver the Kinetica National Bibliographic Utility and National Union Catalogue services
APAIS	Australian Public Affairs Information Service
API	Application Program Interface. A set of procedures or routines which have been provided to enable applications to communicate with another application or with proprietary software.
Applet	In a Web application, a utility or other simple program that can be downloaded to the user's workstation to deliver additional functionality
Arbitrary binary object	Digital information in any file format and with any form of data encoding
Archiving	(1) Offline long term storage of data in machine readable format (2) The assumption of responsibility for preserving documentary resources for future access
Archiving partner	In this Request for Tender, an agency taking formal responsibility for the preservation for future access of Australian electronic publications
ARIEL	A document transmission system produced by the Research Libraries Group (RLG)
ASCII	American Standard Code for Information Interchange (ISO 646)
AU	A sound file format used on UNIX computers
Ausinfo	The Australian government agency responsible for disseminating government information and setting Commonwealth electronic and print publishing standards.
Australian Cooperative Digitisation Project	A cooperative project with the University of Sydney, the State Library of New South Wales and the National Library of Australia to develop a digital service providing access to 19 th century Australian books and periodicals
Australian Government Internet Gateway	An Ausinfo service that provides access to the publicly-available content of Australian Government information servers
Australian Internet domain	That part of the global Internet domain with Australian content or intellectual input including, but not limited to, sites with domain names containing the .au suffix
Australian Libraries Gateway	A service operated by the Library that provides access to information about Australian libraries, their collections, services and activities

Australian National Archives	A lead agency in the management of Australian government information that shares responsibility with the National Library of Australia for ensuring preservation of and access to Australian government information
Authentication	A process confirming that a user, service provider or documentary resource is <i>bone fide</i>
AVI	Audio Video Interleaved. A Microsoft multimedia file format, similar to MPEG and QuickTime but with audio and video elements interleaved in the file
Bibliographic data	Data describing documentary resources
Broadcast Search	The capability to search two or more target servers with a single search transaction
Browse paradigm	A process enabling a user to navigate hierarchically through a series of HyperText links as part of the Resource Discovery process. The process may be aided by a range of different options for viewing the HyperText links and/ or by mechanisms to access the list at a specified point in the hierarchy
Browser	A client program that allows users to read HyperText documents on the World Wide Web, and navigate between them
Caption	The title of individual items in a set of pictorial materials treated as a collection for bibliographic or curatorial purposes
Cataloguing data	Data following generally accepted rules (such as AACR) for describing and facilitating access to documents in the collection of a library or group of libraries
CCCII	Coding system for CJK character sets
CCITT	Consultative Committee for International Telephony and Telegraphy
CD-R	Compact Disk – Recordable
CD-ROM	Compact Disk – Read Only Memory
Checksum.	A value that accompanies data transferred from one place to another and helps to ensure that the data was transferred correctly
CIMI	Consortium for the Computer Interchange of Museum Information
CJK	Chinese, Japanese, Korean
Collecting agency	A library, gallery, museum or archive with collections of books, serials, manuscripts, maps, still and moving pictures, audio recordings, etc that form part of the Australian documentary record.
Collection manager	A member of staff responsible for the management of digital collections
Collection-level access	A service providing access to documentary resources through descriptions of the collection or sub-collection in which the resource is held rather than the item itself
Compression	The encoding of data so it takes up less storage space
Concurrent Users	Users who are connected or who have a session open on the system at the same time
Controlled term	Authorised form of a term, heading or name, usually listed in a thesaurus
Conversion	The process of changing a file from one format to another
Copyright collecting agency	An agency that take responsibility for recording license agreements and conditions of access on behalf of creators and publishers and act as a collecting agency for royalty payments
CORBA	Object Management Group's Common Object Request Broker Architecture
CPU	Central Processing Unit
CSS	Cascading Style Sheet. A specification for Web-based style sheets endorsed by the W3C
DAT	Digital AudioTape
Database	A collection of interrelated data stored together
DAW.	Digital Audio Workstation

DB Textworks	The product used by the Library to produce the APAIS database
Decompression	The process of decoding compressed data
Decryption	The process of decoding encrypted data
Digital archive	A system ensuring the preservation for future access of electronic documentary resources
Digital copy	A copy of an object that has been created using digital technologies
Digital master	A digital copy in a format suitable for archiving
Digital object	Data stored as computer files and requiring applications software for viewing, listening etc
Digital publication	<i>See</i> Electronic Publication
Digital reformatting	The process of making a digital copy of an object for preservation and/ or access purposes
Digital services	Services exploiting digital technologies to provide access to traditional documentary resources and to ensure the long-term preservation of, and access to, documents available only in digital form
Digital signature	Extra data such as a Checksum that is encrypted with the sender's private key and appended to a message. The recipient decrypts the data with the sender's public key, recalculates the value from the received message and compares the two values to ensure the data has not been corrupted and that it came from the given sender
Digital surrogate	<i>See</i> Digital copy
Digitisation	The process of creating a digital copy of a physical object
Distributed national collection	Publications and other documentary resources held in the collections of Australian Libraries
Distributed national collection of Australian electronic publications	Australian electronic publications registered in the National Bibliographic Database for which the National Library or an archiving partner has taken responsibility to ensure its preservation for future access
DOCITA	Department of Communications, Information Technology and the Arts. The Australian government department with current responsibility for the National Library of Australia
Documentary resource	Information packaged in any form
Document-like object	<i>See</i> Documentary resource
DocuWeb	A text format used by Xerox
DOI	Document Object Identifier. An identification system for intellectual property in the digital environment developed by the International DOI Foundation on behalf of the publishing industry
DOSDS	Digital Object Storage and Delivery System
DSP	Digital Services Project. The name given by the Library to activities related to its requirement for the provision of digital services
DTD	Document Type Definition
Dublin Core	A 15-element metadata set intended to facilitate discovery of electronic resources
DVD-ROM	A family of optical discs that have significantly more storage capacity than a CD-ROM and can provide digital video
Dynix	Proprietary integrated library management system used by the Library
EACC	RLIN East Asian Character Code Set
EAD	Encoded Archival Description. An SGML DTD developed especially for describing archival and manuscript collections
Electronic publication	A publication disseminated in electronic or machine-readable form
Email	Electronic mail. Software facility for the management of a messaging network across two or more terminals

Emulation	The process of setting up a system to perform in the same way as another system of a different type in order to run its programs
Encryption	The encoding of data so it is unreadable except by authorized users
External user	Anyone anywhere in Australia who accesses the Library's services including both onsite and remote users
Ethernet	A LAN standard using baseband transmission mode at 10 megabits per second, coaxial cable, bus topology and CSMA/CD protocol
Extended Latin alphabet	Latin alphabet extended to cover various languages. See ISO 8859
Finding aid	Data describing the content of a set of documentary resources managed as a collection for bibliographic or curatorial purposes
FMIS	Financial Management Information System
FOI	Freedom of Information
Fractal compression	A method of compressing image files using mapping and mathematical equations
Fretwell-Downing	The Supplier of the OLIB VDX Interlibrary Loans Facility
ftp	File Transfer Protocol. A file transfer application interface protocol in the TCP/IP environment
Full-text searching	The capability to retrieve a documentary resource containing machine-readable text through a match on keywords or phrases anywhere in the text
fuzzy matching	The capability to retrieve a documentary resource through a near match on search terms through the use of mechanisms such as stemming, spell checking, "sounds like", etc
GIF	Graphics Interchange Format
GRS-1	Generic Record Structure-1. A data schema framework defined in the Z39.50 standard that allows metadata to be encoded for transfer between systems in a way that enables the target system to interpret the syntax of the data
Helper software.	<i>See</i> Plug-in
Holdings data	Descriptive information detailing the location of documents within collections, down to the volume level
HTML	HyperText Markup Language
HTTP	HyperText Transport Protocol
HTTP/ Z39.50 gateway	Software enabling the content of databases that conform to the Z39.50 information retrieval protocol to be searched via a web browser using the HyperText Transfer Protocol (HTTP)
HyperText link	In an HTML document, HTTP-encoded text that enables a user to navigate to a related document
IBM Australia	One of the Suppliers of the network services implemented by the Library in March 1999 under the marketing name Kinetica
IBM Global Services Australia	One of the Suppliers of the network services implemented by the Library in March 1999 under the marketing name Kinetica
IETF	Internet Engineering Task Force
ILL	Interlibrary Loan. Formally established system for borrowing and lending and supply of photocopies between libraries
ILMS	Integrated Library Management System
ILRS Directory	Interlibrary Resource Sharing Directory
Image Search	The working title given to a new service under development to provide integrated access to Australian pictorial collections
IMAGES 1	A service providing access to digital copies of items in the Library's pictorial collection
Imprimatur	A project funded by the European Commission to develop an industry-wide framework for rights management in a distributed environment

INDECS	Interoperability of Data in E-Commerce Systems. A European Commission funded project with participants from the trade associations of most major rights sectors
Index point	Data defining points in an audio or video file that have been indexed for access
Indexing data	Data describing the contents of documents eg articles within journals. Also called Citation data.
Informit Online	An information service provided by Informit Publishing that enables access through a Web interface to a range of Australian databases
INNOPAC	Online Public Access Catalogue for the Innovative Interfaces Inc. ILMs
Integrated workstation	In this Request for Tender, workstations installed in the Library's reading rooms that provide integrated access to the Library's electronic information services
Interlibrary Resource Sharing Directory	A service provided by the Library that documents the interlibrary lending policies of Australian libraries
Internet	The network of interconnected networks worldwide, using the TCP/IP protocols
ISBN	International Standard Book Number
ISO	International Standards Organisation
ISO 10160/10161	An OSI application layer standard for Interlibrary Loan messaging
ISO 10646	ISO standard for worldwide character encoding, incorporating Unicode
ISO 11179	ISO standard for specification and standardization of data elements
ISO 2146	ISO standard for describing libraries and other information services
ISO 2709	ISO standard for the exchange of machine-readable cataloguing data (MARC)
ISO 646	ISO standard for a 7 bit coded character set for information exchange (ASCII)
ISO 646 (ASCII).	<i>See</i> ASCII
ISO 8459	ISO standard for library system data elements
ISO 8859	ISO standard for 8-bit single-byte coded graphic character sets for information processing
ISO 8879	ISO standard for a Standard Generalised Markup Language (SGML)
ISO 9660	ISO standard for CD-ROM encoding
ISO 9945-3	ISO standard for system administration
ISO C	The ANSI/ISO standard for the C programming language and an accompanying standard C Library
ISO/FDIS 23950	ISO version of Z39.50
ISSN	International Standard Serial Number
JAVA	A programming language which allows for secure execution of code across a network. Allows users to download and run programs within a Web browser
JPEG	Joint Photographic Experts Group (an ISO/IEC working group), which specified the standard for the compression of images with many grey levels or colours
Kinetica	Marketing name for the network services based on the National Bibliographic Database implemented by the Library in March 1999
LAN	Local Area Network
LDAP	Lightweight Directory Access Protocol
Legal deposit	Under the Copyright Act, 1968 and various State legislation, a copy of any work published in Australia must be deposited with the National Library of Australia and the appropriate State Library
Library	National Library of Australia
Library material	Publications and other documentary resources that fall within the collection development policy of a given library.

LibriVision	The HTTP/ Z39.50 gateway product used by the Library to deliver the Kinetica Web Search service
Location data	Data describing the copy or copies of a document held in a particular collection
MARC	A format for the interchange on magnetic tape of catalogue records which covers books and alternative media such as motion pictures and videos. This standard has variations, such as AUSMARC and USMARC
MASS	Multilingual Application Support Service (used as CJK character software)
Mbps	Megabytes per second
Medianet®	The high speed communications network currently used by the Library to manage its audio recordings
META tag	Tag used to specify information about a document in HTML
MetaChem	An Australian subject gateway for chemistry resources
Metadata	A term applied by the Dublin Core community to data describing online electronic resources for resource discovery purposes. In this Request for Tender, used to distinguish structured data identifying characteristics of an object from the object itself when stored in electronic form
Metadata repository	A database containing metadata
MetaWeb Project	A collaborative project with the National Library of Australia, the Distributed Systems Technology Centre, the Australian Defence Force Academy and Charles Sturt University to develop tools for creating and accessing metadata describing documentary resources on the Web
Middleware tier	The middle tier in a three tier architecture which mediates between the other two tiers
MIME	Multitype Internet Mail Extension
MODELS	MOVing to Distributed Environments for Library Services. A UKOLN initiative supported by the Electronic Libraries Programme and the British Library. One of the MODELS activities has been development of a Z39.50 Interoperability Profile for Library catalogues
MPEG	Moving Pictures Experts Group. An ISO/ITU standard for compressing video using a lossy compression method
MS-Word	A proprietary text file format used by Microsoft
Multimedia publication	A publication that combines text, image and/ or sound
Multi-page image	A digital copy of a book-like object created by optically scanning each page
multi-page TIFF	A version of TIFF that stores multiple scanned document images in a single file
National Bibliographic Utility	Facility providing shared cataloguing, location and collection support facilities to Australian libraries
Natural language searching	A capability enabling users to input queries in the form of spoken questions or phrases and get a meaningful search result
Navigation	The process of exploiting HyperText or other links to discover related information
NBD	National Bibliographic Database
NCJKS	National Chinese Japanese Korean Service
NLA	National Library of Australia
NLA Catalogue	A database providing a first point of entry to the contents of the Library's collection
NLA Information Server	The WWW Server at the National Library of Australia
NUC	National Union Catalogue. The subset of the NBD that consists of bibliographic records that have holdings attached

Object oriented technology	A method of modelling and/ or building applications that focuses on objects and their data and processing requirements
OCR	Optical Character Recognition. The machine recognition and conversion to ASCII text of printed characters in a scanned image
OLIB VDX Interlibrary Loans Facility	The product used by the Library to deliver the Kinetica National Inter Library Lending Utility (NILLU) service. The same product is also used to meet the Library's own interlibrary lending needs.
OMS	Object Management System
Online electronic publication	An electronic publication disseminated to its target audience over a computer network such as the Internet
Online payment facility	Software enabling complete and secure order fulfilment over the Internet through payment schemes such as credit cards, digital coins or digital money accounts
Onsite user	A user accessing the Library's digital services from within the Library building, using the Library's LAN
OPAC	Online Public Access Catalogue
Ozline	Australian online information service run until recently by the National Library of Australia. The Ozline databases are now accessible via Informit Online
PANDORA	Preserving and Accessing Networked Documentary Resources of Australia. A project set up by the Library in the second half of 1996 to develop strategies for the preservation of Australian online electronic publications
PDA	Personal Digital Assistant
PDF	Page Description Format
Photo-CD	See Pro Photo CD
Physical format digital publication	An electronic publication disseminated to its target audience through a physical medium such as CD, floppy disk, DAT, etc.
Physical format publication	A publication disseminated to its target audience through a physical medium such as paper, microform, CD, etc.
PICMAN thesaurus	
Pin Yin	A Chinese Romanisation standard
Plug-in	Software needing to be downloaded to a user's workstation in order to access a given digital object
PNG	Portable Network Graphics
Postscript	Software facilitating the formatting of documents for printing
Precision	In the information service industry, the extent to which all items in a result set contain information relevant to the query
Pro Photo CD	A process or standard for the storage of images (captured on film and digitised by a film scanner) on compact disk developed by Kodak
Propagate	An Australian-based project which aims to develop a generally applicable conceptual model for the trading of intellectual property through the World Wide Web
Public/ private key	A cryptographic method that uses a two-part key that is made up of public and private components. To encrypt messages, the published public keys of the recipients are used. To decrypt the messages, the recipients use their unpublished private keys known only to them
Publication	Information packaged in any form for dissemination to a target audience.
PURL	Persistent Uniform Resource Locator
QuickTime	Multimedia architecture used by software tool vendors and content creators to create and deliver synchronised graphics, sound, video, text and music.
RAAM	Register of Australian Archives and Manuscripts
RAM	Random Access Memory

RDF	Resource Description Framework. A specification currently under development by the World Wide Web Consortium (W3C) that uses XML (the eXtensible Markup Language) to provide a standard for the exchange of structured data. Data schemas are uniquely identified through the XML 'namespace' concept, enabling applications supporting RDF to interpret the semantics of new data as they encounter it
Reading room user	A user accessing the Library's digital services through an integrated workstation in one of the Library's reading rooms
Real Audio	A technology using streaming technologies to allow live and on demand audio to be delivered and played in real time over the Internet
Realmedia	A technology using streaming technologies produced by RealNetworks, Inc. that handles any type of media, including audio, video, MIDI, text, animation and presentations
RealVideo	A technology using streaming technologies to allow live and on demand video to be delivered and played in real time over the Internet
Remote user	A user accessing the Library's digital services using an external network link
RLIN	Research Libraries and Information Network (US bibliographic network)
RMIT Publishing	The Australian company that operates the Informit Online service
Robot protocols	Information stored in an ASCII text file on a server specifying conditions for access by external indexing robots
RTSP	Real Time Streaming Protocol
Scanned image	A graphics image produced using a device that reads a printed page or physical image and converts it into a bitmapped pattern of dots
SDI	Selective Dissemination of Information. A service providing regular updates to a search. Also called 'current awareness'.
Search paradigm	A process enabling a user to search indexes generated from machine-readable text or structured data as part of the Resource Discovery process.
Serially-issued publication	A publication such as a newspaper, magazine or annual report that is issued on a serial basis
SGML	Standard General Markup Language (ISO 8879)
SGML	Standardised Generalised Markup Language
SICI	Serial Item and Contribution Identifier, defined in ANSI/NISO standard Z39.56
Single-page image	A scanned image produced from a single printed page or physical image
SMTP	Simple Mail Transport Protocol
Sonic Solutions	System currently used to manage the Library's audio recordings
Streaming technology	One-way transmission of video or audio data over a network in small packets that in which both the client and server cooperate for uninterrupted delivery
Structured data	Data organised into specific data elements according to a machine-readable data schema
Style sheet	A master page layout used in document creation systems such as word processing, desktop publishing and the Web
Supply 1	A service of the National Library of Australia which locates and obtains copies of documents from libraries and commercial document suppliers world wide
System management	A suite of software facilities to manage the operation and workflow environment involving availability management, performance management and security management
Target sServer	Server that accepts and processes a search initiated by a client
TCP/IP	Transmission Control Protocol / Internet Protocol
Telnet	Teletype over Network. A virtual terminal protocol application used over a TCP/IP network

Telstra	Australian telecommunications company
Tender	Any Tender lodged by a Tenderer on the basis of this Request for Tender
Tenderer	Any person considering or making an offer to provide a System in a Tender to this Request for Tender
The American Memory	An SGML DTD developed by the Library of Congress for historical documents
Thesaurus	A controlled and dynamic vocabulary of semantically and generically related terms which covers a specific domain of knowledge. Relationships may be synonymous or hierarchical
Thesaurus term	<i>See</i> Authority data
Thumbnail	A miniature representation of a page or image
TIFF	Tagged Image File Format. A bitmapped graphics file format developed by Aldus and Microsoft
TPC	Transaction processing Performance Council
UKOLN	UK Office for Library and Information Networking
Unicode	16 bit international character set developed by Unicode Inc
Union Catalogue profile	A Z39.50 implementation profile developed to support update of multiple servers through a single transaction in a union catalogue environment
UNIX	A multiuser, multitasking operating system written in C from AT&T that runs on a variety of computer systems from micro to mainframe
Update	(1) Any change to data in a file or database (2) New issues of a serially-issued publication
URL	Uniform Resource Locator (World Wide Web)
URN	Uniform Resource Name. A persistent identifier for electronic resources.
User	An person at a workstation. The capacity of a server may be described in terms of "Users", which shall mean the number of concurrent users connected to a server, or being served concurrently by it
USMARC	United States MARC, the first version of MARC, developed by the Library of Congress and still a primary international exchange format for cataloguing data
UTP	Unshielded Twisted Pair cabling
Version	A particular manifestation of a digital object or documentary resource.
Virtual union catalogue	A service providing access to information about the holdings of a group of libraries by broadcasting a search to
VRML	Virtual Reality Modeling Language
W3C	World Wide Web Consortium
Wade-Giles	A Chinese Romanisation standard
WAI	Web Accessibility Initiative
WAN	Wide Area Network
watermark	A pattern of bits embedded into a file to identify the source of the file
Wav	The native digital audio format used in Windows
WebZip	A PC-based product enabling the capture of electronic resources from the Web
Whois++	An indexing protocol which collects and collates indexing information from distributed servers for access via specialised index servers
Whole-item access	A service providing access to documentary resources through descriptions of the whole item.
WLN	Western Library Network. Supplier of software for current ABN system
Workstation	A personal computer from which an End User communicates with a file server or a central computer

WWW	World Wide Web
X.500	CCITT standard for directory services (ISO 9594)
XML	eXtensible Markup Language
XSL	XML Style Language
Xvision	A server for Microsoft Windows PCs that lets users display and run X Windows and text-based UNIX programs simultaneously with PC applications.
Z39.50	ANSI/NISO standard for information retrieval service definition and protocol specification. It allows an application on one host to query and retrieve data from databases on another host
Z39.50/ Whois++ gateway.	Software enabling the content of databases that conform to the Whois++ protocol to be searched using Z39.50
Z39.50/ X.500 gateway	Software enabling the content of databases that conform to the X.500 protocol to be searched using Z39.50
Z39.64	ANSI standard, also known as EACC, East Asian Character Code Set
ZedWeb Project	A collaborative project with the National Library of Australia, the Distributed Systems Technology Centre and the University of Queensland Library to develop a service linking Australian catalogues using Z39.50
Zip Disk	A 3.5" removable cartridge used with the Iomega Zip drive. Zip disks can store 25MB or 100MB, and are used to back up data or transfer data from one computer to another

G FURTHER INFORMATION

G.1.1 National Library of Australia

Information about the National Library of Australia's collections and services may be found at <http://www.nla.gov.au>. Documents of particular relevance to this project include:

Developing National Collections of Electronic Publications: Issues to be considered and recommendations for future collaborative actions. August 1998.
(http://www.nla.gov.au/staffpaper/int_issu.HTML)

Management and Preservation of Physical Format Digital Publications: a National Library Position Paper on the Role of Australian Legal Deposit Libraries. February 1998.
(<http://www.nla.gov.au/policy/physform.html>)

National Library Standards Activities (<http://www.nla.gov.au/services/standards.html>)

National Strategy for Provision of Access to Australian Electronic Publications. September 1996. (<http://www.nla.gov.au/policy/paep.html>)

PANDORA Project. (<http://www.nla.gov.au/pandora>)

G.1.2 Related initiatives

References to these projects are included below, for information only. This is a selective list only. There is a large amount of work in progress both in Australia and overseas. More information may be found through the Library's PADI (Preserving and Accessing Digital Information) site (<http://www.nla.gov.au/padi>).

American Memory (<http://memory.loc.gov/ammem>)

The American Memory pilot was the precursor to the United State's National Digital Library Program. The pilot, which ran from 1990 to 1995, "identified the audiences for digital collections, established technical procedures, wrestled with intellectual property issues, demonstrated options for distribution and began institutionalizing a digital effort at the Library of Congress".

ARCHES (<http://www.rlg.org/strat/projarch.html>)

ARCHES - Archival Test Bed and Server – is a two-year project begun by the Research Libraries Group (RLG) in the United States in 1996. It involves both an online repository for digital resources of all types and the software environment that makes the repository internationally accessible.

Australian Digital Theses Project (<http://www.library.unsw.edu.au/thesis/thesis.html>)

The aim of the project is to establish a distributed database of digital versions of theses produced by the postgraduate research students at the participating institutions. The theses will be available via the web. Participants are the University of New South Wales (lead institution), University of Melbourne, University of Queensland, University of Sydney, Australian National University, Curtin University of Technology and Griffith University.

Australian Government Locator Service (<http://www.naa.gov.au/govserv/agls>)

The AGLS metadata standard was developed in late 1997/ early 1998 to improve the visibility and accessibility of the services and information of Australian government departments and agencies over the Internet. It is a set of 17 descriptive elements based on the Dublin Core metadata standard.

Canadian Initiative on Digital Libraries (CIDL) (<http://www.nlc-bnc.ca/cidl>)

CIDL's mission is to "promote, coordinate and facilitate the development of Canadian digital collections and services in order to optimise interoperability and long term access to Canadian digital library resources."

CEDARS Project (<http://www.curl.ac.uk/cedars/info.shtml>).

The CEDARS (CURL Exemplars in Digital Archives) project is a digital preservation project funded in Phase 3 of the Electronic Libraries Programme (eLib) in the U.K. Begun in April 1998, CEDARS is a three-year project and aims to address the strategic, methodological, and practical issues of digital preservation. The project also aims to provide guidance to libraries in best practice for digital preservation. The universities of Leeds, Oxford and Cambridge are participating in the project on behalf of the Consortium of University and Research Libraries (CURL), an organisation comprising twenty university libraries and three national libraries.

COPEARMS Project (<http://www.ifla.org/VI/2/p5/>)

COPEARMS (Co-ordinating Project for Electronic Authors' Rights Management Systems) is co-financed by the European Commission (EC) under the Esprit Program. Its aim is to assist other projects and organisations in the development of electronic rights management systems (ERMS), in order to encourage interoperability between systems and to prevent duplication of research and development.

Digital Library Federation (<http://lcweb.loc.gov/loc/ndlf/>)

The agenda of the Digital Library Federation, constituted by fifteen leading research libraries in the U.S. as a charter organisation in August 1996, comprises the discovery and retrieval of digital information, intellectual property rights and the archiving of digital information. A key aim of the Federation is to advance the goal of creating a national digital library by fostering and facilitating a commitment to digital archiving among participants.

Dublin Core Metadata (http://purl.oclc.org/metadata/dublin_core)

The Dublin Core is a 15-element metadata element set intended to facilitate discovery of electronic resources. Originally conceived for author-generated description of Web resources, it has also attracted the attention of formal resource description communities such as museums and libraries.

EAD (Encoded Archival Description) (<http://lcweb.loc.gov/ead>)

This was a project initiated by the University of California, Berkeley, Library in 1993. The goal was to "investigate the desirability and feasibility of developing a non-proprietary encoding standard for machine-readable finding aids such as inventories, registers, indices, and other documents created by archives, libraries, museums, and manuscript repositories to support the use of their holdings." A stable XML-compliant version of the DTD (Version 1.0) was released in August 1998.

INDECS (<http://www.indecs.org/>)

INDECS is a European Commission project which seeks to develop a framework of metadata standards to support network commerce in intellectual property. It began in November 1998 and expects to present draft proposals to standards bodies in February 2000. The consortium is made up of most of the relevant international European rights bodies, including nine organisations representing rights owners, one company specialising in metadata management and an administrative partner.

Internet Archive (<http://www.archive.org/>)

The Internet Archive is an enterprise founded by Brewster Kahle with the aim of collecting and storing the public content of the Internet. It operates in conjunction with Alexa, client-based software that works with the user's browser to provide links to the archived copy when the original document is no longer available.

ISO Archiving Standards (<http://ssdoo.gsfc.nasa.gov/nost/isoas/>)

The Consultative Committee for Space Data Systems Panel 2 is coordinating the development of archiving standards for space and related data on behalf of the International Standards Organisation (ISO). Outcomes so far are summarised in: the Reference Model for an Open Archival Information System (OAIS) (CCSDS 650.0-W-1 White Book, Version 4, 18 September 1998).

Kulturarw Project (<http://kulturarw3.kb.se>)

This is a project of the Royal Library of Sweden begun in September 1996. It aims to test methods of collecting, preserving and providing access to Swedish electronic documents which are accessible online. They have decided on a different model to the selective approach of the National Library of Australia and aim to capture the whole of the Swedish web.

NEDLIB (<http://konbib.nl/nedlib>)

NEDLIB - Networked European Deposit Library - is a three-year project, which began in early 1998. The Royal Library of the Netherlands coordinates the consortium of nine European national libraries, a National Archive and three major publishers. NEDLIB is an outcome of the ELDEP recommendations (<http://www2.echo.lu/libraries/en/depo-rpt.html>) and results of related European Commission projects. The main goal is "to find ways to ensure that electronic publications and documents of the present can be used now and in the future."

Project Eva (<http://linnea.helsinki.fi/eva/english.html>)

The National Library of Finland/ Helsinki University Library coordinates this project, which has similar aims to the Kulturarw Project. The National Library of Finland is also a member of the NEDLIB consortia.

Propagate Project (<http://www.propagate.net>)

Propagate is an Australian-based project which aims to develop a generally applicable conceptual model for the trading of intellectual property through the World Wide Web. The Propagate model is based on the business model developed by the Imprimatur Project (<http://www.imprimatur.alcs.co.uk/>).

RDF (<http://www.w3.org/RDF/Overview.html>)

RDF (Resource Description Framework) is a specification currently under development by the World Wide Web Consortium (W3C) that uses XML (the eXtensible Markup Language) to provide a standard for the exchange of structured data. Data schemas are uniquely identified through the XML 'namespace' concept, enabling applications supporting RDF to interpret the semantics of new data as they encounter it.

URN (<http://www.ietf.org/html.charters/urn-charter.html>)

Uniform Resource Names (URNs) are persistent identifiers for electronic resources. The Internet Engineering Task Force (IETF) has set up a URN working group to specify a framework for URNs and to set up at least one resolution registry system and one namespace.

G.1.3 Papers and Reports

A Strategic Policy Framework for Creating and Preserving Digital Collections: A Report to the Digital Archiving Working Group by Neil Beagrie and Daniel Greenstein. (<http://adhs.ac.uk/manage/framework.htm>)

Arts and Humanities Data Service (AHDS). Creating a Viable Scholarly Resource. (<http://ahds.ac.uk/deposit/viable.html>)

Preserving Digital Information. Final Report of the Task Force on Archiving of Digital Information commissioned by the Commission on Preservation and Access and the Research Libraries Group. May 1996 (<http://www.rlg.org/ArchTF/>)

Studies in Digital Preservation. Seven studies funded by the Joint Information Systems Council (JISC) and published as British Library Research and Innovation Centre (BLRIC) on-demand reports (<http://www.ukoln.ac.uk/services/elib/papers/supporting/#blric>)

Uniform Resource Names (URNs) Next Generation Internet Identifiers, April 1998. CNI Spring 1998 Taskforce Meeting Handout. Leslie L. Daigle, Bunyip Information Systems Inc (<http://www.cni.org/tfms/1998a.spring/handout/LDaigle98Stf.html>)