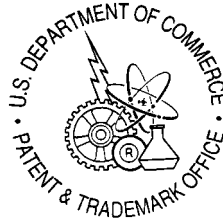


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OVERALL PLAN
FOR
ELECTRONIC RECORDS MANAGEMENT
OVER THE LIFE CYCLE OF
PATENT AND TRADEMARK CASE FILES

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FINAL

TABLE OF CONTENTS

1	INTRODUCTION	1
1.1	BACKGROUND	2
1.2	REFERENCE DOCUMENTATION.....	6
2	PURPOSE AND SCOPE	7
2.1	SCOPE.....	7
3	MANAGEMENT SUMMARY	8
3.1	LONG TERM ACCESS AND RETENTION	9
3.2	STRATEGIC VISION	10
3.3	RECOMMENDATIONS	11
3.4	SITP PROJECTS	13
3.5	REFERENCE DOCUMENTATION.....	15
4	DEFINITIONS	16
4.1	FEDERAL RECORDS.....	16
4.2	“RECORD COPY”	17
4.3	ELECTRONIC RECORD	18
4.4	PTO RECORDS	19
4.4.1	<i>Retention Periods</i>	20
5	LEGAL REQUIREMENTS	21
5.1	RECORDS MANAGEMENT	21
5.2	ELECTRONIC RECORDS AND SIGNATURES.....	22
5.2.1	<i>Statutory</i>	22
5.2.2	<i>Regulatory</i>	23
5.3	CONFIDENTIALITY AND INTEGRITY	24
5.4	ADMISSIBILITY	25
6	LIFE CYCLE OF ELECTRONIC RECORDS	28
7	BUSINESS PRINCIPLES	30
7.1	LONG-TERM ACCESS AND RETENTION	30

7.2	REGULATORY CHANGES.....	32
7.3	POLICIES AND PROCEDURES.....	33
7.4	TRAINING AND DOCUMENTATION.....	34
7.5	SECURITY.....	35
7.5.1	<i>Open vs. Closed Environments</i>	37
7.5.2	<i>Guidelines</i>	38
7.6	RECORDS DISPOSITION.....	39
7.6.1	<i>Guidelines</i>	40
8	OPERATIONAL REQUIREMENTS.....	42
8.1	A COMPLETE RECORD.....	42
8.2	CASE FILE CONTENT.....	43
8.3	CASE FILE MANAGEMENT.....	44
8.3.1	<i>Guidelines</i>	46
8.4	METADATA.....	47
8.4.1	<i>Guidelines</i>	47
8.5	FILE FORMATS.....	49
8.5.1	<i>Guidelines</i>	51
8.6	AUDIT TRAILS.....	52
8.6.1	<i>Guidelines</i>	53
8.7	MIGRATION.....	54
8.7.1	<i>Guidelines</i>	55
9	SITP PROJECTS.....	58
	APPENDIX A – PTO RETENTION SCHEDULES.....	60

1 INTRODUCTION

The electronic commerce initiatives issued by Secretary of Commerce Daley in a memorandum on December 17, 1997 defined specific organizational roles and responsibilities for achieving the initiatives and also acknowledging the leading role that the United States Patent and Trademark Office (PTO) had already taken in formulating intellectual property policy. These initiatives have been incorporated into the "Reinvention Goals for 2000" which establishes the PTO's vision for the 21st Century - - "to lead the world in providing customer-valued intellectual property rights that spark innovation, create consumer confidence and promote creativity."

To accomplish this vision, two strategic goals have been defined that are designed to establish a leadership role for the PTO in electronic commerce:

- Play a leadership role in the intellectual property rights policy, including trade-related intellectual property issues for which we have responsibility.
- Provide our customers with the highest level of quality and service in all aspects of PTO priorities.

In order to accomplish these strategic goals, the PTO has defined three operational goals that are designed to establish a leadership role in electronic commerce:

GOAL 1

We will reduce the PTO's trademark processing time to three months to first action and we will offer electronic filing capabilities to our customers.

An electronic trademark application will be placed on the PTO's web site, and trademark customers will be able to file applications and related papers electronically.

GOAL 2

We will test reengineered processes and automated systems, and be ready to deploy electronic

processing of patent applications in 2003. We will reduce PTO processing time for patent original inventions to 12 months in 2003 (and for 75% of all inventions in 1999).

GOAL 3

We will partner with the World Intellectual Property Organization (WIPO) to achieve electronic filing of Patent Cooperation Treaty (PCT) applications and, in 2000, electronically receive and process PCT applications at the PTO.

There are legal, operational and technological forces which will require that the policies, principles, processes, requirements and guidelines for managing electronic patent and trademark case files be addressed in order to make the transition from a paper to an electronic workplace successful.

1.1 BACKGROUND

Currently, the methods and mechanisms used to protect the confidentiality, preserve the integrity and provide for long-term retention of the paper-based patent application files are embodied in a program of internal policies and operational procedures and methods, primarily built around the construction of the case file plus personnel and site security. The main attributes of these methods and mechanisms are:

- All documents related to a patent or trademark application are maintained in a paper “case file” (also referred to as the “file wrapper”) as a means of: a) preserving completeness and integrity, b) protecting the information from perusal by unauthorized persons, and c) providing for filing, access and routing . Some patent applications are so large that, in conjunction with related materials, are referred to as “bulkies” or “jumbos”, and may require multiple file wrappers or other storage containers to store the collateral documentation for reference and processing.

- Accessibility is controlled by identifying a patent or trademark case file using an “information neutral” application number, thereby making it very difficult for anyone outside of the PTO to have knowledge regarding the exact location of and, as a result, gain access to, a specific patent file wrapper or piece of patent or trademark information.
- Confidentiality of patent information is protected during the pre-grant period by ensuring that all communications and dissemination of requested information is delivered from the PTO to a specified address that is originally provided by the applicant as part of the bibliographic data supplied with the application transmittal, and that each communication is properly packaged, sealed and addressed for dissemination.
- Professional records management practices and oversight are employed to produce and maintain records retention policies and schedules, and to oversee and monitor the preservation of patent and trademark information for the full retention life.

In an electronic commerce environment, all of these mostly manual processes, procedures and controls will need to be managed using computer-based technology and applications. The volume and bulkiness of paper-based case files is an inherent deterrent to intentional theft or destruction. However, in an electronic environment, once the security of the systems is breached, it could be possible to off-load electronic patent and trademark case files in bulk without immediate detection.

With the PTO’s plans and programs progressing towards production electronic filing, processing and long-term management of patent and trademark applications by the year 2003, there is an urgent need to define the issues, requirements and guidelines that will provide for the effective management of electronic case files and records over their full life cycle. The primary forces driving this need are:

- The PTO is required by law to provide for the adequate management of all records, including electronic records. The law also requires that the integrity of all records be preserved over the full life cycle, and that the confidentiality of the records be protected, as required.
- Just as the manual management of paper records is an integral part of the overall business process today, electronic records management must now also be viewed as an integral part of the application information systems and information systems infrastructure, including accessibility, backup and recovery, and long-term retention.
- Case file retention periods may be permanent or for tens of years. The PTO is required to retain registered trademarks until they expire, or are canceled or abandoned. Abandoned patent applications are retained by the PTO for 20 to 23 years. The PTO has the responsibility to retain issued patent case files for 40 years, after which they are transferred to the National Archives and Records Administration (NARA) for permanent retention.
- Technology is certain to advance and change with a frequency that will require multiple migrations of electronic patent and trademark case files to new storage media and to new hardware/software and application information systems during the life cycle.

The management of electronic records information has many similarities with the traditional management of digital data in information systems, such as backup and recovery, access security, and retrieval and viewing. However, there are also certain areas unique to electronic records management: long-term electronic retention of records (in many cases permanently); long-term accessibility (tens of years); audit trails of events and actions related to a case file or record; migration of electronic case files and records to new storage media; transfer to new hardware, software, and application systems; and unique electronic case file and record metadata that provide the information needed for long-term accessibility and transferability.

This report addresses the overall principles and requirements for the management of electronic patent and trademark case files and records over the full life cycle. It is divided into nine sections, including this Introduction section:

2. Purpose and Scope
3. Management Summary
4. Definitions
5. Legal Requirements
6. Life Cycle of Electronic Records
7. Business Requirements
8. Operational Requirements
9. SITP Projects

1.2 REFERENCE DOCUMENTATION

The information and recommendations presented in this Management Summary and in other sections of this report are based on the following, more detailed studies and analyses performed by Cohasset Associates as part of Task Order Statement 98-03, Task Number 56-PAPT-8-05089, *Life Cycle Management of Electronic Patent and Trademark Records*.

Title	Date	Deliverable No.
Checklist of Requirements for Electronic Records Management Over the Life Cycle of Patent and Trademark Case Files	2/26/99	98-03-6
Assessment of File Formats to Support the Life Cycle Management of Electronic Patent Case Files	2/26/99	98-03-8
Case File Content – Analysis of Records to be Retained in Patent and Trademark Case Files	2/26/99	98-03-9
Long-term Access and Migration Strategy for the Life Cycle Management of Electronic Patent and Trademark Case Files	2/26/99	98-03-10
Metadata Requirements for Long-term Access and Retention of Electronic Patent and Trademark Case Files	2/26/99	98-03-11

2 PURPOSE AND SCOPE

The purpose of this report, *Overall Plan for Electronic Records Management Over the Life Cycle of Patent and Trademark Records*, is to provide the PTO with issue definition, research, and analysis and to set forth the principles, requirements and guidelines for managing electronic patent and trademark case files and records over the full life cycle.

2.1 SCOPE

The scope of this report is to address the full life cycle of electronic records that only relate to patent and trademark case files and associated records. While many of the requirements and approaches stated herein may be applicable to other electronic records at the PTO, there is no intent for this content of this report to be applied to other than electronic case files and records.

The scope also encompasses the complete life cycle of an electronic record. The life cycle is defined as being: from the point in time that a record is preserved as evidence of a PTO business transaction - - from the time of receipt or creation and commitment to the electronic case file - - until the PTO scheduled retention period has ended or the case file has been transferred to the National Archives and Records Administration (NARA).

3 MANAGEMENT SUMMARY

Currently, the patent and trademark business processes act upon paper-based records, supported by tracking and locator databases, with records management processes being mostly manual in nature. The transition - - the paradigm shift - - to Electronic Records Management (ERM) requires that the all manual-based functions now be handled electronically, and that improvements inherent with electronic records, such as desktop accessibility, computer-driven work flow, computer-based security, and electronic migration and transfer of records, be exploited. The objective of this report is to address issues, define requirements and recommend guidelines for managing electronic patent and trademark case files and records over the full life cycle that are in support of the electronic workplace goals of the PTO and the 1999 Strategic Information Technology Plan.

The PTO is required to provide for the management of records, including electronic records, by Federal statutes (44 U.S.C 33) and regulations (36 CFR 12), as guided by the 1997 PTO Comprehensive Records Schedule. Electronic records must also meet the tests of legal admissibility under the Federal Rules of Evidence and established case law, since these rules and precedents provide the basis for admissibility of records in Federal courts and in patent and trademark interference and appeal proceedings.

Electronic case files for selected trademarks and for all granted patents are required to be retained permanently. Registered trademark case files must be retained until they are canceled or expire, and granted patent case files are retained for 40 years by the PTO, after which they are transferred to NARA. These long retention periods require that the methods and mechanisms used to provide accessibility and preservation of electronic patent and trademark records transcend frequent changes in media and systems technology, as well as changes in or replacements of application systems and file formats. As such, solutions for managing electronic case files must not be wedded to a specific technology or AIS. The strategy for information infrastructure and AIS development should recognize that the electronic records and case files will be retained over

many infrastructure upgrades, through many Application Information Systems (AIS) enhancements and replacements. As such, the strategy for managing electronic records should be independent of infrastructure technology and AISs wherever possible.

3.1 LONG TERM ACCESS AND RETENTION

Long-term access and retention of electronic records is the fundamental requirement for meeting legal and operational needs and entails the following key requirements:

- **Completeness and accuracy**– capturing the complete content, structure and context of the documentary material; employing quality control and assurance steps to ensure that an accurate record of the documentary materials is acquired.
- **Reliability** – all records-related processes are performed in a controlled and consistent manner; by professionals who have been trained; with comprehensive process documentation; measured against goals.
- **Authenticity** – over the full life cycle, the record remains “what it purports to be”; that integrity is preserved; that creator or sender can be authenticated.
- **Processibility** – for the full retention period, the ability to render an accurate representation of the electronic record on a viewing screen or printer; the ability to maintain a computer-only readable record (such as a digital certificate) in processible form.
- **Transferability** – the ability to migrate (renew or transfer) electronic patent and trademark case files and associated metadata without loss of content, structure or context due to media obsolescence or upgrades and replacements of systems software or hardware, applications or file formats (such as a transfer to NARA).

ERM must be viewed as a set of regulations, policies, disciplines, processes and system functions that permeate the business processes, application information systems and information systems

infrastructure over the full life cycle. This includes: ensuring accessibility; preserving integrity; protecting confidentiality (as required); keeping audit trails; backup and recovery of electronic records, metadata and audit trails; destruction or transfer to the National Archives. Preserving integrity and confidentiality, as required, is also essential for protecting the intellectual property rights and the value of the inventor's business assets or the registrant's trademark.

3.2 STRATEGIC VISION

ERM must be addressed as an single, integrated, enterprise-wide approach across AISs and the information systems infrastructure. ERM principles and requirements will be implemented and evolved as an set of policies, procedures, functions and services that are integrated with the PTO's policies and regulations, business processes, information systems infrastructure, and application information systems for the electronic patent and trademark workplaces.

The short term and longer term goals for ERM are:

Short term (one year) – The electronic records management issues and requirements related to reengineered and improved patent and trademark electronic workplace processes, information infrastructure and AISs will be identified, defined and resolved. The Life Cycle Management (LCM) documentation will reflect the issues, requirements and resolutions based on the *Checklist of Requirements for Electronic Records Management Over the Life Cycle of Patent and Trademark Case Files*.

Long-term (two-three years) – electronic records management requirements, functions and services will be incorporated into all implementation and testing of prototypes, pre-production and production electronic patent and trademark business processes, information infrastructure and AISs.

3.3 RECOMMENDATIONS

Electronic records management must be addressed as an single, integrated, enterprise-wide approach across AISs and the information systems infrastructure, i.e., there should be one electronic record copy, one metadata profile set, one audit trail, one security approach, one set of file format standards. Fragmented or self-contained implementations will eventually lead to complex and costly solutions for achieving long-term accessibility and preservation requirements, such as backup and recovery, audit trail management, and migration or transfer. The following recommendations are provided as a means of achieving an integrated and comprehensive approach for managing electronic case files and records:

1. LCM documentation standards should be modified to include specific instructions for incorporating electronic records management concepts and requirements as a separately identified section in the System Boundary Document, Concept of Operations, Data Management Plan, Requirements Statement and Requirements Specifications.
2. Regulations and policies and procedures should be updated or augmented to reflect the legal and best practice requirements for managing electronic records.
3. Professional records management personnel and practices should be employed to produce and maintain records retention policies and schedules, and to oversee and monitor the preservation of electronic patent and trademark information for the full life cycle.
4. The complete content, structure and context of each electronic record should be captured. All of these elements of a record are important for establishing authenticity and ensuring the accurate reproduction of the record on a display screen or printer.
5. Only one record copy of each electronic documentary materials should be retained and stored in the electronic case file. All other working files or non-record documents should be destroyed as specified. This approach ensures that only the

latest or final version of a record is stored and accessed, that the process of migration and transfer is simplified, and that the risk of high cost, high risk responses to FOIA and legal discovery motions are substantially reduced.

6. Metadata related to electronic records management should be encapsulated as part of the electronic case file as a means of simplifying accessibility, audit trail management, security, and migration and transfer processes. Six electronic records metadata profiles are recommended: Case File, Case File Record, Use History, Reformat, Copy and Transfer.
7. Reliable transmission and access security are mandatory for meeting the requirements of preserving integrity, protecting confidentiality, as required, and establishing ongoing authenticity. Security levels must be matched to the sensitivity level of the information and the risk of communication, access and storage being compromised, such as differentiating between open and closed communication systems. Protection and preservation mechanisms for electronic records should be an integral part of the overall security policy of the PTO. Access controls and authentication should be on a “least privilege” basis and should reflect the function/role of the individual as a means of preventing unauthorized access and viewing of pending and abandoned patent applications and for preserving the integrity of electronic records throughout the life cycle.
8. A single audit trail should be populated for each access or other event or action that could potentially result in modification, loss, misuse or destruction of an electronic record - - it is recommended that the Use History metadata profile be employed for the audit trail and that it be encapsulated within the electronic case file.
9. Quality control and assurance steps should be an integral part of all acquisition or capture processes, including image scanning as well as electronic receipt and creation, to ensure that accurate and complete records and metadata are being stored. Quality assurance should include running validation testing, using test

cases, both during each development stage and periodically during the production process to ensure that AISs and the information infrastructure are performing as specified.

10. File formats must provide for long-term processibility (rendering on a computer screen and printer) and transferability (from one application environment to another). The Extensible Markup Language (XML), the XML Scalable Vector Graphics extension (.SVG) and other pertinent XML complex work unit extensions are recommended as the long-term file format standards.
11. Training and documentation are particularly important business practices for achieving a successful transition of business practices and personnel from the current paper-based records environment to electronic records management processes that are computer-controlled. Ongoing training of personnel and comprehensive documentation of policies and procedures are essential elements of being able to meet the tests of legal admissibility, particularly in offering proof that the processes and systems employed are accurate and reliable and, as such, trustworthy.

LCM documentation standards and procedures should be updated to ensure that ERM concepts and requirements are distinctly and clearly reflected.

3.4 SITP PROJECTS

The 1999 Strategic Information Technology Plan (SITP) defines specific tasks for incorporating the issues, requirements and solutions for managing electronic records into the patent and trademark business processes, information infrastructure and AISs for the electronic workplace. The following tasks are identified in the 1999 SITP, Chapter 5. Infrastructure Information Technology Initiatives, Section 5.6.3.1 Electronic Recordkeeping Project:

Tasks/Products	Initial Projection	Completion Dates	
		Current Projection	Actual
Begin Project	12/1998	12/1998	10/1998
Identify ERM Requirements for Trademark Business Operations	02/1999		
Implement Procedural and Information Technology Solutions to Address ERM in the Trademark Area	11/99		
Identify ERM Requirements for all other PTO Business Operations	09/99		
Implement Procedural and Information Technology Solutions to Address ERM throughout the PTO	06/2001		

In support of the SITP task above, and in support of the vision and near term goals for ERM, the following sub-tasks are recommended to be performed in the near term:

Tasks/Products	Initial Projection	Completion Dates	
		Current Projection	Actual
ERM Systems Architecture and Guidelines. Perform an analysis and provide recommendations regarding the systems architecture and guidelines for life cycle management of patent and trademark electronic records in relationship to and integrated with the overall PTO strategy for electronic file wrapper management (e.g. TEAM), data storage and metadata management (PALM+, TRAM+), audit trail creation and management, and long-term retention and migration.	TBD		
ERM Policies and Procedures Identify and draft policies that would guide the implementation and operational aspects of electronic patent and trademark case files and records. Identify procedural areas that require specific documentation and training to be	TBD		

developed in order to meet legal requirements and best practice operations.			
<p>ERM Transition Educational Tool</p> <p>Develop an educational tool that explains the importance of electronic records management in the context of the patent and trademark electronic workplace, and that addresses the major paradigm shifts and issues, with PTO-specific example solutions, that are involved in the transition to the electronic workplace. Options to be considered are a video and/or interactive computer-based training (CBT) tool.</p>	TBD		

3.5 REFERENCE DOCUMENTATION

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4 DEFINITIONS

It is important to understand what is considered to be a “record” within the laws and regulations of the Federal Government and to define what is generally deemed to be the “legal” or “official” record copy. In this overall context it is also relevant to understand how Federal regulations define and proscribe handling of “non-records” and “working files.”

The following are definitions provided by statutes and regulations governing the definition of records and records management for Federal agencies.

4.1 FEDERAL RECORDS

Documentary materials is a collective term for records and non-record materials that refers to all media on which information is recorded, regardless of the nature of the medium or the method or circumstances of recording. (36 CFR §1220.14 General Definitions)

The point in time when documentary materials become a record is defined in 36 CFR §1222.34

Identifying Federal Records:

(b) Record status. Documentary materials are records when they meet both of the following conditions:

(1) They are made or received by an agency of the United States Government under Federal law or in connection with the transaction of agency business; and

(2) They are preserved or are appropriate for preservation as evidence of agency organization and activities or because of the value of the information they contain.

A Federal Record is defined in 44 USC § 3301:

Records include all books, papers, maps, photographs, machine-readable materials, or other documentary materials, regardless of physical form or characteristics, *made or received* by an agency of the United States Government under Federal law or *in*

connection with the transaction of public business and preserved or appropriate for preservation by that agency or its legitimate successor as evidence of the organization, functions, policies, decisions, procedures, operations, or other activities of the Government or because of the informational value of the data in them. Library and museum material made or acquired and preserved solely for reference or exhibition purposes, extra copies of documents preserved only for convenience of reference, and stocks of publications and of processed documents are not included. (italicized emphasis added)

Working files are documentary materials that can be deemed “appropriate for preservation” when their status meets the criteria set forth in 36 CFR §1222.34:

(c) Working files and similar materials. Working files, such as preliminary drafts and rough notes, and other similar materials shall be maintained for purposes of adequate and proper documentation if:

(1) They were circulated or made available to employees, other than the creator, for official purposes such as approval, comment, action recommendation, follow-up, or to communicate with agency staff about agency business; and

(2) They contain unique information, such as substantive annotations or comments included therein, that adds to a proper understanding of the agency’s formulation and execution of basic policies, decisions, actions or responsibilities.

4.2 “RECORD COPY”

36 CFR §1222.34 (a) states the importance of properly distinguishing between records and non-record materials:

(a) *General.* To ensure that complete and accurate records are made and retained in the Federal Government, it is essential that agencies distinguish between records and nonrecord materials by the appropriate application of the definition of records (see 44 U.S.C. § 3301 and 36 CFR § 1229.14) to agency documentary materials. Applying the definition of records to most documentary materials created or received by agencies presents few problems when agencies have established and periodically updated recordkeeping requirements covering all media and all agency activities at all levels and locations.

In the field of records management, the record that is stored and managed as evidence of activities or events of the PTO’s patent and trademark programs is referred to as the “record copy”. In selected regulations (e.g. 36 CFR §1234.22 (a)) there is also reference made to an

equivalent term, the “official file copy.” Essentially, 44 USC §3301 defines *record copy* by defining what is to be considered a *non-record*: “extra copies of documents preserved only for convenience of reference . . . are not included”.

Also, working files are not considered a record copy unless they meet the criteria delineated in 36 CFR §1222.34 (c) (see above - Section 4.1 Federal Records).

Certain types of documentary materials are not considered to meet the definition of a record copy. As generally defined in 36 CFR §1222.34 (f):

Nonrecord materials are those Government-owned documentary materials that do not meet the conditions of record status (per 36 CFR 1222.34 (b)) or that are specifically excluded from status as records by statute (44 U.S.C. 3301) statutory definition of records (Section 3301 of reference (d)) or that have been excluded from coverage by the definition. Excluded materials are *extra copies of documents kept only for reference*, stocks of publications and processed documents, and library or museum materials intended solely for reference or exhibit. (italicized emphasis added)

From the perspective of 44 U.S.C. §3301 and 36 CFR §1222.34 (f) as detailed above, a record must meet the following tests:

- Made or received in connection with the transaction of public business, and
- Preserved or appropriate for preservation by that agency - - as *evidence* of the organization, functions, policies, decisions, procedures, operations or other activities, or because of their informational value.
- Be the primary copy, not a copy kept only for reference.

Otherwise it is considered a non-record.

4.3 ELECTRONIC RECORD

An electronic record is generally defined within the context of a Federal record, but with the unique characteristic of being a digital representation or in a form that only a computer can process.

As defined in 36 CFR §1234.2:

Electronic record means any information that is recorded in a form that only a computer can process and that satisfies the definition of Federal record in 44 USC § 3301.

36 CFR §1234.1 provides a definition regarding the scope of an electronic record:

This part establishes the basic requirements related to the creation, maintenance, use and disposition of electronic records. Electronic records include numeric, graphic, and text information, which may be recorded on any medium capable of being read by a computer and which satisfies the definition of a record. This includes, but is not limited to, magnetic media, such as tapes and disks; and optical disks. Unless otherwise noted, these requirements apply to all electronic records systems, whether on microcomputers, minicomputers, or main-frame computers, regardless of storage media, in network or stand-alone configurations. . . .

4.4 PTO RECORDS

Using the definition above, it can be stated that any documentary material becomes a record when it is appropriate for preservation as evidence of a regularly conducted business activity by the PTO.

Essentially, all incoming documents from applicants to the PTO, whether paper or electronic, that are materially related to a patent or trademark case file are record copies because they are: (a) evidence of transacted business at the PTO, and (b) represent what an applicant would have considered to be their record copy at the time of submission to the PTO.

Any document created by the PTO when finalized and communicated to an applicant and/or otherwise stored to a patent or trademark case file is a record copy.

Also included as record copies are working files that “were circulated or made available to employees other than the creator for official purposes”, and “contain unique information . . . that adds to understanding of . . . basic policies, decisions, actions or responsibilities” (emphasis added). This is independent of whether or not the records were intended to be managed as part of an electronic patent or trademark case file, and should be committed to the case file. This definition also implies that all working files created and kept solely by an examiner, for instance,

for their own personal reference would not be considered a record copy and would not need to be committed to the case file.

However, working files that have not been committed as a record copy to a case file are subject to legal discovery, and perhaps the Freedom of Information Act (FOIA). The working files may need to be produced as part of an interference or appeal proceeding, or in a Federal court independent of whether they have been committed as a record to a case file.

4.4.1 Retention Periods

The 1997 PTO Comprehensive Records Schedule delineates the retention periods for patent and trademark case files (see Appendix A).

Case files that have a permanent retention period, essentially all issued patent files and selected cancelled, expired or abandoned trademark files, are transferred to NARA at the end of the PTO's period of custody (e.g., after 40 years in the case of issued patents or after 6 years in the case of selected cancelled or expired trademark files).

For case files that are not required to be transferred to NARA, such as abandoned patent case files, the PTO has final disposition responsibility.

5 LEGAL REQUIREMENTS

The PTO is required by law to provide for the adequate management of all records, including electronic records. The law also requires that the integrity of all records be preserved over the full life cycle, and that the confidentiality of the records be protected, as required. The legal requirements for admissibility in a Federal court or in a patent or trademark interference or appeal proceeding must also be met.

5.1 RECORDS MANAGEMENT

The 1997 PTO Comprehensive Records Schedule states that: “records created and maintained in every office are critically important to document the evidence of the functions, policies, decisions, procedures and operations of the PTO. The disposition (retention, destruction, or permanent maintenance) of these materials is governed by 44 USC 33 and 36 CFR 12. In part, the law states, ‘. . . records may not be removed from Federal custody or destroyed without regard to the provisions of the agency records schedule (SF 115) approved by the National Archives and Records Administration (NARA) or the General Records Schedule (GRS) issue by NARA’”. The 1997 PTO Comprehensive Records Schedule sets forth the retention requirements for patent and trademark case files.

36 CFR §1220.34 requires each Federal agency to institute adequate management controls of its records:

36 CFR §1220.34. **Creation of records.** Adequate records management controls over the creation of Federal agency records shall be instituted to ensure that the agency functions are adequately and properly documented . . .

OMB Circular A-130 and records management best practice policies and procedures define

records management as encompassing the full life cycle of a record, from the time of creation or receipt through destruction or transfer to NARA.

OMB Circular 130 - Management of Federal Information Resources, Section 6.s., states:

The term "Records Management" means the planning, controlling, directing, organizing, training, promoting, and other managerial activities involved with respect to *records creation, records maintenance and use and records disposition* in order to achieve adequate and proper documentation of the policies and transactions of the Federal Government and effective, economical management of agency operations. (emphasis added)

5.2 ELECTRONIC RECORDS AND SIGNATURES

There is a growing base of acceptance for electronic records and electronic signatures in statutes and regulations.

5.2.1 Statutory

The legal footing for the electronic filing of patent and trademark applications has been determined to lie in the statutes of the United States. For some time, the statutes had been interpreted as prohibiting various electronic commerce initiatives.

However, on February 20, 1998, the Solicitor of the USPTO issued a Memorandum stating that the wording in Title 1 U.S.C. §1, Title 35 U.S.C. §111(a)(1), and Title 15 U.S.C. §1051 (a)(1)(A) "does not preclude the PTO from electronically accepting and processing applications."

The Government Paperwork Elimination Act, Title XVII of Pub. L. 105-277

The United States Congress passed *The Government Paperwork Elimination Act*, Title XVII of Pub. L. 105-277, on October 1, 1998. This Act addresses the use of electronic signatures and electronic records in the Federal government. This bill is very significant since it is the first Congressional action, among a number that have been drafted, which has been passed into law.

This act provides certain guidelines for the use of electronic signatures and electronic records by Federal agencies. Among these guidelines is a statement that provides for the legal effectiveness of electronic records and electronic signatures.

ENFORCEABILITY AND LEGAL EFFECT OF ELECTRONIC RECORDS.

Electronic records submitted or maintained in accordance with procedures developed under this title, or electronic signatures or other forms of electronic authentication used in accordance with such procedures, shall not be denied legal effect, validity, or enforceability because such records are in electronic form.

The Office of Management and Budget (OMB) is in the process of developing draft guidelines for agencies to provide them with direction on the application of the Act.

A number of other bills have been drafted, but not yet passed, such as HR 2991 “Electronic Commerce Enhancement Act of 1997”, and HR 2937 “Electronic Financial Services Efficiency Act of 1997” that provide similar definitions and guidelines.

5.2.2 Regulatory

The only existing regulatory precedent for electronic records and electronic signatures is the issuance by the Food and Drug Administration (FDA) of regulation 21 CFR, Part 11 – *Electronic Records; Electronic Signatures*, on March 11, 1997. There now are a number of other proposed changes to regulations that address the use of electronic records and electronic signatures by Federal agencies, such as the U.S. Department of Health and Human Services, Health Care Financing Division

The regulations in 21 CFR 11 define the basis upon which the FDA will accept the submission of electronic records containing electronic signatures. Among other areas, it defines different levels of electronic signature requirements depending on whether the electronic signature is used in an “open” or “closed” environment. For an “open” system, the FDA ruling calls for the use of “additional measures such as document encryption and use of appropriate digital signature standards.” For “closed” systems, the FDA only calls for “procedures and controls designed to

ensure the authenticity . . . and to ensure that the signer cannot readily repudiate the signed record as original.”

The Electronic Records Subcommittee of the Interference Committee of the American Intellectual Property Law Association (AIPLA) has issued a document entitled *Guidelines-Final* that provides direction for the admissibility of electronic records and electronic signatures in a PTO interference proceeding. These guidelines closely follow the FDA regulations stated in 21 CFR 11.

5.3 CONFIDENTIALITY AND INTEGRITY

United States statutes and regulations state that, as appropriate, the confidentiality of patent information must be protected, and that the integrity of patent and trademark information must be maintained for the full retention period of the case file:

Confidentiality: means ensuring that information is not disclosed or revealed to unauthorized persons.

Maintaining the confidentiality of patent records, as required in the process, is mandated in Federal law (35 U.S.C. §122. **Confidential status of applications**, and 37 CFR §1.14. **Patent application preserved in secrecy**). Confidentiality must be maintained until a patent is issued or, in the case of abandoned patents, for the full retention life of the information (20-23 years after abandonment [closure], or when cited by another issued patent, for the retention life of the issued patent case file, generally permanently).

Integrity: means ensuring consistency and completeness of information, in particular, preventing alteration or unauthorized destruction of information.

Maintaining the integrity of patent and trademark records is required by law (18 U.S.C. §2071. **Concealment, removal, or mutilation generally**). The integrity of the records in the patent case file must be maintained for the full retention life of the file which, in the

case of issued patents, and for abandoned patents referenced by an issued patent, is permanently.

Further, 36 CFR Part §1234 - - Electronic Records Management, states a requirement for maintaining the integrity of electronic records:

36 CFR §1234.22 **Creation and use of text documents**, (a) Electronic records systems that maintain the official file copy of text documents on electronic media shall meet the following minimum requirements:

...

(2) Provide an appropriate level of security to ensure integrity of the documents;

...

Finally, it is equally important that the inventors, and the attorneys and agents who may represent them, trust the PTO to ensure the confidentiality and maintain the integrity of their highly valuable and potentially confidential intellectual property information.

5.4 ADMISSIBILITY

In addition to meeting the requirements of statutes and regulations, it is of utmost importance that, when offered as evidence in Federal courts, and before the Board of Patent Appeals and Interferences and the Trademark Interferences and Appeals Board, electronic patent records produced in the normal course of business meet the tests of admissibility.

The Federal Business Records Act (FBRA), the Federal Rules of Evidence (FRE), and the Federal Uniform Photographic Copies of Business and Public Records as Evidence Act (Federal UPA) and related case law generally establish the grounds for: (a) overcoming objections to the Hearsay and Best Evidence rules, and (b) establishing the admissibility in evidence of copies or duplicates of records (data compilations) that were created or received by a computer system in the normal course of business. Admissibility of records, including electronic records, in matters before the Board of Patent Appeals and Interferences and the Trademark Interferences and Appeals Board is governed by the FRE.

Generally, the fundamental tests of admissibility relate to establishing the:

- authenticity,
- accuracy,
- reliability, and
- overall trustworthiness

of the computer system and related processes, which created, received, processed, stored and reproduced the information being offered into evidence.

The overwhelming prevalence of electronically created, stored and reproduced (copies or duplicates of) records has been recognized by the judicial system:

... [N]o court could fail to notice the extent to which business today depends on computers for a myriad of functions. Perhaps the greatest utility of a computer ... is its ability to store large quantities of information, which may be quickly retrieved on a selective basis. Assuming the properly functioning computer equipment is used, once the reliability and trustworthiness of the information put into the computer has been established, the computer printouts should be received as evidence of the transactions covered by the input.¹

Being able to demonstrate that the records being offered into evidence are authentic and that they were accurately and reliably produced in the ordinary course of business are critical to admissibility:

[T]he foundation for admission of computerized records consists of showing the input procedures used, the tests for accuracy and reliability and the fact that an established business relies on the computerized records in the ordinary course of carrying on its activities. The ... opposing party then has the opportunity to cross-examine concerning company practices with respect to the input and as to the accuracy of the computer as a memory bank and retriever of information ... [T]he court must “be satisfied with all reasonable certainty that both the machine

¹ United States vs. Russo, 480 F.2d 1228, 1239 (6th Cir. 1973).

and those who supply the information have performed their functions with utmost accuracy.” ... [The] trustworthiness of the particular records should be ascertained before they are admitted and the burden of presenting an adequate foundation for receiving the evidence should be on the parties seeking to introduce it rather than upon the party opposing its introduction.²

However, the test of authenticity is less straightforward, and is one of the most critical and potentially difficult tests of admissibility as it relates to electronic records reproduced from computer-based systems. Authenticity as set forth in the FRE is defined as:

[T]he requirement of authentication or identification as a condition precedent to admissibility is satisfied by evidence sufficient to support a finding that the matter in question is what its proponent claims.³

This Rule suggests that, in addition to having been accurately and reliably created, received or inputted, and stored, the record was:

- Created or transacted and/or communicated by an identifiable and verifiable party,
- Created and/or received in the normal course of business at a specified point in time at or near the time of the transaction, and
- Maintained in its originally created or received form and, as such, protected from any alteration, loss or misuse.

Essentially, that the content, structure and context of the electronic record, as originally stored, can be accessed and accurately reproduced over the full retention period.

Beyond passing the tests of admissibility in evidence, electronic records will also be tested relative to their weight as evidence, particularly in cross examination by opposing counsel.

² United States vs. Russo, 480 F.2d 1228, 1239 (6th Cir. 1973) (quoting United States v. De Georgia, 420 F.2d 889, 895 (9th Cir. 1969)).

³ Federal Rules of Evidence (FRE) Rule 901 (a).

6 LIFE CYCLE OF ELECTRONIC RECORDS

The life cycle of an electronic record is from the point in time that it is preserved as evidence of a PTO business transaction - - from the point in time of receipt or creation and commitment to the electronic case file - - until the period of PTO retention responsibility has ended.

The life cycle of a patent or trademark case file starts at the time the case file or file wrapper is created and the as-filed application, generally the first “evidence” of the patent or trademark business process, is committed to the case file. For purposes of defining the requirements for long-term access and retention, the life cycle of electronic case files and records is segmented into two primary usage periods, “in-process and use” and “maintenance and use.”

1. **In-Process and Use:** This period defines the “pending” period for a patent or trademark application. During this period, the electronic file wrapper and all electronic records are being actively managed by the AISs and associated work flows that control the filing, reviewing, examination, and issuance (or abandonment) of patents and trademarks.
2. **Maintenance and Use:** This period starts at the time a patent is issued, a trademark is registered or a patent or trademark application is abandoned. The retention period for a case file does not begin until it enters this stage, however, statutes and regulations dictate that the integrity of the patent and trademark records be preserved from the point of receipt or creation.

In the current paper process, this is the point in time when a patent or trademark case file is transferred to a PTO repository and enters a “maintenance” period. For those case files that have a permanent retention period, they are transferred to NARA at the end of the PTO’s period of custody (e.g., 40 years in the case of issued patents).

While electronic records may be added to the case file during this period, such as

assignments or address changes, or certain metadata may be modified, such as the address of the applicant or inventor, the case file is not being “processed” during this period by any mainstream patent or trademark AIS or work flow application. It is also during this period when most of the migration and disposition events need to be managed, such as media renewal or transfer to another hardware, software or application system, or destruction of the file. Exceptions that may occur during this period are the “reactivation” of an electronic file wrapper for reexamination or for use in litigation or interference proceedings.

Since, for the most part, the electronic case files are not managed as part of the “mainstream” processing activity during this period, it is possible that they could be managed by a system other than one of the mainstream AISs, so long as the file wrapper and its contents are readily accessible by all authorized users and are transferable from one systems application environment to another, or to NARA.

7 BUSINESS PRINCIPLES

The principles of electronic records management described in this section comprise the fundamental requirements for meeting statutory, regulatory and admissibility requirements and to achieve best practice business operations. They address the primary business issues associated with managing electronic records in general and, particularly over a long retention period.

7.1 LONG-TERM ACCESS AND RETENTION

The fundamental principle of electronic records management is to provide for long-term access and retention over the complete life cycle.

Providing long-term access requires that every electronic case file or individual electronic record be searchable and retrievable and that it can be rendered (processable) on a display screen or printer without loss of content or structure.

Retention requirements stipulate that the integrity of the electronic case file and associated records be preserved over the full life cycle, independent of changes in media technology or system obsolescence. As such, electronic records management solutions should not be predicated on a particular media or a single systems or application environment.

To meet the tests for admissibility in evidence and business best practices, electronic records must be captured, stored and retrieved in an accurate and reliable manner, thereby establishing a high degree of trustworthiness.

There following six business requirements must be consistently achieved in order to effectively manage electronic records over the full life cycle:

Accuracy and Completeness

Ensuring that the complete content, structure and context of each electronic record copy is committed to the relevant case file so as to accurately reflect the original documentary material.

Reliability

That the process used to acquire, store and manage electronic case file and records is performed in a controlled and consistent manner, by professionals who have been trained to perform their assigned tasks, and where sufficient measurements and documentation have been provided to ensure high quality work.

Authenticity

That any electronic record can be determined to “be what it purports to be” for the full life cycle. That the originally stored content and structure, and any inherent or related contextual information, can be accessed and accurately reproduced for purposes of meeting the test of legal admissibility. Meeting the requirement for preservation of integrity, and for authentication of the receiving or sending organization/person is essential to meet the requirement of authenticity.

Processibility

The capability to accurately render an electronic record, either on a display screen or printer, in an accurate manner (with the original content, structure and context) over the full retention period, and the ability to maintain a computer-only readable record (such as a digital certificate) in processible form.

Transferability

The ability to migrate (renew or transfer) electronic patent records without loss of content, structure or content as may be required due to media technology obsolescence or due to major upgrade or replacement of system hardware, software, AISs or other electronic recordkeeping functions.

Audit Trails

The ability to provide a readily accessible and processible audit trail of all computer or manually controlled events that were executed during the normal course of creation, receipt, storage, processing, access, migration and retention of electronic records proving that proscribed processes and procedures were accurately and consistently followed.

These six essential business principles establish the foundation upon which the guidelines and requirements for long-term access and retention of electronic records management are based.

The following are additional business requirements areas that support the objectives and principles for ERM.

7.2 REGULATORY CHANGES

The transition to reengineered business processes and practices and the shift from the current approach of managing paper-based analog records to managing electronic records - - from the “paper-based file-wrapper” to the “electronic file-wrapper” - - requires a complete review and selective revision and/or augmentation of current patent and trademark regulations.

Working Paper 02 of Task Order 98-01, Task Number 56-PAPT-8-05090, *Suggested Statutory Changes* dated October 30, 1998 covers those areas of 37 CFR that may need to be addressed in the context of moving to electronic patent filing and prosecution as it relates to the use of electronic signatures and electronic records.

In an attempt to not reinvent the wheel, it is recommended that selected regulations cited in the FDA rule change 21 CFR Part 11 – *Electronic Records; Electronic Signatures* be adopted or modified and augmented, as appropriate, to meet the needs of the PTO for addressing the acceptability of electronic records and electronic signatures. While the recently passed Senate Bill 442 and other alternative wordings, as stated in the report on *Suggested Regulatory Changes*, Section 2.3, are candidates for adopting new regulations, the FDA regulations appear to represent a very practical and realistic baseline, primarily due to the similarities of the information with that of patent information.

The FDA deals with the receipt of highly confidential, high-value intellectual property information. They conduct detailed and frequent exchanges of highly confidential actions, messages and documents with their customers in a manner similar to the PTO. The FDA's need to maintain the confidentiality and integrity of, and perform long-term retention for, highly valuable intellectual property files is also similar to that of the PTO.

7.3 POLICIES AND PROCEDURES

The policies and procedures for the filing, examination and publishing process as well as many aspects regarding the maintenance of patent case files and records are contained in the Manual of Patent Examination Procedures (MPEP) and the Trademark Manual of Examining Procedure and Appeals.

These policies and procedures will need to be updated and augmented, as required, to reflect any new regulations as well as new business processes and methodologies for processing patent and trademark applications electronically, including the long-term maintenance and retention of patent and trademark case files.

As a means of providing specific guidance for the management of electronic records, it is recommended that the guidelines and recommendations in this report be used as a baseline for development of specific policies and procedures that will guide the long-term access and retention of electronic case files and records.

Specific areas identified for policy and procedure review and development are:

- (1) A statement of intent that the PTO will rely on electronic records in the normal course of business at the time that production systems for trademark and patent electronic workplaces are implemented (in conjunction with any required modifications to the regulations and procedure manuals).
- (2) Develop a policy specifically defining which documentary materials received or created during the patent and trademark processes are to be kept as record copies in the case file and how the disposition of non-records is to be handled.
- (3) Develop a policy and procedures documenting how PTO will preserve the integrity of patent and trademark records, including definition of the organizational authority and procedures for any modification of metadata or destruction of records.
- (4) Produce guidelines delineating the process for determining and executing migration of electronic patent and trademark case files, including the eventual transfer of selected case files to NARA.
- (5) Develop guidelines for access controls, as part of the overall PTO security policy, which support the preservation of the integrity for electronic patent and trademark case files and records, and that stipulates the authority under which metadata may be modified and electronic case files and records can be destroyed.
- (6) Expand the charter of the Records Management staff at the PTO to include oversight of the policies, guidelines, procedures, and the determination of access controls for modification and destruction of electronic case files.

7.4 TRAINING AND DOCUMENTATION

LCM documentation standards and procedures should be updated to assure that electronic records concepts and requirements are included as a separately identified section of data

administration, particularly in the System Boundary Document, Concept of Operations, Data Management Plan, Requirements Statement and Requirements Specifications.

Training and documentation are particularly important business practices considering the major shift from a heavily manual-based process to a largely computer-controlled electronic process for managing patent and trademark case files and records.

Ongoing training of personnel and comprehensive documentation of policies and procedures are essential elements of being able to meet the tests of legal admissibility, particularly in offering proof the processes and systems employed are accurate and reliable and, as such, trustworthy.

Reliability is established by being able to show that trained personnel following documented procedures have performed their tasks in a repeatable, consistent and high quality manner.

Training regarding the policies and procedures for the management of electronic records should be developed, maintained and conducted for all PTO personnel who are involved in the creation/receipt, processing, accessing, maintenance and disposition of electronic patent and trademark records. Training and documentation related to electronic records management for developers should also be developed and conducted. The training may be incorporated as an integral part of broader PTO training courses or separately developed and delivered.

Multiple levels of administrative, user and system documentation (from overviews to detailed process steps) should be produced as management and operations guidelines and as evidence of a comprehensive and consistent processes and procedures.

7.5 SECURITY

Meeting statutory, regulatory and admissibility provisions requires that patent and trademark case files be protected throughout the complete life cycle – from the moment of receipt, through examination and issuance, registration, or abandonment, until the retention period has ended.

Peter Weiss in his article *Security Requirements and Evidentiary Issues in the Interchange of Electronic Document: Steps Toward Developing a Security Policy* states “. . . [i]ssues of legal

admissibility and computer security are intertwined and must be considered together . . . [T]hey are two sides of the same coin.”⁴ The electronic case file containing the examiner’s determination must be admissible in a Federal court or in a patent or trademark interference or appeal proceeding.

A goal of the PTO is to provide adequate protection and management of patent and trademark information in a cost-effective manner.

A guideline document produced by the National Institute of Standards and Technology (NIST) in September, 1996 entitled *Generally Accepted Principles and Practices for Securing Information Technology Systems* states:

2.3 Computer Security Should be Cost-Effective

The costs and benefits of security should be carefully examined in both monetary and non-monetary terms to ensure that the cost of controls does not exceed expected benefits. Security should be appropriate and proportionate to the value of and degree of reliance on the IT systems and to the severity, probability, and extent of potential harm. Requirements for security vary, depending upon the particular IT system.

It is generally agreed by most industry sources, as well as nationally recognized organizations defining legal guidelines for electronic information protection, that the key elements or services needed to provide protection in an electronic commerce environment and, as such, to protect electronic patent and trademark case files and records are:

- Integrity
- Confidentiality
- Access Control

⁴ Security Requirements and Evidentiary Issues in the Interchange of Electronic Documents: Steps Toward Developing a Security Policy, Peter N. Weiss, Office of Management and Budget, (12 J Marshall J. Computer and Info. L. 425, *441). Note: The views set forth are those of the author and do not necessarily represent those of the Office of Management and Budget.

- Authentication
- Non-Repudiation

These elements comprise a set of controls and services that are aimed at providing adequate protection of patent and trademark case files and records.

Access controls (identification) and authentication (validation of identity), in particular, are critical for preserving the integrity and protecting the confidentiality, where required, of electronic case files and records. They are required to prevent unauthorized viewing, modification, destruction and, generally, the unauthorized issuing of system commands. Access controls should be based on “least privilege” such that they grant users access only to those electronic case files and records, and to associated annotations and metadata, that are minimally required to perform their roles or functions. Controls may selectively limit access to electronic case files and electronic records, to any action or event related to electronic case files, and to specific computing resources related to migration or purging.

One aspect of determining the requirements for security in an electronic commerce environment is to differentiate between “open” and “closed” communication environments.

7.5.1 Open vs. Closed Environments

The U.S. Food and Drug Administration (FDA) has included the consideration of “open” and “closed” communications environments in their research and analysis of the issues related to electronic filing and management of highly confidential intellectual property information in conjunction with the companies they regulate. The FDA’s rule change 21 CFR, Part 11 issued on March 11, 1997 defined open system and closed system environments as follows:

7.5.1.1 Open System Environment

The new FDA rule change defines Open System as:

21 CFR 11.3 Definitions, (b) (9) [O]pen system means an environment in which system access is not controlled by persons who are responsible for the content of electronic records that are on the system.

For an *open* system, the FDA ruling calls for the use of “additional measures such as document encryption and use of appropriate digital signature standards.”

Within the patent and trademark process, an open system may apply where any communications with the inventor or applicant is conducted outside of the PTOnet (such as over the Internet) or in any environment that is not otherwise strictly controlled by PTO procedures and security mechanisms.

7.5.1.2 Closed System Environment

The new FDA rule change defines Closed System as:

21 CFR 11.3 Definitions, (b) (4) [C]losed system means an environment in which system access is controlled by persons responsible for the content of the electronic records on that system.

Within the patent and trademark process, a closed system would apply where access (and resulting communications) is confined to secure PTOnet or was otherwise very tightly controlled by PTO procedures and protocols, including any third party participation such as from a value-added network (VAN) provider.

For *closed* systems, the FDA only calls for “procedures and controls designed to ensure the authenticity . . . , and to ensure that the signer cannot readily repudiate the signed record as original.”

7.5.2 Guidelines

It is recommended that the thrust of the guidelines defined by the FDA for communicating in open and closed communication environments be considered by the PTO, with revisions and augmentation as appropriate, as the baseline for establishing the security policy and procedures for electronic patent and trademark case files and records. The requirements for securing

electronic patent and trademark case files on an open communication system, such as the Internet, should be distinguished from the requirements of a closed system, such as within a secure PTOnet.

It is also recommended that the PTO's security policy include access and authentication methods, supported by administrative tools and AIS controls, that allow for "least privilege" access security to be implemented for the management of electronic records based on the roles and functions of individuals.

The electronic case file metadata should contain designators that allow access and communication security to be based on the status case file.

7.6 RECORDS DISPOSITION

The 1997 PTO Comprehensive Records Schedule provides guidelines for the disposition of patent and trademark case files (see Appendix A). Functional requirements for managing electronic records disposition, and other elements of electronic records management, will conform to the standards set by the Department of Defense Directive DOD 5015.2 - Design Criteria for Electronic Records Management Software. This standard describes the minimum records management requirements that must be met in accordance with 44 USC 2902, and guidance and implementing regulations promulgated by the National Archives and Records Administration (NARA).

36 CFR §1228.10 **Authority.** requires Federal agencies to maintain a records disposition program.

The head of each agency (in accordance with 44 U.S.C. 2904, 3102, and 3301) is required to establish and maintain a records disposition program to ensure efficient, prompt, and orderly reduction in the quantity of records and to provide for the proper maintenance of records designated as permanent by NARA.

36 CFR §1220.38 **Disposition of records.** requires Federal agencies to preserve permanent records and to promptly dispose of or retire temporary (non-permanent) records.

Provision shall be made to ensure that permanent records are preserved but that records no longer of current use to an agency are promptly disposed of or retired. Effective techniques for the accomplishment of these ends are the development of records disposition schedules; the transfer of records to records centers and the National Archives of the United States; the conversion of the information to other media; and the disposal of valueless records. Disposition of any records requires the approval of the Archivist of the United States (see Part 1228 of this chapter).

36 CFR §1228.50 **Application of schedules.** states that it is mandatory for Federal agencies to apply approved retention schedules.

The application of approved schedules is mandatory (44 U.S.C. §3303a). The Archivist of the United States will determine whether or not records may be destroyed or transferred to the National Archives. . . .

36 CFR §1234.20 **Creation and use of data files.** requires that disposition instructions be incorporated into the design of every automated information system:

(a) For electronic records systems that produce, use, or store data files, disposition instructions for the data shall be incorporated into the system's design . . .

The "scheduled retention period" for a record may be different from the period for which the PTO has retention responsibility. For instance, in the case of published patent case files, the scheduled retention period is "permanent", however, the period for which the PTO is responsible is 40 years from the date of issuance, after which the records and responsibility for disposition are transferred to NARA.

The specific retention schedules for patent and trademark case files are delineated in Appendix A.

7.6.1 Guidelines

7.6.1.1 Case File Disposition

For the scheduling and disposition of electronic records the complete electronic patent or trademark case file is considered to be a single "record". This is because each "record copy"

stored in the case file has the same retention period and, as such, the complete case file can be managed and preserved as a single entity.

7.6.1.2 Retain Only One Record Copy

For operational and legal purposes only one “record copy” (plus a disaster backup copy) of an electronic case file or file wrapper should be retained.

From an operational perspective, having a single copy of the electronic case file avoids confusion regarding which is the official “record copy”, and also may avoid someone retaining or accessing a copy that is not up-to-date. This means that all reference-only copies should be deleted at the earliest practical point in time. Also, working files should either be included in the electronic case file if they meet the criteria as defined above in 36 CFR §1222.34 (c), or they should be deleted at the earliest practical point in time.

From a legal perspective, all records pertaining to a subpoenaed subject matter, such as one or more specific patent or trademark applications, are discoverable and must be produced if requested. Any reference copies or working copies of files that have not been disposed of are subject to legal discovery under Rule 34 of the Federal Rules of Civil Procedure, independent of whether or not they have been committed as record copies in an electronic case file, and must be searched, retrieved and produced if requested. It would be in the best interest of the PTO to not have retained stray copies of any documentary materials, including examiner’s notes, that would increase the resources and cost to respond to a discovery motion and, potentially, reveal any contradictory or otherwise embarrassing information that should have been legally destroyed.

8 OPERATIONAL REQUIREMENTS

For purposes of determining the requirements for electronic records management in patent and trademark AISs and for guiding the development of procedures, a report entitled *Checklist of Requirements for the Management of Electronic Records Over the Life Cycle of Patent and Trademark Records* (Deliverable 98-03-5, dated February 26, 1999) has been developed. A number of these requirements areas are critical for meeting statutory, regulatory and admissibility requirements and implementing records management best practices and, as such, are summarized here.

8.1 A COMPLETE RECORD

A complete record as defined in archival science, and being more broadly accepted as a best practice consideration in electronic records management, has three primary elements:

(1) content, (2) structure, and (3) context.

- **Content**

Content is the actual data resulting from a transaction conducted in the normal course of business, such as from a receipt or creation process. For example, the filing of a patent or trademark application includes the application form with various data fields and a signature.

- **Structure**

Structure is generally defined in two parts: logical structure and physical structure. The logical structure of a record are the identifiable parts of the record, such as the title, applicant and inventor(s) name, date, and signature on a patent or trademark application. These parts may be both computer identifiable, as in metadata, and/or human identifiable,

as when rendered on a viewing screen or printer.

The physical structure relates to the format of the record, such as the type font, spacing, page margins, logo, and the “encoding” of the file, which provide information for processing (rendering) or transferring of the record over the full retention period.

- **Context**

Context is the meaning of the record, or the “what” and “why” of the business transaction from which the record was created or received. The context may be implicit in the content and structure of the record, such as a patent or trademark application which contains a form number or description and a signature block which states the specific the *intent* of the signer.

One of the key requirements for admissibility in evidence in a Federal court is that the record and the system receiving or creating the record store an “accurate” representation of the record. A record is more likely to be perceived as accurate and complete when as many elements of the record as possible are recorded, either within the content of the record or as metadata. The more complete a record can be shown to be, the more weight will be attributed to it for admissibility and for any subsequent cross-examination.

It is recommended that the full content, structure and context of electronic records be acquired and stored. The complete electronic record document should be accessible and be able to be rendered on display screen or printer without any loss or alteration of content or structure for the full retention period.

8.2 CASE FILE CONTENT

Using the definitions of a record copy and the criteria for working files as described in Section 3 Definitions, it can be concluded that any documentary material should be committed as a record

to an electronic case file when it is appropriate for preservation as evidence of a regularly conducted business activity by the PTO.

Essentially, all incoming documents from applicants to the PTO, whether paper or electronic, that are materially related to a patent or trademark case file are, by default, record copies due to the fact that they are evidence of transacted patent or trademark business and also because they would represent what an applicant considered to be their record copy at the time of submission to the PTO.

Any document created by the PTO when finalized and communicated to an applicant in conjunction with an office action, including any voice, e-mail or other communications with the applicant, or other related action or event materially related to a patent or trademark process, would be considered a record copy and should be committed to a patent or trademark case file.

Also, working files that “were circulated or made available to employees other than the creator for official purposes”, and “contain unique information . . . that adds to understanding of . . . basic policies, decisions, actions or responsibilities” (emphasis added), is considered a legal record copy, independent of whether or not the records were intended to be managed as part of an electronic patent or trademark case file. For example, this might include e-mail correspondence between examiners or a-mails seeking and receiving advice and decisions from a supervisor or other senior official. This definition also implies that all working files created and kept solely by an examiner, for instance, and not circulated to other employees for any official purpose would not be considered a record copy. Such records, if retained, would need to be searched and produced in response to a legal discovery motion or, potentially, a FOIA request.

8.3 CASE FILE MANAGEMENT

All electronic record copies related to a particular patent or trademark application will be managed as part of an electronic case file or file wrapper.

However, there are options related to maintaining the metadata information associated with an electronic case file and records.

It is assumed, for instance, that access and status tracking information will continue to be stored and maintained in the PALM and TRAM replacement databases. In addition, it is recommended that metadata records be captured for all history and use situations (such as accesses, and migrations of electronic patent and trademark case files) in order to provide an audit trail of events and actions for meeting the requirements of admissibility and for tracking or researching events that may be suspect as having compromised the integrity or confidentiality of a case file or record.

One of the fundamental requirements for long-term access and retention is that the metadata must be retained for the same period of time as the electronic case files and records, including the migration of the metadata related to electronic case files that are copied or reformatted to new media technologies or are transferred to new hardware or software or new application information systems.

As such, it is recommended that metadata profiles and associated metadata elements be encapsulated with the electronic patent or trademark case file.

An encapsulated electronic case file means that all of the information associated with the case file, such as metadata, the complete record, and linkages to multimedia, exists as a single logical or physical entity. The distinction between a logical and a physical entity is important because techniques such as object linking and embedding (OLE) and hypertext create dynamic records that consist of pointers or linkages to files, which may exist on multiple media and servers and can only be used with specific software.

Logical Encapsulation. Logical Encapsulation (e.g., MS WORD object linking and embedding) can be maintained and preserved in a single technology generation, but becomes increasingly difficult to achieve this across multiple technology generations. Suppose, for example, that an electronic patent case file includes text, vector graphics, bit map images, and digital audio signals. In an operational environment, the text portion of electronic records might exist on one file server with pointers to an image file server, a vector graphics file server, and a digital audio file server. All of this is would be transparent to users of electronic patent case files under review or as yet unpublished. When an image file server is upgraded, a message with this

information is sent to the host file server and the pointers and links are updated as necessary. Maintaining multiple file servers as part of a long-term access strategy adds several layers of complexity in configuration management. Furthermore, if all of the file servers are not regularly upgraded the risk increases of not being able to reconstruct all of the components of electronic records.

Physical Encapsulation. In contrast to logical encapsulation, physical encapsulation integrates all of the logical components of an electronic patent case file onto a single volume of media. Physical encapsulation can help reduce the complexity of multimedia electronic records. Physical encapsulation, however, is not without its own problems. For example, the task of transferring, say, vector graphics material to upgraded or new vector graphics software could require a time intensive computer search of each electronic patent case file in the recordkeeping system to identify such material. One way of minimizing this problem would be to create a surrogate or profile about each electronic patent case file that includes descriptive information about the different types of information representation (e.g., ASCII text, vector graphics, or bit map images) and other features that could be searched to identify components of case files that must be updated.

8.3.1 Guidelines

It is recommended, primarily for ease of migration and audit purposes, that all electronic records and associated case file and records metadata information be encapsulated as part of the electronic case file or file wrapper.

The decision on the implementation of a logical or physical case file wrapper must be evaluated in a more in-depth study that is based on the costs and benefits as they relate to: a) existing and planned technology for PTO server infrastructure and storage management strategy, b) planning and implementation of the PALM and TRAM upgrades or replacements, c) the definition and implementation direction and status of the “electronic file wrapper”, and d) the definitions and recommendations in this report for metadata profiles and case file wrapper methodology for supporting long-term management of electronic patent and trademark case file records. Another consideration may be to provide for logical encapsulation of metadata during the “in-process and

use” phase of the life cycle, then consolidate and encapsulate the metadata physically with the case file during the “maintenance and use” phase.

8.4 METADATA

Metadata, which traditionally is understood to mean "data about data," is a term that describes a function that has undergone some refinement and modification over time. In the library world the attributes of books (e.g., author, title, and publisher) have been associated with descriptive cataloging, the purpose of which was to facilitate access and retrieval of books and other published material.

Although the parts of the Code of Federal Regulations that govern the management of electronic records do not explicitly discuss metadata, the overall purpose of metadata in electronic records management is clearly articulated. 36 CFR Ch. XII Subpart C- Standards for the Creation, Use, Preservation, and Disposition of Electronic records. Particularly, 36 CFR §1234 - - Electronic Records Management states specific requirements which relate to capturing and preserving “appropriate” identifying information, such as indexing and disposition identifiers, that allow for accessibility and disposition actions to be performed over the full retention life of the records. Specifically, 36 CFR §1234.22 (b) states:

"Appropriate identifying information for each document maintained on electronic media may include: office of origin, file code, key words for retrieval, addressee (if any), signator, author, date, authorized disposition (coded or otherwise), and security classification (if applicable). Agencies shall ensure that records maintained in such systems can be correlated with related records on paper, microfilm, or other media." [6 CFR §1234.22(b)].

8.4.1 Guidelines

These guidelines for metadata requirements to support the long-term retention of electronic patent and trademark case files synthesizes requirements stated in 36 CFR Ch. XII Subpart C- **Standards for the Creation, Use, Preservation, and Disposition of Electronic Records**, and

in DOD 5015.2 Design Criteria for Electronic Records Management Software, the University of Pittsburgh "Requirements for Business Acceptable Communications," and the SMPTE Task Force on Harmonized Standards.

Six categories of metadata profiles are recommended:

- (1) **Case File Profile:** Stores information about each "encapsulated" case file to support long-term retention and management
- (2) **Case File Record Profile:** Stores information about each record in a case file
- (3) **Use History Profile:** Stores audit trail information about all of the events and actions associated with each case file.
- (4) **Reformat Profile:** Stores detailed information about a case file before and after reformatting to ensure its trustworthiness.
- (5) **Copy Profile:** Stores detailed information about a case file before and after copying to ensure its trustworthiness.
- (6) **Transfer Profile:** Stores detailed information about a case file before and after transfer to ensure its trustworthiness.

Detailed analysis and recommendations regarding the metadata profiles are provided in the report entitled, *Metadata Requirements for Long-term Access and Retention of Electronic Patent and Trademark Case Files*, Task Order Deliverable 98-03-10 dated February 26, 1999. The recommended metadata profiles for Reformat, Copy, and Transfer are defined in more detail in the report produced for Task Order Deliverable 98-03-10 *Long-term Access and Migration Strategy*, dated February 26, 1999.

The metadata profile recommendations do not identify how each metadata element should be captured or when it should be done. Nonetheless, it assumes that some metadata elements, such

as those for the Case File Profile and Case File Record Profile can be automatically acquired from the updated PALM and TRAM databases, or from a work flow system that would provide similar functions and information. Some of the other metadata elements, such as access dates, are assumed to be supplied automatically by the AIS or work flow system or, as a last resort, via manual data entry.

Refinements to the elements and properties of these metadata profiles will be more explicitly defined and refined, particularly in terms of their relationship to PALM and TRAM upgrades and to other electronic patent and trademark AISs and databases, based on reviews by the PTO, and during the course of pilot and prototype testing of the electronic patent and trademark workplaces at the PTO.

8.5 FILE FORMATS

Defining file format standards that provide for processibility and transfer of records is crucial for achieving the requirements for long-term access and retention of electronic records.

A file format refers to the underlying structure of electronic records that typically is not visible to the creators and users of the material. In addition file formats for textual records, there are file formats that support the processibility of classes of other digital data, including vector graphics, bit map images, spreadsheets, and relational databases. Specific file formats have been designed to support the processibility of a number of chemical expressions and biological sequences. Other PTO studies have already addressed these more complex file formats for chemical formulae and biological sequences (Draft Complex Work Unit [CWU], June 4, 1998).

The ability of computers to interpret and understand file formats is crucial to ensuring the processibility and transfer of electronic records. An analysis of file formats that are available for use in managing the life cycle of electronic patent records is contained in the report entitled *Assessment of File Formats to Support the Life Cycle Management of Electronic Patent Case Files*, Deliverable 98-03-8 dated February 26, 1999. This report provides an evaluation of 17 file formats based on the following criteria for achieving processibility and transferability:

- **Preparation** – the ability of the applicant to author, assemble and submit a patent application and related electronic records in an cost/efficient manner using readily available, easy to use COTS software.
- **Navigability** – the ability to directly address any structural data element or locate any textual string in an electronic patent record.
- **Portability** – the ability to transfer an electronic patent record from one hardware and software environment to another while maintaining the integrity of the content, structure and context.
- **Multi-media** – the ability to support the internal structure of patent applications and related electronic patent records that may consist of text, vector graphics, bit map images or tables from a relational database, etc., either imbedded in the application or as links to external sources.
- **Integrity**- faithful rendering of the patent application as prepared and submitted by the applicant, as well as all submitted or generated patent case file records, with no loss of content or structure, for the full retention life of the patent case file, including any migration or transfers to another media or systems technology.
- **Rendering** – the ability to process the content and structure of all electronic records in the patent case file and faithfully reproduce the electronic record on a monitor or printer over the full retention life of the patent.
- **Format Persistence** – the ability of an industry or defacto standard to gain widespread user and vendor support, thereby offering a stable, sustainable, long-term file format.
- **File Size** – the actual size of the file influences storage cost, transmission speed and rendering time.

Overall cost effectiveness of the file format is another consideration for both the applicant and the PTO. It is important that the applicant be able to prepare and submit electronic patent and trademark forms and associated files, as well as retrieve and view published patent information using a cost effective Internet interface or desktop application. It is also important for the PTO to receive, view, navigate, store, retrieve, publish and maintain electronic patent case files in a manner that is at a reasonable cost to the PTO and, as such, to the inventors and applicants.

8.5.1 Guidelines

Based on these considerations and the assessment provided in the more detailed report, the recommendations for file formats that support long-term access and retention are:

- Provisionally adopt Extensible Markup Language (XML) and its extensions, including Scalable Vector Graphics (SVG), for supporting electronic patent application preparation, review and examination.

The provisional nature of this recommendation is due to the current status of XML and its extensions, in that full scale implementation support has not been delivered, and widespread user acceptance has not yet been established. It is expected that full vendor and user support will materialize over the next one to two years whereupon the provisional nature of this recommendation would be lifted.

This recommendation is based on the ability of XML to support structural tagging and navigation and the ability of SVG, along with other XML extensions to provide support of graphics and more complex work units. Since XML can also recognize “well-formed documents”, non-tagged electronic records such as e-mail (that is not transmitted in XML) should also be able to be recognized and processed. XML and its associated extensions and capabilities (as currently defined or under definition) meets the majority of the assessment criteria, including those related to preparation, rendering, portability, multi-media, navigability and, presumably, format persistence. As such, XML should provide a single file format that can create, store and accurately render the content and structure of all electronic records contained in a case file. Potential drawbacks of this format may be the cost and the potential difficulty of preparation for the applicant as well as the lack of any inherent preservation of integrity. In support of this recommendation, it is suggested that the PTO:

- Develop an XML Document Type Definition that could be implemented and include the SVG extension so as to standardize the submission of electronic patents.
 - Review the XCI project of the New Mexico Federal Courts and learn how XML with the SVG extension is being implemented.
 - Develop and prototype software specifications to support the creation of XML with the SVG extension for electronic patent applications and related documents.
- Provisionally adopt Extensible Markup Language (XML) and its extensions, including Scalable Vector Graphics (SVG), for electronic publication and dissemination of issued patents and registered trademarks.

Since the as-filed and amended, if required, patent and trademark applications and

associated electronic records are recommended to be produced and stored in XML (with extensions) format, publishing of patents and trademarks in XML is the logical and cost-effective choice.

One drawback with XML, as with SGML, is that the file format does not provide an inherent ability for ensuring the integrity of content and structure. If the requirement for providing inherent file integrity (non-revisable) of the published patent or trademark is deemed essential, and if a non-revisable method for rendering the published patent or trademark is not possible with XML (and the SVG extension), then PDF would be a better choice. PDF has the obvious disadvantage of being a proprietary standard and may be superceded over time by the .SVG extension of XML, particularly in Internet-based electronic commerce.

- Provisionally adopt Extensible Markup Language (XML) and its extensions, including Scalable Vector Graphics (SVG), for long-term maintenance and preservation of the electronic patent and trademark case files and records for the full retention life.

Assuming that the XML and its extensions become the industry standard for electronic records produced in electronic commerce, then retaining the electronic patent and trademark case file records in XML should meet the long-term maintenance, use, and preservation requirements related to format persistence, rendering, and portability.

Since XML does not currently provide an inherent ability for ensuring the integrity of content and structure, other measures must be taken by the PTO to meet this requirement.

Confidentiality, while an important legal requirement, cannot be assured as an inherent part of a file format, rather, other means such as encryption or access controls better serve this need.

8.6 AUDIT TRAILS

The audit trail essentially shows the use history of the electronic case file or record. From a records management and legal perspective, an audit trail details the “chain of custody” whereby the who, what, and when of each action, or event related to an electronic case file or record is evident. Events could include the creation or receipt, processing, access, routing, dissemination, copy, reformat, transfer, or disposal of an electronic patent or trademark case file.

The audit trail can provide an independent (computer-controlled, not human-controlled) element of proof that policies and procedures were followed and that the integrity and confidentiality of the information was not compromised. Recording an audit trail of all incoming and outgoing events related to electronic record communications managed by the Electronic Mail Room AIS would be an example.

From a legal perspective, an audit trail can also be used to provide proof that, for admissibility as evidence in a Federal court or in an interference or appeals proceeding, the authenticity of a record has been maintained - - that the integrity of the content, structure and context has not been altered, misused or inappropriately destroyed.

8.6.1 Guidelines

The audit trail must be stored and managed for the full retention life of the electronic case files or records that were involved in the action or event.

The most effective way to manage an audit trail for long-term retention is to encapsulate the metadata generated as part of each audit trail action or event records within the case file to which it relates. Creating and managing multiple audit trails creates a fragmentation of the information and makes it increasingly difficult to manage migration and transfer of the audit trail metadata in relation to related case file and records.

It is recommended that an audit trail be created and managed as part of a "Use History" metadata profile. The Use History profile would be encapsulated in the case file and contains a record of each event or action related to the case file or a record in the case file.

The recommendations for specific audit trail metadata that would be stored in Use History profile, and the encapsulation of the profile in the case file, is delineated in the report entitled *Metadata Requirements for Long-term Access and Retention of Electronic Patent and Trademark Records*, Task Order Deliverable 98-03-11, dated February 26, 1999.

8.7 MIGRATION

Migration means ensuring that present and future users can retrieve, display, and otherwise use electronic materials in the face of constantly changing technology. Migration includes copying and reformatting digital storage media, replacement of storage devices, and transfer of electronic records from one technology application to a newer one without loss of record integrity.

The requirements for a migration policy and strategy are embodied in regulations which require that the integrity of electronic records be preserved for the full retention period, including through changes in media, systems and application technology that may requires the copy, reformatting and transferring of the records.

36 CFR §1234.28 requires agencies to guard against the loss of information because of technological obsolescence:

36 CFR §1234.28. Selection and maintenance of electronic records storage media.

...

(e) Agencies shall ensure that information is not lost because of changing technology or deterioration by converting storage media to provide compatibility with the agency's current hardware and software. Before conversion to a different medium, agencies must determine that the authorized disposition of the electronic records can be implemented after conversion.

...

Regulations also requires an agency to manage its media and regularly recopy, reformat, etc. to ensure the retention and usability of the data.

36 CFR §1234.30. Retention of electronic records.

Agencies shall establish policies and procedures to ensure that electronic records and their documentation are retained as long as needed by the Government. These retention procedures shall include provisions for:

...

(c) Establishing procedures for regular recopying, reformatting, and other necessary maintenance to ensure the retention and usability of electronic records throughout their authorized life cycle (see § 1234.28).

8.7.1 Guidelines

A long-term migration strategy is proposed that includes a component to ensure the transferability from one application environment to a new one as the PTO upgrades its IT infrastructure or installs a completely new technology platform. The recommendations for implementing the migration strategy are:

8.7.1.1 Reformat, Copy and Transfer

Develop and implement procedures for reformatting, copying, and transferring electronic case files that include the following:

- Copy and reformat, if required, electronic case file records at the time they are moved from one the electronic recordkeeping application environment (AIS) to another.
- Reformat electronic case files when new storage devices or media are utilized.
- Copy electronic case files every ten years (36 CFR §123430[g][5]) if magnetic tape is the storage medium.
- Copy electronic case files when the annual readability sample discloses ten or more temporary or read “errors” on a specific storage medium.
- Transfer electronic case files to a technology platform when the current software is upgraded or a new electronic records management system is installed.
- Ensure the reliability and integrity of reformatted, copied, and transferred electronic case files by employing a strict quality control procedure that may include bit/byte comparisons and comparisons of hash digests or Cyclical Redundancy Checksums, as applicable.
- Document fully all actions taken when reformatting, copying and transferring electronic case files and include this information in the metadata profiles associated with each case file.
- Provide for disaster recovery by creating a primary copy and disaster backup copy of electronic case files at the time of reformatting, copying, or transfer and the backup copy at an off-site location.

8.7.1.2 Physical Security

Protecting the physical security of electronic case files from alteration, change, or loss is a critical component for the PTO storage repository in which electronic case files are stored. The following recommendations are offered for achieving this objective:

- Maintaining a controlled access storage facility and monitor compliance with access control procedures.
- Locating the storage facility in an area where the threat of a natural disaster is minimal.
- Creating a disaster recovery backup copy that is stored at a separate physical location and developing and testing a disaster recovery plan.
- Adhering to the recommendations of *NBS Special Publication 500-101 Care and Handling of Computer Magnetic Storage Media* (pp. 37 - 52) regarding exposure to magnetic fields if a magnetic storage medium is used.

8.7.1.3 Environmental Control and Monitoring

A controlled environment and monitoring program is an essential part of protecting the readability of electronic case files.

Ensure the continued readability of electronic case files by establishing a program that provides: 1) a stable storage environment, and 2) proper care and handling procedures. Such a program should include the following:

- Implementing a program based upon 36 CFR §1234.309(g)(4) to annually read a statistical sample of the storage media to identify real or impending loss of information.
- Maintaining a stable storage environment in which the temperature and relative humidity (RH) are 15° C (59° F±4) and 40% (±5).
- Installing a filter system to remove air dust particles and gas pollutants.
- Prohibiting the consumption of food and beverages and smoking in the storage facility.

8.7.1.4 Transfer to NARA

36 CFR §1234.30 requires agencies to plan for the transfer of electronic records and associated metadata to the National Archives.

36 CFR §1234.30. Retention of electronic records.

Agencies shall establish policies and procedures to ensure that electronic records and their documentation are retained as long as needed by the Government. These retention procedures shall include provisions for:

...

(b) Transferring a copy of the electronic records and any related documentation and indexes to the National Archives at the time specified in the records disposition schedule in accordance with instructions found in § 1228.188 of this chapter. Transfer may take place at an earlier date if convenient for both the agency and the National Archives and Records Administration.

...

Currently, only selected types of media are acceptable for transfer of permanent records to NARA (36 CFR §1234.30):

- Open reel magnetic tape, either 1600 or 6250 bpi: ANSI X3.39-1986 or ANSI X3.54-1986.
- 3480 Tape Cartridge (18 track): ANSI X3.180-1990.
- CD-ROM: ANSI/NISO/ISO 9660-1990.

It is expected that NARA will selectively add to the list of media that are accepted for transfer as analyses of newer media, such as Digital Versatile Disc (DVD) and Digital Linear Tape (DLT), are completed.

9 SITP PROJECTS

The 1999 Strategic Information Technology Plan (SITP) defines specific tasks for incorporating the issues, requirements and solutions for managing electronic records into the patent and trademark business processes, information infrastructure and AISs for the electronic workplace. The following tasks are identified in the 1999 SITP, Chapter 5. Infrastructure Information Technology Initiatives, Section 5.6.3.1 Electronic Recordkeeping Project:

Tasks/Products	Initial Projection	Completion Dates	
		Current Projection	Actual
Begin Project	12/1998	12/1998	10/1998
Identify ERM Requirements for Trademark Business Operations	02/1999		
Implement Procedural and Information Technology Solutions to Address ERM in the Trademark Area	11/99		
Identify ERM Requirements for all other PTO Business Operations	09/99		
Implement Procedural and Information Technology Solutions to Address ERM throughout the PTO	06/2001		

In support of these SITP tasks, and in support of the vision and near term goals for ERM, the following sub-tasks are recommended:

Tasks/Products	Initial Projection	Completion Dates	
		Current Projection	Actual
<p>ERM Systems Architecture and Guidelines.</p> <p>Perform an analysis and provide recommendations regarding the architecture and guidelines for life cycle management of patent and trademark electronic records in relationship to and integrated with the overall PTO strategy for electronic file wrapper management (e.g. TEAM), data storage and metadata management (PALM+, TRAM+), audit trail creation and management, and long-term retention and migration.</p>	TBD		
<p>ERM Policies and Procedures</p> <p>Identify and draft policies that would guide the implementation and operational aspects of electronic patent and trademark case files and records. Identify procedural areas that require specific documentation and training to be developed in order to meet legal requirements and best practice operations.</p>	TBD		
<p>ERM Transition Educational Tool</p> <p>Develop an educational tool that explains the importance of electronic records management in the context of the patent and trademark electronic workplace, and that addresses the major paradigm shifts and issues, with PTO-specific example solutions, that are involved in the transition to the electronic workplace. Options to be considered are a video and/or interactive computer-based training (CBT) tool.</p>	TBD		

APPENDIX A – PTO RETENTION SCHEDULES

1997 PTO COMPREHENSIVE RETENTION SCHEDULE

FOR PATENT AND TRADEMAKE CASE FILE

The PTO retention schedules for records (hard-copy and electronic) are developed to meet the regulations and guidelines established by National Archives and Records Administration (NARA) and any other statutes and regulations. Retention periods as taken from the PTO Comprehensive Records Schedule, 1997 are:

For Patent Case Files:

14.00 Patent Case Files

Case files showing the prosecution of applications for, and the granting of, a patent. Files include the original application, the patent drawing, and all materials relating to the prosecution of the application and subsequent actions by the PTO. Includes patent files for reissues.	
a. Closed (granted) patent case files selected by the Commissioner of Patents and Trademarks and the Archivist of the United States.*	a. Permanent Transfer to NARA after 40 years
b. All other closed (granted) patent case files.	b. Destroy 40 years after closure.

1.00 Abandoned Applications

Applications that do not result in the grant of a patent. Abandonment occurs when the applicant ; fails to pay fees or submit documentation requested by the examiner within the allowed time; when claims made for the invention are not patentable or were previously patented; or when another applicant has filed an application for the same invention and can demonstrate an earlier date for the conception of the invention.	
a. Applications retained because they are referred to in another application that may have become registered.	a. Dispose of with Patent Case file in which cited. *

b. (1) Abandoned Applications dated before June 8, 1995.	b. (1) Destroy 20 years after closure.
(2) Abandoned Applications dated on or after June 8, 1995.	(2) Destroy 23 years after closure.

* Ed. Note: essentially, all patent case files are “selected” and retained permanently.

For Trademark Case Files:

It should be noted that when a trademark application is registered, the case file is maintained by the PTO until they are cancelled or expire, which could be permanently. Trademark case files are not transferred to NARA a specified period of time.

18.00 Trademark Case Files

Case files showing the prosecution of applications for, and the registration of, a trademark. Includes the original application, copy of drawing, and all materials relating to the prosecution of the application and subsequent actions by the PTO. Maintained in Publication and issue until all office action is complete and printed registration is received. Used to record cancellation and expiration of trademark. Also used to record disallowance or non-prosecution by applicant.	
a. Cancelled or expired registrations (1) Selected Files. (2) Non-selected Trademark Files.	(1) Permanent Transfer to NARA after 6 years. (2) Destroy 2 years after cancellation or expiration.
b. Abandoned applications. (1) Selected Files.** (2) Non-selected Trademark Files.	(1) Permanent Transfer to NARA after 6 years. (2) Destroy 2 years after cancellation or expiration.

** Ed. Note: for Trademarks, only the case files for specifically selected marks will be transferred to NARA.