Office of the Chief Information Officer

Operational Information Technology Plan

FY 2004 – FY2005

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Chapter 2
Business Area Initiatives

CHAPTER 2

BUSINESS AREA INITIATIVES
OPERATIONAL INFORMATION TECHNOLOGY PLAN

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2.0 Overview

Agency and business area strategic visions, goals, and objectives indicate the direction necessary to successfully perform the USPTO mission. Using the framework of governing strategies and program objectives as guidance, strategic information technology initiatives are the high-level operational action plans that provide more specific details about how information technology will be used to implement this direction.

Shared resource areas provide an information technology product and service foundation or infrastructure for the USPTO (refer to Chapter 1). However, each business area has specific ongoing and planned efforts to develop and build the necessary information technology AISs to perform the business area mission. This chapter provides a detailed description of all ongoing and planned initiatives within both of the USPTO's major business areas – Patents and Trademarks – as well as the USPTO's Financial Management, Human Resources, Information Dissemination, Policy, and business continuity functions.

2.1 Patent Business

Patent Business Area IT initiatives provide enabling capabilities to the entire patent business – electronic receipt and processing of applications, automated tools for examiners, databases of information, and supporting administrative systems. Some of the key systems implemented for the Patents business unit are the Electronic Filing System, the Patent Application Information Retrieval system, the Examiner's Automated Search Tool, the Web-based Examiner Search Tool, and the Office Action Capture System. Significant progress has been made in making IT capabilities more available to the Corps., with a major emphasis in expanding the Patent E-Gov system. The major systems used by the Patent business area will enhance the existing E-Gov technology to provide an improved electronic forum.

2.1.1 Patent E-Government System

The Patent E-Government project updates the Tools for Electronic Application Management (TEAM) automation plans to deliver an operational pipeline to process patent applications electronically in image format by the fourth quarter of fiscal year 2004, using the European Patent Office's (EPO) ePhoenix system. Additionally, the USPTO will continue to collaborate with the EPO to support e-filing and processing of patent applications in eXtensible Markup Language (XML) format using the EPO's ePhoenix system.

The USPTO collaborates with and operates within a global community of intellectual property offices and practitioners. The Patent Office has worked extensively with the Trilateral Partners (European Patent Office (EPO) and Japanese Patent Office (JPO), and the World Intellectual Property Organization (WIPO), to achieve common goals. By leveraging the EPO's ePhoenix

system, the USPTO has an opportunity to identify and pursue collaborative global information technology development with the EPO. The EPO's ePhoenix is an image archiving system designed to support the EPO's Formalities Officer. All processing by the EPO is based on the electronic application contained in EPO's ePhoenix, which serves as the official legal application record. The ePhoenix system, launched by the EPO in May 1998, provided a solution to its paper handling problems in a geographically dispersed environment. Since that time the EPO has made many modifications to the system including making it portable to different physical environments. The USPTO's Electronic File Wrapper (EFW) system will serve as the front-end to the EPO's ePhoenix system and enable Patent Examiner processing of patent applications using EPO's ePhoenix images.

The continued growth in the workload cannot be effectively managed in the current paper-based environment. Implementing an E-Gov strategy, that includes electronic receipt, processing, reporting, and publication will enable USPTO to migrate to a more efficient operating environment that supports USPTO business goal of providing quality services and products in a timely manner to our customers and stakeholders, consistent with the President's Management Agenda, USPTO 21st Strategic Plan, and the OCIO Strategic Information Technology Plan. Building the capability of the EPO's ePhoenix system to capture all new applications in image format in fiscal year 2003 will be the first step in implementing that strategy.

It is critical that USPTO move toward conducting business in a completely electronic environment. In order to increase the number of applications filed electronically, and achieve greater user acceptance, the USPTO is working on various initiatives. The USPTO has awarded a contract with five vendors collectively known as the Electronic Filing Partners (EFPs). The EFPs, in cooperation with the USPTO, are developing software that will be used to file XML-based applications and follow-on papers. All submissions will be compliant with World Intellectual Property Organization (WIPO) Annex F Document Type Definitions (DTDs) and protocols. The first deployment of these products will be in March 2003. Future EFP releases will incorporate XML authoring for follow-on papers and provide the means to electronically receive USPTO generated outgoing applicant correspondence.

Further collaboration with the Trilateral Offices (JPO, EPO, and USPTO) to achieve common goals is also under way. The USPTO has committed to cooperate with the EPO to elaborate the "Open Source" development policy for the ***epoline***® on-line filing software. Additionally, we are working together in pursuing character coded text document technology using XML for managing and prosecuting patent applications filed electronically based on WIPO- Annex F DTDs.

The USPTO is working in close cooperation with the EPO to determine the value of integrating the EPO's eOLF server with WIPO's PCT-Safe Client in order to facilitate electronic PCT filings in the U.S. As the result of Trilateral Office collaboration, the USPTO and EPO agreed that USPTO would provide support to EPO's US National Plug-in development effort. This effort will create a US submission Graphical User Interface (GUI) that will be plugged into

EPO's ***epoline***® client. The USPTO is also testing PatXML, EPO's electronic filing authoring tool.

These efforts in E-Gov will increase the number of applications filed electronically, provide greater user acceptance, and move the USPTO to its ultimate goal of an end-to-end XML-based electronic patent application pipeline that will provide electronic processing of applications from authoring and e-filing to publication.

The core of the Patent E-Gov project was the Tools for Electronic Application Management (TEAM) project. TEAM was to provide a document management and workflow system that would provide the capability to electronically process a patent application. It was to integrate and capitalize on features from a variety of information technology systems currently in use. That project's 6-year plan has been modified in the Patent E-Gov project to use the EPO's ePhoenix system as the central component to provide the end-to-end electronic pipeline. The EPO's ePhoenix system will be integrated with USPTO legacy systems to provide functionality that is unique to the USPTO business process. The integration of EPO's ePhoenix into the USPTO environment will be in phased releases, building functionality incrementally to better manage implementation risk and increase chances of project success. The major functional elements include: electronic filing partnerships, image management using EPO's ePhoenix, workflow capability using the EPO's ePhoenix messaging function, and integration with at least ten major legacy systems (EFS, EFW, EXPO, Pre-Exam, FOS, PAIR, OEMS, PACR, OACS, and RAM) using Enterprise Application Integration (EAI) technology. The use of the EPO's ePhoenix system allows the USPTO to accelerate its transition to a totally electronic environment. This change has increased the overall return on investment and the net present value from the TEAM approach. This change also reduces the dependency on increasing electronic filing rates in the short-term, since all applications (even those submitted in paper format) will be converted to electronic format.

Key functionality of a final end-to-end process will:

- Accept compliant WIPO Annex F Document Type Definitions for routine utility applications through e-Filing authoring and submission tools. WIPO compliance is a major step toward enabling our applicants to electronically author once and file patent applications around the world;

- Provide electronic exchange of priority documents with the EPO. Electronic exchange relieves applicants of the burden of providing paper copies of the priority documents;

- Provide electronic end-to-end application processing pipeline for all new application processing. Fiscal year 2003 functionality will be image-based electronic processing;

- Capture images of all application papers in the electronic file wrapper, including applicant follow-on papers, amendments, and all USPTO generated correspondence. This process greatly reduces the number of lost application papers and increases the

USPTO's ability to reconstruct a file upon request from applicant. Digital image capture also provides electronic collaboration, as well as improved response time to customer inquiries;

- Pre-populate the Patent Application Location and Management (PALM) system with bibliographic data and pre-grant publication data from electronic filings. This procedure eliminates data entry errors from keying the bibliographic information and improves filing receipt quality for applicants;

- Provide official contents of the file wrapper electronically to the Order Entry Management System (OEMS) for order fulfillment. Inclusion into the OEMS will improve quality and decrease turnaround time for customers ordering certified copies of application file wrappers;

- Provide applicants with the ability to access images of all their application papers via the PAIR system. Image accessibility from PAIR system will leverage applicants' investment in Internet and World-Wide Web technologies and allow customers on-line access to the official file including Office actions, amendments, remarks, field of search and prior art;

- Provide applicants with multiple versions of EFP e-filing products. These products will increase the number and features for online electronic authoring and filing of patent applications that are available to customers;

- Integrates the WIPO's PCT-Safe client product with the EPO's epoline eolf server. This integration will allow a US applicant to file a PCT application electronically in the US using WIPO's PCT-Safe client; and

- Collaborate with the EPO on a US National Plug-in for ***epoline***®. The cooperation among the organizations will permit EPO customers to use EPO ***epoline***® software to file US national applications.

The Patent E-Gov program will integrate the individual automated information systems (EFS, EFW, EXPO, Pre-Exam, FOS, PAIR, OEMS, PACR, OACS, and RAM) and achieve the appropriate legal requirements of the transformed patent business process. The electronic patent application process must support statutory regulations promulgated by Congress, as codified under Title 35 of the United States Code (35 U.S.C.), both as the statutes currently exist and as they may become enacted in the future. In addition, the electronic patent application process must be commensurate with USPTO's rules and interpretations of the statutory regulations, as published within Title 37 of the Code of Federal Regulations (37 C.F.R.).

2.1.1.1 Image File Wrapper (IFW)

a. Description

The Image File Wrapper (IFW) system that is an image technology system for storage and maintenance of records associated with patent applications. The IFW system will replace the standard paper applications in paper file wrappers. Paper components of the application file contents (including the specification, oath or declaration, drawings, information disclosure statements, amendments, Office actions, and file jacket notations) of pending applications will be scanned into the IFW system as electronic image files.

The electronic image files in the IFW system will be the official records of the applications. All Office personnel will perform all processing and examination with the electronic image files, instead of paper source documents. The IFW system is consistent with the data processing system used by the European Patent Office (EPO). Office plans to increase information exchange by leveraging common storage architecture.

By December of 2003, approximately 1,700 examiners (from TCs 1600, 1700 and 2800) are expected to be working in IFW environment with all their applications scanned into the IFW system. Examiners will be trained to use IFW desktop tools, messaging system, and desktop application navigator to bring up examiner's docket and any application on their docket. Examiners may print out a working paper file consisting of selected parts of the application (*e.g.*, the specification, drawings, or most recent claim set.)

b. Commitments and Benefits

The IFW will enable patent applicants to electronically access their applications in the IFW system via private side of Patent Application Information Retrieval (PAIR) system. The contents of published applications that are in the IFW system will be viewable by the public through the public side of PAIR in FY 2004. In addition, the benefits of the IFW are as follows:

- Increases the integrity of the Office records;
- Reduces the potential for loss of records and misfiling;
- Allows parallel processing of the application by various parts of the Office; and
- Facilitates intra-office access to an application file and to other authorized parties.

2.1.2 Patent Search Systems

Patent Examiners have, in the past, relied upon a variety of automated tools to perform a comprehensive prior art search. The Search Tools projects support the Patent Business Area macro performance goal of granting exclusive rights, for limited times, to inventors for their discoveries. In the *21st Century Strategic Plan,* the USPTO made commitments toward reducing

pendency and improving quality of patents. To meet these commitments, the USPTO is improving the search and retrieval capability of patent examiners.

2.1.2.1 Automated Biotech Sequence Search System (ABSS)

a. Description

The purpose of the Automated Biotech Sequence Search System (ABSS) System is to sustain the USPTO's business function of performing prior-art searching of polynucleotide and polypeptide sequences claimed in patent applications examined by Technology Center 1600 (Biotechnology). ABSS is designed to accept and store electronic sequence listing data submitted by applicants, and support searching of polynucleotide sequences using data stored from both applicant submissions and public and commercial databases of published sequence information. In addition, the system supports publication and dissemination of sequence information following patent issuance. Since 1989, the ABSS system has been the key factor in sustaining and improving cycle time rates on applications involving claims polynucleotide and polypeptide sequences. Examination techniques made available by the ABSS would be impossible, not just inefficient, without automation. For example, the comparison of one DNA sequence of several hundred characters (bases) against millions of similar published sequences would be impossible without the use of computers, especially at the analytical level required by the patenting process. Technology Center 1600 continues to receive many patent applications that contain large numbers of claimed sequences that need to be searched. Many additional applications of a similar nature are being developed by the Biotechnology industry. Given these projected workloads, the need for continued improvement in the USPTO's ability to process sequence searches is imperative. The current number of sequences in commercial databases doubles in size every 12 months. In addition, the number of sequences to be searched occurred in nearly 7,000 applications. If the growth in the number of sequences and in the number of sequences to be searched continues as expected, the ABSS hardware and software will continue to require enhancements over the coming years to maintain or, preferably, improve overall performance speed and sequence searching sensitivity.

After intensive market research and evaluation of candidate systems, the USPTO purchased two Compugen systems that were operational in January of 2000. In February 2000 it was determined that a third Compugen system was needed to enable searches to be completed in a timely fashion. This Compugen system became operational with a temporary server in August 2000. The permanent server was installed in October 2000.

The ABSS is a special purpose search system with limited applicability to other USPTO examiners and art areas. Most of the development of the ABSS system is unique, since biological sequence searching is not done anywhere else in the USPTO. The system has, however, been built using COTS software and hardware such as Sun Microsystems workstations and servers, and operates on the UNIX operating system.

b. Commitments and Benefits

ABSS supports the Patent Business Area business macro goal "To grant exclusive rights, for limited times, to inventors for their discoveries, and to provide service to customers," and supports the specific Patent Business Area goal to "Receive applications and publish patents electronically."

Expansion of the ABSS system provides USPTO customers with the assurance that they will receive a comprehensive prior art search of the polynucleotide and polypeptide sequence art, representing the highest level of performance for such service available worldwide. In addition, the USPTO's efforts to receive applications and publish patents electronically is greatly facilitated by an expanded ABSS, which has already provided USPTO customers with the first application using computer readable format files for processing of patent application components in the USPTO, and will continue to support efforts for perfecting electronic application filing and management of complex work units, such as polynucleotide and polypeptide sequence listings, for all patent applications.

An expanded ABSS supports the USPTO's customer commitments, and specifically provides these benefits:

- **Reduction in Processing Cycle Time for Sequence Searches**: An expanded ABSS provides the processing power needed to handle the increasing volume of sequence claims being filed by applicants, and the additional processing power needed to search through commercial prior art sequence databases containing millions of sequence records and doubling in size each year;

- **Improved Sequence Search Quality**: Ability to produce more comprehensive, detailed sequence search analyses using more efficient hardware/software, which results in more rapid biotechnology patent decisions and improved patent examining corps productivity, and provides world leadership in prior art sequence search methodology;

- **Improved Ability for Accepting Validated CRF Data**: The expanded ABSS uses data provided from the CRF receipt system software as input data for the pending and issued databases and provides the USPTO with the databases that effect timely and quality examination of patent applications which contain disclosure/claims to amino acid and/or DNA sequences. This searching is conducted by using applicant's computer readable sequence listing. This supports the USPTO's objectives to receive and process applications electronically;

- **Provision for Electronic Processing and Publication**: An expanded ABSS continues support for elimination of time-consuming and error-prone keying activities by using electronic sequence records submitted and stored to generate search queries, and providing electronic data to support the patent publication process;

- **Greater Accountability**: Continued expansion of an in-house operation of the ABSS System provides greater control over the production process, improved system reliability through direct maintenance actions, lower overall cost versus dial-up service, and greater security over sensitive sequence information contained in patent applications; and

- **Lower Cost/Higher Efficiency**: Research and analysis to create an expanded ABSS ensures that the USPTO incorporates the most efficient sequence search processing system at a reasonable cost, and eliminates the threat of short-term ABSS obsolescence.

2.1.2.2 Patent Examiner Computer Search Support and CSS Auxiliary Databases (CSS)

a. Description

To determine invention patentability and make classification decisions, USPTO employees use automated text searching to search through large volumes of full-text patent documents to find and retrieve only those documents that are relevant. The Computer Search System is central to a number of USPTO operations, including examination and classification, and implied operations such as data translation.

The Computer Search System project improves the quality of patent examination searches, provides additional functionality, supports increasing numbers of patent examiners, and reduces operating costs. The USPTO investigated and selected a candidate product to replace Messenger in July 1997. USPTO deployed the selected product in July 1998 to perform searches of the Derwent World Patents Index. In FY 1999 USPTO completely replaced Messenger by moving all Messenger databases to OpenText's (formerly Dataware's) BRS text search engine. With the use of the new text search product, patent examiners are able to search the text and sections of text (such as the Background, Detailed Description and Claims sections). They will also eventually be able to search graphics and other complex work units attached to a patent, such as chemical structures.

The new search product is fully integrated into the USPTO's electronic operations. All patent data, U.S. and foreign, can be treated as a single comprehensive search resource. Patent examiners can conduct a single search of multiple databases and receive a consolidated search result. Text search results are also integrated with image retrieval capabilities via the WEST (Web-based Examiner Search Tool) and EAST (Examiner Automated Search Tool) interfaces.

In FY 2000, value-added indexing, such as technology-specific thesauri, keywords, notes on documents, and compilations of trade names, common names, synonyms and art-specific acronyms, were deployed. The addition of this indexing facilitates the retrieval of pertinent documents by providing additional and varied search terms.

The USPTO will add enhancements to the text search system to permit more in-depth searching and use of the system. In FY 2001, a new database for PGPub was added. In FY 2002, a new database for U.S. Patent OCR text was added, which included data back to 1920. In FY 2003, U.S. Patent backfile OCR data back to 1790 is being added. In the future, foreign full text patent databases will be added. Also in future years, the CSS will support pre-search and interference search functions, use of a common command language to search internal and external databases, data mining, searching of complex work units, and incorporation of Certificate of Corrections data into the U.S. patent database.

- **Improve the Quality of Patent Searches**: The Computer Search System will provide advanced search capabilities and tools to improve the retrieval of relevant references. Further, the system will enable patent examiners to retrieve documents relevant to patentability decisions from a large number of USPTO-owned and commercial databases;

- **Reduce Pendency Time**: By providing a single point of access to a number of databases, the system will enable examiners to filter through ever increasing amounts of data quickly to identify relevant material. Time consuming manual search efforts will be minimized;

- **Reduce Operating Costs**: Since the Computer Search System will be based on COTS (commercial off-the-shelf) text search and retrieval software in a client-server environment, development, operating and maintenance costs have been greatly reduced;

- **Pre-Search**: The text search functionality of commercial off-the-shelf products can be used to provide patent examiners with an automatically executed text search based on the text of the patent application being examined. PLUS (Patents Linguistic Utility Service), a query by example search system, allows such a text search to be conducted. The title, abstract, background and brief summary sections of the applications are OCR'd to perform the search. Pre-searching will eventually receive the text of incoming patent applications from the Patent Application Capture and Review (PACR) system;

- **Data Mining**: The Computer Search System will support data mining by providing tools for analyzing search results using various criteria such as location of hits, years in which the retrieved documents occur, companies to which patents are assigned, and the most prevalent classifications. Search and data mining results will be represented graphically to provide a picture of the distribution of data by one or more user-specified criteria. Such visualizations can also provide useful feedback to the search process;

- **Complex Work Units**: The Computer Search System will provide mechanisms for searching complex work units such as mathematical equations, chemical structures, and data in tables. This may involve setting submission standards so that this data can be captured in a form that permits searching. This will provide a search capability that does not exist in the current text search system; and

- **Certificates of Correction**: Corrections to patent data are documented in Certificates of Correction, which are appended to the paper copies and images of U.S. patents, but which are currently not available in text-searchable form. Once the corrections data has been captured, probably through the use of OCR technology, the Computer Search System will provide access to the data. This will improve the quality and search capability of the U.S. patent database.

b. Commitments and Benefits

The Computer Search System project supports the Patent Business Area macro performance goal of granting exclusive rights, for limited times, to inventors for their discoveries. The USPTO made a key commitment toward reducing pendency and increasing quality of patents. To meet this key commitment, the USPTO needs to provide patent examiners with the appropriate automation tools for processing the patent applications. One of the steps necessary to realize this commitment is the expansion of electronic search capabilities to those provided by modern commercial off-the-shelf search products.

In accomplishing this step, the Computer Search System project will provide the following benefits:

- **Improve the Quality of Patent Searches**: The Computer Search System will provide advanced search capabilities and tools to improve the retrieval of relevant references. Further, the system will enable patent examiners to retrieve documents relevant to patent ability decisions from a large number of USPTO-owned and commercial databases;

- **Reduce Pendency Time**: By providing a single point of access to a number of databases, the system will enable examiners to filter through large amounts of data quickly to identify relevant material. Time consuming manual search efforts will be minimized; and

- **Reduce Operating Costs**: Since the Computer Search System will be based on COTS (commercial off-the-shelf) text search and retrieval software in a client-server environment, development, operating and maintenance costs will be greatly reduced.

2.1.2.3 PatentIn System and Computer Readable Form – Checker System (PatentIn)

a. Description

The USPTO receives approximately 10,000 initial submissions annually of nucleic and amino acid sequence data as part of biotechnology patent applications. This information is required to be submitted as a Sequence Listing in either paper, or CD, and computer readable forms and

must conform to current sequence submission rules pertaining to accepted values and data format. The PatentIn software program provides an efficient and convenient means by which applicants may create the Sequence Listings to comply with U.S. and international filing requirements for biotechnology patent applications containing nucleic and amino acid sequence information. Although applicants may use any available means, more than 50 percent use PatentIn to submit sequence information to the USPTO. PatentIn generates sequence listings in conformance with the World Intellectual Property Organization (WIPO) Standard ST.25.

PatentIn submissions are validated by the Computer Readable Form (CRF) system before loading in the Automated Biotechnology Sequence Search (ABSS) System. CRF takes the amino acid and nucleic acid sequence listing data made using PatentIn 3.0 and submitted to USPTO by customers, processes the sequence listings, verifies the formatting of sequence data, and transfers the formatted data to the ABSS database(s).

b. Commitments and Benefits

The commitments made to customers and staff are being met by improving the quality of sequence listing of patent applications and enhancing the data validation electronically. These efforts are also yielding higher efficiency in the way the process operates at lower cost. In addition, the benefits are as follows:

- **Improved Sequence Listing Quality**: PatentIn produces the applicant's Sequence Listing electronically, and the program features will permit an analysis of the submission to automatically assess whether or not the submission complies with USPTO requirements. Further validation routines can be included in the program to test other conditions as required by the USPTO;

- **Improved ability for accepting and validating data electronically**: PatentIn contributes to meeting the Patent goal of allowing customers to file applications electronically and permits the office to incorporate aspects of automated processing of applications. Once captured electronically, the Sequence Listing can be transferred to other parts of the USPTO for local processing as required. If an applicant files electronically he or she will not have to file a separate paper copy of the sequence listing, thus decreasing the workload imposed by the need to comply with the sequence rules; and

- **Lowest cost/highest efficiency**: PatentIn covers a specialized submission requirement for biotechnology patent applications that otherwise might not be addressed. That is, the requirement to accept, validate, and process Sequence Listings electronically is complex, and development of PatentIn provides the USPTO with a necessary component that can be combined with an overall efficient electronic filing process.

2.1.2.4 Examiner Automated Search Tool (EAST) and Web Electronic Search Tool (WEST)

a. Description

The Examiner Automated Search Tool (EAST) evolved from the initial text and image retrieval capability initially provided in workstation cluster rooms to selected examining Groups. Beginning in February 1996, the USPTO upgraded the desktop workstations of all patent examiners to provide desktop image workstations. In November 1997, new Windows NT-based image search and retrieval software – Image Search and Retrieval (IS&R) – was deployed. IS&R offered rapid access to all U.S. patent images.

In August 1999, the separate Global Patent Information Client (GPIC) and IS&R keyboard-based coded clients were replaced with a single high performance text and image client—EAST. EAST enables users to search all in-house databases – U.S. patent images and text, and foreign patent data – from a single, high performance application.

The Web Electronic Search Tool (WEST) had as its origin the Global Patent Information (GPI) Web text search tool deployed in April 1997. GPI Web was a server-based web application, using as its interface the Netscape Navigator web browser. The USPTO deployed a browser-based client as a means to attract more examiners to use automated search tools. The rationale was that browser based clients are more intuitive and therefore more user friendly.

In June 2000, WEST 2.0 was deployed; offering foreign patent searching by USPC, patent classification searching in Manual of Classification order, customizable display formats and a host of other enhancements. Continuing enhancements are planned for future years including access to new databases and the ability to support launching WEST from the EFW GUI and automatically passing a list of relevant documents to be reviewed in WEST.

b. Commitments and Benefits

The commitments and benefits to the customer and staff are described below:

- **Improved Process**: The desktop search tools will permit patent examiners to search and retrieve U.S. patents at their desktops rather than having to walk between multiple buildings to search different classifications. The integration of the various search tools for image search, text search and foreign patents will enable patent examiners to become more proficient with a single tool that does all three functions. EAST and WEST will allow the user to search multiple text databases (e.g. USPAT, EPO, JPO, Derwent, IBM TDB) with a single query and obtain a consolidated answer set for review of document images. Time saved through the seamless integration of image search and retrieval with text searching of multiple databases and with workflow tools (OACS) permits Examiners to devote more resources towards quality and productivity;

- **Reduced Costs**: Provide robust image retrieval capabilities to all patent examiners will eventually allow the USPTO to reduce or eliminate the paper search files, thereby saving storage space and the costs associated with refilling the documents the examiners pull from the search files for further study; and

- **Improved Work Environment**: The physical surroundings in which patent examiners work will be improved as paper search rooms are eliminated and examiners no longer need to work with paper that is often very old and dusty. The space currently occupied by paper could be returned to the staff. The work area would be cleaner, less cluttered/more open, and generally more esthetically pleasing.

2.1.2.5 Foreign Image Search Capability (FISC)

a. Description

The Foreign Image Search Capability (FISC) supports the load and retrieval of foreign patent document images from our exchange partners (European, Japanese, Canadian and other patent offices) to provide access to the images by examiners and the public via the Public Search Room (PSR).

The objective of the Non-Patent Literature project is to provide patent examiners with resources to make more effective use of non-patent literature, primarily by providing easy access to additional, inexpensive and more versatile electronic information service providers (containing technical journals, magazines, newspapers etc.).

b. Commitments and Benefits

The FISC activity will meet the commitments and benefits to the customer and staff by:

- Supporting the patent application examination mission requirement to perform a national prior art search and a Patent Cooperation Treaty (PCT) minimum documentation prior art search, thereby satisfying U.S. patent laws and international treaty obligations;

- Providing electronic access to various search assistance tools, facilitating examiner's determination of relevant fields of search, thereby improving examination efficiencies;

- Facilitating assignment of USPC classifications to foreign patent documents, allowing for high volume processing without incurring additional demands on available personnel resources; and

- Providing electronic access to concordance information that will assist the examiners in correlating the appropriate classification to search in each classification system without the requisite need for detailed training in the implementation of each system.

2.1.2.6 Patent Application Images on the Web

a. Description

This activity supports the publication of images of patent applications on the web in a timely manner. Application images on the web will be upgraded to support electronic retrieval of references.

b. Commitments and Benefits

The commitments to the customer and staff are met by supporting the retrieval of references directly from the Internet. The benefit of this capability is that USPTO complies with the statutory requirement to publish applications at 18 months.

2.1.2.7 Patent Application Text on the Internet

a. Description

The Patent Application Text on the Internet provides the public with access to published application text in support of the 18 month statutory requirement. The public searches published application using the text capability and then accesses the images through the text results.

b. Commitments and Benefits

The Patent Application Text on the Internet enables examiners to access patent applications from the Internet. The benefits are as same as the Patent Application Images on the Web and the Patent in that the system supports the publication of patent applications at the 18 month timeframe.

2.1.2.8 Patent Image Retrieval System (PIRS)

a. Description

The Patent Image Retrieval System (PIRS) serves as the patent document image data source for all the automated examiner search tools, the Public Search Room, Office of Public Records, and PTO public Internet access programs, which provide U.S. Patent image data. PIRS contains the most current data for issued patents, and is updated with the latest Patent Weekly Issues and,

where necessary, Certificates of Correction and any other changes to issued patents. PGPub PIRS will include the most current PGPub application image data, which will be available to Examiner search tools and to the public over the Internet.

b. Commitments and Benefits

The commitment to the customer and staff are being met as PIRS continues to provide instantaneous retrieval of text data and images. The benefits of the system are that (1) image search files are kept current; (2) millennium agreement is supported by the system; and (3) the quality of the search product is improved.

2.1.2.9 Patent Web Portals

a. Description

This effort is essential for developing the International Priority Document Exchange (IPDE) System and public access to file wrappers. This effort ensures the completeness of the applications compliance with the relevant rules, and classifies them for routing electronically.

b. Commitments and Benefits

The commitment to the customer and staff are being met by establishing the essential components of a Web-based Patent search system. This effort complies with the E-Gov initiative by providing the infrastructure and electronic file wrapper product to allow customers to access Patent applications electronically through the Internet.

2.1.2.10 Public Site for Issued and Public Sequences

a. Description

The Public Site for Issued and Public Sequences (PSIPS) system contains data from sequencing, large tables, and other complex work units. The data is manipulated before it is loaded on to the web page for access across the Internet, as well as by USPTO examiners. The data manipulation occurs from the information received from RTIS, and data is repaired as problems occur. In addition, enhancements will be undertaken so that data load occurs once, and maintain pointers that are referenced by individual applications and grants. This enhancement will eliminate the need to load data multiple times.

b. Commitments and Benefits

The commitments to the customer and staff are the ability to (1) maintain and support, as necessary, the current PSIPS; (2) move to dedicated hardware; (3) provide improved access to

mega sequences on the web; (4) make future enhancements include searching of tables, and possibly sequences; and (5) display and searching of complex work units. In addition, the benefits are as follows (1) compliance with the information dissemination requirements of the patent statutes; (2) more usable information for USPTO examiners; (3) higher availability of table data to the public; and (4) better use of data storage.

2.1.3 Patent Application Capture System

The Patent business will continue to enhance the application capture system capabilities by employing a seamless approach to automated capturing. The Patent business recognizes that applicants will continue to submit paper applications for the foreseeable future, and therefore must have the means to scan all incoming applications and convert them to character coded text and electronic images. A web-browser interface has already been deployed and the Patent Business will pilot the capture of follow-on applicant papers and office actions. A formalities review capability will be added in FY 2005.

2.1.3.1 Electronic Filing Partnership (EFP)

a. Description

The Electronic Filing Partnership (EFP) project is entering a critical phase of deployment between the EFP vendors and the USPTO. The EFP vendors have been given information and assets that will allow them to develop an e-filing solution. The USPTO is building a server and submission tool named electronic Package and Validation Engine (ePAVE) to allow applicants and vendors to electronically file using the standards in PCT Annex F. The Trilateral offices will offer free software to the author the patent specification that can work in conjunction with ePAVE to support all the current USPTO e-filing submission types.

b. Commitments and Benefits

The Electronic Filing Partnership meets the commitment to the customers and staff by offering enhanced capabilities. For instance, this effort allows transmission of outgoing correspondence to applicants, receipt of amendments, receipt of follow-on papers, and PCT Annex F compliant DTDs and protocols. From these commitments, there are benefits, such as increase in the user acceptance of e-filing, applicants to electronically author one and file patent applications worldwide, data quality improvement, and reduced turnaround time.

2.1.3.2 Patent Application Capture and Review System (PACR)

a. Description

The Office of Initial Patent Examination (OIPE) receives all patent applications, ensures their completeness and compliance with the relevant rules, classifies them for routing to the appropriate sector within the Examining Corps, and performs a preliminary screening for National Security Interests. The Patent Application Capture and Review (PACR) System scans all the initial paper-based application papers submitted by the applicant, renders this information into electronic images, and creates a computer readable text through the use of OCR technology. Advances in the computing technologies of contextual searching and Optical Character Recognition (OCR) have made it possible to automate many of the processing steps that OIPE personnel currently perform manually. Automating these processes will minimize the need for additional staff resources, free current staff for other work, and allow many of the steps to be completed simultaneously.

In addition, the use of color for illustrative purposes in utility and design applications and for merit in plant applications will increase greatly in the future. Since the number and size of new applications continue to increase, a capability is needed to capture and process color drawings and photographs into information useable by USPTO systems. PACR will also support high resolution scanning of color drawings and photographs received as part of patent applications. Currently, PACR is upgrading the Kodak scanners to versions that scan 33% faster to assist the quicker entry of Applications.

In April 2000, PACR also instituted scanning and OCR of Patent Cooperation Treaty (PCT) application initial papers and capturing of index and bibliographic data for POWER (a subsystem named POIS).

In early FY 2001, PACR enhancements for processing for the Pre-Grant publication of applications were deployed. These enhancements included a basic level of document version control, export of PACR images on magnetic media, improved OIPE image review and correction functionality, and CD-R output of PACR images as an alternative to paper for public sale.

November 2001, PACR implemented version 2 of POIS in support of the deployment of POWER 2.0. Enhancements to POIS included the data entry of Foreign Origin Search Copy. In mid FY 2002, PACR will undergo infrastructure upgrade to a new UNIX server. Additionally, many ECRs form a PACR release to add functionality, enhance the License and Review system (LARS) with CD-R output capability for LARS for 3rd level referrals, and improve the OIPE review and editing capability. Again, in mid FY 2002, the initial rollout of the ability for Examiners to view PACR captured Application Images via the web shall occur.

Many future enhancements are planned for PACR after 2002. Primary among these will be integration of PACR with EFS and TEAM processing. Later PACR will be enhanced to provide increased functionality to determine the legal completeness and integrity of the initial patent application (formalities review). PACR will further support PCT application follow-on papers

and capturing of data for POWER. PACR will form the foundation for the International Priority Document Exchange (IPDE) system. Much later, PACR will provide production capture and processing of color drawings, color photographs, black-and-white photographs, and video exhibits during this version.

b. Commitments and Benefits

PACR supports the Patent Business Area macro performance goal of granting exclusive rights, for limited times, to inventors for their discoveries. The USPTO also plans to reduce pendency and increase quality of patents granted. To meet these goals, the USPTO needs to achieve electronic processing of patent applications. Some of the steps necessary to realize this commitment are: the ability to convert paper patent applications to electronic form, the ability to review electronic application input from selected participants; and the ability to use automated classification tools, thereby enhancing the quality and reducing the cost of pre-examination processing.

With the introduction of PICS (predecessor to PACR) in 1997, the following processing benefits related to efficiency were achieved:

- A more timely capture of applications in the Pre-Exam process;
- A store of application images for use by all USPTO offices. These image files allow for multiple concurrent access, which supports parallel processing of applications and the physical movement of paper documents;
- Replacement of microfiche as a storage media;
- Establishment of processes for operating a high volume scanning operation;
- Data capture modularity to support capture of application data anywhere in the USPTO;
- Semi-automated security review of Patent Applications; and
- Online classification of Applications for Publication.

Similar efficiency benefits can be expected in the deployment of PACR to capture follow-on applicant papers and office actions. PACR will provide benefits through:

- **Increased Foundation for Electronic Workplace**: PACR provides the modular, transferable technology for capturing application paper documents in electronic text and image storage form. All application images, text, and metadata is then available for other electronic workplace automation efforts such as PCT Operations Workflow and

Electronic Review (POWER), Pre-search, Interference Search, and Pre-Grant Publication;

- **Reduced Labor and Photocopy Costs**: PACR provides the application data in electronic form, which, in the final versions, will eliminate the need for the physical retrieval and photocopying of paper files. These files will be available to print anywhere needed within the USPTO;

- **Enhanced Security**: The security and integrity of the electronic file is better preserved than with the hard copy documents;

- **Efficient Processing**: With the introduction of OCR technology, the patent application images are converted into text form allowing the elimination of current manual processing activities, such as initial classification for routing, examiner text search, and initial national security interest review, currently performed in OIPE. The automated OIPE processes can be performed in parallel on electronic copies of the patent application, reducing processing time and operational costs;

- **Support Future IT projects**: PACR also will begin to lay the foundation for processing of patent applications into intelligent documents that will support on-line examination systems as well as automated publication systems;

- **Increased Reliability**: The electronic representation of the patent application captured by PACR will be stored on reliable magnetic storage and backed up on magnetic tape, providing redundancy for the paper patent application. The magnetic tape backup will be stored off-site, providing even greater reliability;

- **Decreased Overhead**: PACR will provide the text of a patent application, which requires significantly less storage than the images for the patent application's pages. Systems that require only the text of the application will benefit from the retrieval and processing of a smaller block of data; and

- **Increased Responsiveness to Customers**: PACR will automatically notify applicants via Internet electronic mail and facsimile that their information has been received and a filing date assigned. This process currently takes weeks after the receipt of a patent application. However, there is some legal research to be done before this benefit can be accomplished.

2.1.3.3 Patent Electronic Filing System (EFS)

a. Description

The Patent Electronic Filing System (EFS) is designed around a common "submission engine" that presents an electronic form to the applicant to collect bibliographic data and allows the applicant to attach the specification, claims, drawings and other files needed to complete the application as well as submit fees by credit card. The submission engine combines the files into a single compressed file, encrypts and digitally signs the file, and transmits the file to the USPTO over the Internet. The applicant is able to develop the complex parts of the application using an authoring tool based on commercially available software products. Applicants then attach those files to create a submission package.

b. Commitments and Benefits

The USPTO has made a key commitment toward accomplishing a goal of incorporating e-commerce into its operations. To meet this key commitment, the USPTO needs to achieve electronic submission and processing of patent applications. One of the steps necessary to realize this commitment is ensuring the ability of applicants to submit an electronic application. In addition to meeting a key customer commitment, EFS will provide benefits to customers and staff alike through:

- **Efficient Processing**: With EFS, application files are prepared and submitted in an electronic form. Applications and other papers entering USPTO in electronic form will not have to be converted; they can be routed to the electronic processing and/or publication stream directly. More efficient and timely processing will provide the means to reduce operational costs. The EFP will provide additional XML based tools that will offer a variety of interfaces for patent filers;

- **Greater Accountability**: Applicant queries relating to application receipt will be eliminated, as applicants will have immediate confirmation of receipt by the Office; and

- **Higher Quality Filings**: EFS will also aid applicants in eliminating many of the more common filing problems while creating their document. Applicants will not be able to submit filings containing many commonly occurring errors. In addition, the Electronic Filing Partnerships (EFP), will offer a variety of front-end interfaces, providing customers more choices to suit their needs.

2.1.3.3 Patent Cooperation Treaty Operations Imaging System (POIS)

a. Description

The Patent Cooperation Treaty (PCT) Operations Imaging System (POIS) supports the PCT Operations Workflow and Electronic Review system. POIS operate across the (PTONet), and is protected by Cylink Secure Domain Units (SDU) encryption hardware. The Scanning Subsystem captures digital images of international patent application documents submitted in paper form as well as allowing manual transcription of bibliographic data. These images are stored in an

Oracle database which users may access in order to view, print, index (that is, rename) or annotate (that is, apply markings) the documents. An automated first-level security review module reviews an OCR'ed version of the contents of the application searching for terms and phrases of national security interest. Such applications are electronically referred to a Licensing and Review Subsystem (LARS-PCT) where specialists perform a more in-depth security review. Images within the POIS database are also available to the Order Entry Management System (OEMS) for preparation of certified copies of international applications. 100% of new international applications are scanned into the POIS system.

b. Commitments and Benefits

The POIS meets the commitments made by the USPTO to develop a reliable system for capturing international patent application documents. The POIS enables USPTO to handle PCT cases electronically. In addition, the benefits of POIS are twofold. First, POIS provides the same technology and functionality for capturing application paper documents in electronic text and image storage form to support PCT operations workflow and electronic review automated system. Second, migration of POIS to end-to-end electronic patent application processing further establishes foundation for electronic workplace as part of TEAM.

2.1.3.4 PCT Operations Workflow and Electronic Review System (POWER)

a. Description

The Office of Patent Cooperation Treaty (PCT) Operations acts as a Receiving Office for international applications, supports the USPTO in its capacity as an International Searching and Preliminary Examining Authority, and conducts initial administrative processing on international applications that are entering the U.S. national stage. PCT Operations has been facing a 10-to-15 percent yearly increase in its caseload. Staff resources have not been increased at the same rate. The ability of the existing staff and the current processing stream to meet treaty obligations and providing a high level of service to applicants is being taxed to the breaking point.

The current manual paper-based process contains inefficiencies and redundancies and steps are currently underway to institute process improvements. While implementation of improved processes will provide some increased processing capability – by itself, it cannot guarantee that workloads will be adequately processed into the future. PCT Operations still faces an increasing physical volume of paper that compounds the problem. Any additional gains in processing capacity and relief from the overwhelming paper must rely on the introduction of automation.

Conversion of paper documents to electronic files containing text and image information is the first step to minimizing the volume of paper. Using workflow, and document forms software, nearly all of the processing of the PCT application can be accomplished without the movement of paper through the processing stream. Eventually, the system will encompass complete

electronic processing starting with receipt of an electronic application authored and transmitted by the applicant and culminating with electronic transmission of correspondence to the downstream customers.

Automation of PCT Operations will be accomplished with the development of PCT Operations Workflow and Electronic Review System (POWER), the PCT Operations Workflow and Electronic Review system. POWER will interface with EFS, TEAM, PALM, and Order Entry Management System (OEMS) for requests for US priority documents, and PACR License and Review Sub-System for applications requiring national review.

POWER will be developed and deployed in three phases. The first phase is complete and produced electronic international applications for review and routing within PCT Operations for Chapter I processing, and supports automated fee calculation, and initial formalities review. Phase 2 was completed in November 2001 and provides automated processing of demands for international preliminary examination under Chapter II of the PCT and enhanced and expanded automated features of Phase I. Maintenance of POWER will be the focus from FY 2002 and thereafter.

b. Commitments and Benefits

POWER supports the goals of (1) Reducing procedural, process problems and unresolved issues in all business activities; (2) Improving process management for files, papers, and faxes; and (3) Improving resources for our employees to carry out their organizational responsibilities.

To meet these key commitments, the USPTO needs to achieve electronic processing of patent applications. One of the steps necessary to realize this commitment is the automation of the PCT organization for receipt and processing of international applications in electronic form.

In addition to meeting key customer expectations, POWER will provide benefits to customers and staff alike through—

- **Efficient Processing**: With the introduction of automated PCT processing, application files will be rendered into an electronic form that will be routed through the processing stream. Editing and error checking will be built into the process reducing the incidence of error and increasing the quality of the work produced. The electronic processing of applications will shorten the time taken for the applications to reach key stages in the process cycle. More efficient processing and higher quality product provides the means to a reduction in operational costs;

- **Greater Accountability**: Tracking of the status of a given application will be improved with the advent of workflow automation. POWER will collect tracking and status information providing managers the information necessary to most effectively direct staff effort and control pendency. Applicant queries on application status and other case specific queries will be answered more quickly;

- **Increased Compatibility with WIPO and Other Downstream Customers**: POWER would allow the USPTO to send applications and other related documents to and receive the same from other PCT offices in an electronic form. This medium will result in both cost and time savings; and

- **Improved Work Environment**: The physical surroundings in which PCT staff members' work will be improved as stacks of papers are eliminated from desks and floors. The space currently occupied by paper could be returned to staff. The work area would be cleaner, less cluttered/more open, and generally more esthetically pleasing.

2.1.3.5 Reexamination Processing System (REPS)

a. Description

The Reexamination file system REPS was introduced into the Patent Search Room in February 2000. Re-exam files may be browsed and images printed via a stand-alone REPS workstation and printer. REPS provides access to all USPTO's archival CD-ROM image retrieval products USAPAT, USAMARK, and assignments. Access and printing from the CD-ROM LAN is free. REPS is to be replaced by IFW, and REPS Data is to be migrated into IFW beginning in FY 2003.

b. Commitments and Benefits

REPS scans re-exam applications and supports the re-exam process. Applications can be viewed and printed online. The REPS is expected to be phased out in FY 2003.

2.1.4 Patent Application Processing System

The USPTO application processing system involves the ability to track the status and history of a patent application that is being processed through the system. The IT systems that support the monitoring of the application process (receipt, data capture, and retrieval) are conducted in a reliable and secure environment. The major systems that perform this task include the Patent Application Location and Monitoring System (PALM), Patent Application Information Retrieval System (PAIR), Patent Classification Data System (CDS), and the Office Action Creation System (OACS). In addition, there is a high availability activity to maintain the servers that support the application processing workflow.

2.1.4.1 Patent Modeling and Budget Administration System (OPBudget)

a. Description

The Patent Modeling and Budget Administration System (OPBUDGET) is a business analysis and modeling tool that enables the Commissioner for Patents, Office of Patent Resources Administration (OPRA) to make decisions and assist with the preparation and submission of Patents proposed operating plans and budgets. OPBUDGET provides business managers and senior executives with the ability to view business information from a variety of perspectives, create business models, and perform interactive modeling and scenario building. The OPBUDGET system includes projections of out years staffing needs, production levels, pendency, expenditures, and revenue. The system compares current year projected spending with actual spending and allows for appropriate adjustments. OPRA operates and maintains the OPBUDGET system to (1) support staff and production modeling; (2) formulate estimated operating budgets; (3) monitor the congressionally approved budget; and (4) project revenue for the Patent Business Unit.

The OPBUDGET system meets USPTO business needs such as activity-based workload estimation and pendency projection. The new system provides individual functional areas within the Patent Business Unit the capability to perform budget planning and monitoring tasks concurrently.

Planned system enhancements will permit OPBUDGET to access Patent Application Locating and Monitoring (PALM) system, Revenue Accounting and Management (RAM) system, Momentum Financials, and National Finance Center (NFC) personnel data from the USPTO Data Warehouse.

b. Commitments and Benefits

OPBUDGET supports the Patent Business Area macro performance goal of granting exclusive rights, for limited times, to inventors for their discoveries. USPTO needs to achieve electronic processing of patent applications. One of the steps necessary to realize this commitment is the automation of the preparation and submission of the proposed Patent Business Area operating budgets.

In addition to meeting a key customer commitment, OPBUDGET will provide benefits to customers and staff alike:

- OPBUDGET provides individual functional areas within the Patent Business Unit the capability to perform budget planning and monitoring tasks concurrently;
- The OPBUDGET activity-based structure more directly supports the modeling of alternative patent processing approaches;
- OPBUDGET is more accessible to a wider range of users over the PTONet; and

- OPBUDGET is fully integrated into the USPTO's current and long-term strategic information technology infrastructure, which enables easier system maintenance.

2.1.4.2 Office Action Creation System (OACS)

a. Description

The Office Action Correspondence Subsystem supports examiner creation of required USPTO correspondence associated with national and international application processing. Key features of OACS include:

- Data retrieval from PALM. Based on application serial number, PALM will automatically provide applicant name, correspondence address, and filing date;
- Over 20 U.S. forms, including Re-examination forms;
- Form paragraph selection by using keyboard or mouse, direct entry or menu, menu selection by form paragraph number, title or category. An optional viewer is provided so users can review Form paragraphs before insertion into their actions;
- Optional Action Wizard for creating Election/Restriction, Examiner's Amendment and Examiner's Answer correspondences;
- Action Wizard and direct edit most PCT action fields;
- Highly customizable form paragraphs, custom forms, correspondence templates, and office action scenarios;
- Built-in document management system. Automatically keeps track of the complete set of documents comprising each Office Action by serial number, including all corresponding forms; and
- Data retrieval from BRS. Based on document number, OACS will retrieve from BRS the publication date, inventor name, and classification and enter the data on form PTO-892.
- A new Patent Reference Capture. Automatically captures the US Patent documents cited on a PTO-892 and PTO-1449 to PALM database.

The USPTO also plans to provide electronic capture and storage of office actions for examiners to search and use for future reference in FY 2003. OACS 2.0 will enable users to save their office actions to a central database in an XML tagged format. The next version will allow USPTO to exchange the PCT office actions with the European Patent Office and the Japanese

Patent Office in FY 2004. This capability would use XML; support the exchange of US office actions with foreign offices. OACS will also integrate with EFW and IFW, and support the Issue Paper P-36.

b. Commitments and Benefits

The OACS project supports the Patent Business Area macro performance goal of granting exclusive rights, for limited times, to inventors for their discoveries. One of the steps necessary to realize this commitment is the integrated desktop access to all automation resources needed by examiners to perform their job.

In accomplishing this step, OACS will provide the following benefits:

- **Improved Process**: Examiners will be able to examine both national and international cases, and fill out the appropriate forms using one integrated application. The integration of the multiple application type processing eliminates the need for separate software applications and reduces the burden on examiners by having to be trained on only one tool. The importation of data from the PALM database, BRS, and data sharing among forms will decrease the amount of time an Examiner spends on completing office actions. Time saved on completing forms will permit Examiners to devote more resources towards quality and productivity and

- **Improved Quality of Office Actions**: OACS will improve turnaround times to update forms and form-paragraphs to reduce the number of outdated forms and form paragraphs mailed to Applicants. Through incorporation of XML tagging OACS will incorporate automatic data validation rules and reduce the resulting electronic file size by capturing only the essential data contents. These activities result in a more consistent use of current US and PCT forms and form paragraphs and office action accuracy thereby enhancing quality of office actions. The reduced file size provided by XML tagging will reduce the growth requirements for additional data storage.

2.1.4.3 Office of Patent Quality Review System (OPQR)

a. Description

The Office of Patent Quality Review (OPQR) is responsible for independently measuring and reporting the level of overall quality of examination of patent applications by the Corps. OPQR is also responsible for conducting its own surveys of Patent Corps performance to evaluate the integrity of the review process within the Patent Corps.

The current system consists of a database that resides on the shared network folders, with one person primarily responsible for the assimilation of the information into a monthly report to the Director and senior management. Current reports do not provide management with sufficiently

timely or complete information about the examination process. Although presently the monthly reports are dispatched via e-mail, this is only a recent development within OPQR and only provides fixed types of reports and data to the various management levels. Additionally the present reports are based on a limited review question pool that may not meet the current needs of the various management levels.

This project will establish a system for entering quality review data into the system, and for providing quality information. The system will feature electronic forms for data entry by OPQR reviewers or other designated employees, automated tabulation techniques, and 24 hour secure access to all evaluation results showing the progress of the Technology Centers toward their quality goal objectives.

The new Oracle-based system will be modeled after the existing database system with respect to data entry, analysis, and retrieval. Although significant changes will be made in the amount and types of information gathered and reported to management, the basic concepts and accounting techniques for the present system will be incorporated into the new system.

b. Commitments and Benefits

The Quality Review project supports the Patents macro performance goal of granting exclusive rights, for limited times, to inventors for their discoveries. Specifically, it supports Patent Business Goal Four: "Exceed our customers' quality expectations, through the competencies and empowerment of our employees." To meet this performance goal, the USPTO needs to track and monitor the progress of the Patents Business Area quality goal objectives. This effort will provide benefits to customers and staff alike as described below:

- Providing accurate, up-to-the-minute, reliable information that the USPTO management wants and needs in a timely manner;
- Enhancing the Patents business area's ability to identify needed modifications to examiner training based on the reported information; and
- Providing diverse options for product review and data entry by multiple USPTO staff members from multiple locations campus wide.

2.1.4.4 Patent Application Location and Monitoring System (PALM)

a. Description

The USPTO relies on the Patent Application Location and Monitoring (PALM) system to provide necessary workflow tracking, patent application status reporting, and examiner production and docket information on a daily basis. In November 2001, the USPTO replaced the legacy, mainframe-based PALM with a system based on modern open system architecture.

PALM system performs workflow tracking and status reporting for patent application processing and allows USPTO employees to track the status and location of all cases and monitor internal production activity. The PALM system consists of the following subsystems: Pre-Exam (PX), File Ordering System (FOS), Infrastructure (INFRA) and Exam/Post-Exam (EXPO).

PALM interfaces to many current and planned AISs at USPTO. These systems include: Patent Application Capture and Review System (PACR), Appeals Case Tracking System (ACTS), the National Finance Center (NFC) systems, Office Action Capture System (OACS), Classification Data System (CDS), Time and Attendance Validation System (TAVS), Patent Application Information Retrieval (PAIR), Electronic Filing System (EFS), Technology and Forecast (TAF) System, Patent & Trademark Assignment System (PTAS), Order Entry Management System (OEMS), PCT Operations Workflow and Electronic Review (POWER), Tools for Electronic Application Management (TEAM), Human Resources Information System (HRIS), Pre-Grant Publication (PGPub), Electronic Data Warehouse (EDW) system, Trademark Application Management (TRAM) system and the Revenue Accounting and Management System (RAM) system.

A major USPTO initiative was the replacement of PALM using open system architecture, which facilitates future modifications and enhancements with fewer resources. The USPTO began the incremental deployment of the replacement PALM system in October 1998 with the deployment of the Infrastructure subsystem. In October 1999, the USPTO deployed the File Ordering System (FOS) subsystem. These subsystems support USPTO organizational structure, employee information, and physical location of the application. In February 2000, the USPTO deployed the Pre-Exam (PX) subsystem that replaced all Pre-Examination functions previously handled by legacy PALM. In March 2001, the USPTO implemented Pre-Grant Publication (PGPub) requirements. In June 2001, the USPTO implemented the patent term adjustment (PTA) requirements of the American Inventors Protection Act (AIPA) in the replacement PALM system. In November 2001, the USPTO completed the implementation of the Exam/Post-Exam (EXPO) System – the final part of the new PALM system.

Future enhancements that are planned for PALM are described below:

Support Multi-Track Patent Examination Process;

Support the Patent Business Area's strategic initiatives, which include many 21st Century Strategic initiatives in FY 2003 to FY 2004. The enhancements that are tentatively scheduled for this timeframe are as follows:

- POWER migration to PALM and IFW;
- P-17 Enhance Current Quality Assurance Program by Integrating Reviews to cover all Stages of Examination;
- P-17a Expansion of the Second-Pair-of-Eyes Review;
- P-17b Evaluation of Search Quality;
- P-36 Mutual Exploitation of Work Performed by Another Office;

- P-40 Enhance the Reviewable Record;
- P-27 Initial and PG-Pub Classification of Newly Received Applications;
- P-29 Competitively Source Reclassification Functions and Transition of International Patent Classification System;
- P-05-03 Post Grant Patent Review E-Processing;
- P-10 Accelerated Patent Examination;
- P-67 18 Month Publication Elimination of Non-Publication and Redaction Exceptions and Exclusions of Plant Application; and
- P-11/12 Simplification of Patent Term Adjustment.

b. Commitments and Benefits

All modifications, enhancements, and new development for PALM support the Patent Business Area macro performance goal of granting exclusive rights, for limited times, to inventors for their discoveries. The USPTO is committed to providing its customers with the highest level of quality and services while meeting all current and future standards. The USPTO is also committed to providing its customers with timely response to requests for enhancements and legislative mandates for changes.

The USPTO has made a commitment to customers and staff, including reducing patent processing time for all inventions. To meet this objective, the USPTO needs to achieve electronic processing and tracking of patent applications. As a step in realizing this goal, the PALM system provides for enhanced daily workflow tracking, patent application status reporting, and examiner production and docket information.

The legislatively mandated PGPub requirements provides benefits to the USPTO's customers by publishing sufficient information about pending applications to enable a knowledgeable reader to make a determination whether the technology described is relevant to the reader's interest. PGPub is tightly integrated with the Electronic Filing System (EFS), Patent Application Capture and Review System (PACR), Patent Application and Information Retrieval (PAIR) system, and existing patent search systems (EAST and WEST), in order to provide the foundation for advanced information dissemination and EPAP capability.

Patent Term Adjustment benefits USPTO customers by increasing the term of their patent if certain delays occur during the patent examination process. The PALM replacement system is strategically positioned to capture the required data to automatically calculate additional patent term.

The next major USPTO initiative is the redesign and development of PALM as an integral component of the fully automated patent application processing system. PALM will be an integral part of the E-Gov initiative.

The PALM system supports the USPTO's customer commitments, and specifically provides these benefits:

- **Necessary Modifications and Enhancements to Meet Changing User Requirements (present and future) and Increasing User Demands**: The PALM system will be responsive to user requests for enhancements and legislative mandates for changes. These improvements are in keeping with future technology forecasts and trends to keep the USPTO up-to-date with the world;

- **Integration to Other IT Projects (present and future)**: The PALM system will be required to maintain the current interfaces and build interfaces to planned systems, especially electronic filing and the Electronic File Wrapper (EFW);

- **Lowest cost/highest efficiency**: Research and analysis to create a better PALM ensures that the USPTO is strategically positioning itself to minimize future problems; reduce hardware, paper, and maintenance costs; and allow for more efficient operations; and

- **Increased accountability and control**: Improvements in the PALM Replacement system provide greater control over application processing, improved system reliability through direct maintenance actions, and more flexibility to handle changes in patent law.

2.1.4.5 Patent Application Information Retrieval System (PAIR)

a. Description

The Patent Application Information Retrieval (PAIR) system provides Internet based access to patent application status and history information. PAIR uses digital certificates issued from USPTO's Public Key Infrastructure to provide strong authentication to restrict access to pending application to patent applicants and/or their designated representative(s), and to maintain the confidentiality and integrity of the information as it is transmitted over the Internet. Status and history information for granted patents is provided with unrestricted access to the public.

b. Commitments and Benefits

USPTO has made a customer service commitment to provide customers with the status of their patent application within 30 days. Based on the FY 2000 Customer Survey, USPTO customers expressed 46% satisfaction with filing notice timeliness. PAIR provides USPTO customers access to up-to-date patent application information immediately and securely, representing a method of providing the highest level of service through electronic commerce.
PAIR reduces the number of inquires received for this information that must be handled by staff members. Before the introduction of PAIR, all inquires were received by the Patent Assistance Center, Patent Examiners, or Technical Support Staff within the Corps. Current levels of telephone and written inquiries are unknown because of the numerous points of entry for these types of inquiries. While PAIR does not eliminate all telephone and written inquires, the volume has decreased.

The legislatively mandated Pre-Grant Publication (PGPub) requirement provides benefits to the USPTO's customers by providing information about pending, but published applications. PAIR, under PGPub, enables the applicants to electronically identify and request changes to their applications prior to the publication of the applications.

PAIR supports USPTO by providing these benefits:

- **Reduction in Processing Cycle Time for Patent Application Information Requests**: PAIR allows the customers to access the information that they need immediately without being restricted by external factors and systems deficiencies;

- **Reduction in Task Hours and Personnel Required to Support Customers**: Since PAIR allows USPTO customers to access the information without USPTO staff interaction, less task hours and dedicated personnel are required to support the customer base. The number of telephone calls and written requests has decreased by 40% as a direct result. Other associated costs (i.e., postage, paper, and hardware) have reduced as well;

- **Provision of Electronic Processing and Information Retrieval**: PAIR provides support for the elimination of time-consuming and error-prone processes by providing a search mechanism that utilizes existing electronic records to respond directly to USPTO customer requests; and

- **Lowest Cost/Highest Efficiency**: Research and analysis to create PAIR ensures that USPTO incorporates the most efficient system at a reasonable and justifiable cost while keeping pace with the Information Age and new technologies.

2.1.4.6 Patent Classification Data System (CDS)

a. Description

The Patent Classification Data System (CDS) maintains current patent classification information for USPTO. The CDS includes new issues (Weekly Issue of Patents and PGPubs), Withdrawn Patent Number File (WPN), Reclassification data, Subclass Data File (SDF), Master Classification File (MCF), PGPub MCF, and Foreign Patent Master Classification File (FPMCF). CDS provides updated files for both internal and external customers. These files are also used to create reference publications, for example, the U.S. Manual of Classification and Classification Definitions.

b. Commitments and Benefits

The CDS is meeting the commitments to both customers and staff alike by reducing the processing time for classification tasks and improving user search capability. In addition, the benefits of CDS are as follows:

- **Support for Strategic Plan Initiative**: CDS provides for competitive sourcing of reclassification functions by allowing the private sector access to reclassification data;

- **Increased Utility**: Accessible, electronic classification data will allow patent professionals access to higher quality, up-to-date USPC information. In addition, users will be able to modify and access enhanced search linkages to other classification systems; and

- **Enhanced Search Capability**: Examiners are able to efficiently perform classification searches of both U.S. and foreign patent documents; and

- **Work Sharing:** IPC Reform implements mutually agreed-upon reclassification activities to be performed by the Trilateral Offices (EPO, JPO, and USPTO).

2.1.4.7 Patent Electronic Business Center Imaging System (EBCIS)

a. Description

The Electronic Business Center Imaging System (EBCIS) replaces the manual filing and retrieval of Customer Number Applications, Public Key Infrastructure (PKI) applications and correspondence related to both. The project is being undertaken to eliminate inaccurate, slow, and unreliable manual methods of document storage. The project will serve as a baseline for further expansion of EBC document management capabilities.

EBCIS meets the USPTO goal of supporting an electronic workplace and providing accurate and rapid response to requests from the public.

b. Commitments and Benefits

EBCIS enables the USPTO to carry out its mission by providing support for effective response to customers and accurate records management. EBCIS will provide rapid and systematic storage of customer application number and PKI application documents coupled with rapid retrieval capability not currently present with the manual operation.

- **Customer response time**: A reduction in the time necessary for responding to customer inquiries;

- **Efficiency of staff resources**: Having access to data immediately will allow current staff resources to complete assignments more efficiently; and

- **Opportunity costs**: Reduction in time spent retrieving documents, searching for lost documents, and rework, can be used by staff members to increase time spent on new assignments and allow more work to be accomplished.

The system is designed to increase productivity by employees engaged in document storage and retrieval 100 percent. This increase of productivity will result from the increased rate at which documents are stored and retrieved and the elimination of manual errors and resultant time lost searching for improperly filed documents.

2.1.4.8 Patent Electronic File Wrapper (EFW)

a. Description

The Patent Electronic File Wrapper (EFW) system is a key component of the USPTO E-Gov initiative. All the individual paper documents involved in the back and forth exchanges between the USPTO and patent applicants will be captured electronically in the EFW. The EFW Graphic User Interface (GUI) will be deployed to support the new IFW functionality, including expanded processing of all documents consisting of the patent application – images and text. Also, interface to the Appeals Cases Tracking System (ACTS) will be developed to provide the BPAI EFW GUI functionality to process ACTS data.

b. Commitments and Benefits

The EFW is providing the customer and staff the means to electronically process patent applications, especially in the implementation of the Patent E-Gov initiative that is key to the USPTO 21st Century Strategic Plan. Discussions between the USPTO and the EPO resulted in an agreement to adapt the image and retrieval software called *ePhoenix,* used by the EPO for U.S. patent applications. The image-based system will support examination and technical support processing. The EFW interface will be used in combination with the image-based system in order to give the USPTO a user interface customized to U.S. patent applicants. In addition, the EFW provides the following benefits:

- The EFW will satisfy new requirements resulting from changes to patent submission rules in the U.S. and internationally;

- The EFW will be able to support the appeals and petitions processing through ACTS interoperability; and

- The EFW enables instant electronic access to application files, elimination of problems resulting from lost papers and lost paper files.

2.2 Trademark Business

The trademark business processes and their supporting systems continue to be in a state of positive change. Technology is being inserted within refined processes that facilitate greater efficiency and improved quality. Significant progress has been made in making computer-based functions and data more available. Within this section are the next steps in the development of the automated systems that directly support the Trademark business area. This includes all system development and maintenance initiatives currently planned, or under way.

The Trademark Office continues on its path of developing the people, processes, and technologies in ways that most appropriately advance the designated business goals. The goals of the system development efforts are: (1) maintaining current trademark business production and (2) moving to electronic processing and processes. Trademark systems are positioned to facilitate evolution in ways that will yield efficiency improvements to the Office and continued improvements in customer service. Specifically, Trademark systems will be focused on using the Internet to conduct business, automating Trademark business rules even further, and simplifying interaction with Trademark systems. Goals for Trademark business systems include:

- Reduction in the time required to reach first actions to three months from the filing date;
- Improvement in customer satisfaction - in the 21st century, we will achieve 95 percent satisfaction among customers who receive trademarks;
- Expansion of electronic filing and communications capabilities to our customers via the Internet, and
- Implementation of the protocol related to the Madrid Agreement on the International Registration of Marks, pending passage of legislation.

2.2.1 Trademark E-Government System

The Trademark E-Gov System will replace a manual process based on paper with a system that will electronically process and maintain all the records associated with a Trademark application by integrating existing trademark information systems.

The USPTO currently uses a paper-based process that relies on the use of separate automated systems for processing and examination of Trademark applications. Pre-processing of Trademark applications includes: organizing the documents submitted; assigning a unique serial number; classifying the application; and routing the paper file to the appropriate examining law office. Application data is captured from paper documents and stored in the Trademark Information Capture and Retrieval (TICRS) system or electronically transferred from

electronically filed applications to the Trademark Reporting and Monitoring (TRAM) system to maintain an electronic location, file status, and prosecution history of each application file. Trademark examining attorneys use the X-Search automated search system to determine if similar marks exist. If the Trademark is allowed to register, pertinent information is extracted and forwarded to the Government Printing Office for production of the Trademark Official Gazette (also published on the Web) and the registration certificate (also published on the Web). The Trademark E-Government initiative will create a fully electronic file management system that will integrate existing IT systems, record all communications and correspondence regarding the examination, automate the control and process of the application and allow for the elimination of paper records.

The objectives of Trademark E-Gov system include reduced operations costs, improved quality through workload and process management, reduced pendency, and international exchange of information to improve the protection of Trademark intellectual property. Additional objectives include improved access to USPTO information by internal users and the public, improved management reporting capabilities, improved security, and improved efficiency of application management and to support the Work-at-Home effort.

Trademark E-Gov System is the culmination of Trademark business strategy to move to the electronic examination process, starting with the X-Search on July 1993. Followed by deployments of TICRS, TEAS, TARR, TESS and TIPS. Trademark E-Government system is scheduled for deployment on November 2, 2003 concurrent with the implementation of the Madrid Protocol in the U.S. TIS will integrate these IT systems into a single workflow from the electronic filing by the customer, to electronic exam to the posting of the Registration Certificate on the Web.

2.2.1.1 Clearpath Support

a. Description

The Clearpath Support is necessary to maintain the Trademark Reporting and Monitoring (TRAM) system. Clearpath is a computer system that provides the platform for TRAM to store historical data on trademarks. The Clearpath system is a UNISYS product. This project will provide on-going system administration and technical support for Clearpath Developers and hardware/operating system software annual maintenance per contract.

b. Commitments and Benefits

The Clearpath computer system is critical to the operation of TRAM, which is essential to the Trademark operations. The UNYSIS Clearpath system enables the entire process of the Trademark operations, from application submission to data processing, to occur with minimal interruption. The commitment to the customer and staff is kept with maintenance of Clearpath

support. The benefit derived from such project is that the on-going operations of Clearpath will ensure high availability of TRAM to the Trademark customers.

2.2.1.2 Trademark Reporting and Monitoring System (TRAM)

a. Description

Initially implemented in April 1983, TRAM System provides support to all facets of Trademark operations. TRAM includes a database consisting of bibliographic text and prosecution history data for more than 3 million marks. TRAM supports Trademark operations from the receipt of a new application in the USPTO, processing and examination of the application, photocomposition activities related to the publication of the Trademark Official Gazette, and into the post registration activities required to maintain registered trademarks. Bibliographic data in TRAM for pending applications and active registrations is updated on a real time basis, is used to produce the Trademark Official Gazette, is sold to the public in machine readable form, and is extracted for use in the automated search system (X-Search). The TRAM System maintains current location and status information on applications and registrations enabling the USPTO to promptly determine the status of any file and to locate files in Trademark work areas or the warehouse. Management information produced by TRAM allows Trademark managers to monitor employee production, track and adjust workflow, control backlogs, and review the quality of data stored in the system.

TRAM provides operational support for all Trademark processing activities. Maintenance is performed on TRAM to enhance functionality or correct problems. TRAM maintenance activities are initiated when a customer submits an Engineering Change Request (ECR) or a System Problem Report (SPR). Current support includes enhancements to TRAM for Trademark's E-Gov initiative and the TIS/Madrid Protocol.

b. Commitments and Benefits

The needs of the customer and the staff are being met by an electronic system that provides customers and staff the ability to submit, capture, and extract Trademark data for multiple uses. The staff and customers have readily available access to Trademark information that is important for monitoring and reporting the status of Trademark applications. In the near future, TRAM will be able to perform data exchanges based on the defined procedures and formats of the Madrid Protocol between WIPO and any member country of the Madrid Protocol. In addition, the benefits of the TRAM is the electronic filing of TIS, management reporting, and examiner production tracking, and file tracking to ensure that the applications are properly processed.

2.2.1.3 Trademark .Net Support

a. Description

This activity provides the seed funding to deploy electronic filing of the Trademark applications, an essential component of Trademark E-Gov initiative. The project will focus on AIS enhancement so that the Internet can be used to conduct business. Trademark business rules will be modified to accommodate the use of the Internet and simplify interaction with Trademark systems.

b. Commitments and Benefits

The Trademark .Net Support will assure that a key goal of Trademark will be met – to expand electronic filing and communications capabilities to our customers via the Internet. In addition, the benefit is that the activity provides full electronic support for examination of Trademark applications. The seed funding will enhance the quality of examination through improved workload and process management, and reducing Trademark business costs.

2.2.1.4 Trademark Cropped Image Manager

a. Description

The Trademark Cropped Image Manager is an application that implements color to document submissions that contains cropped bi-tonal images, cropped color images, or images converted from TIF to web-browse viewable format such as GIF. This project is to upgrade the current software to a new version since the vendor no longer supports existing version. The upgrade will ensure that the systems that this software supports will enable image views in color.

b. Commitments and Benefits

The commitment to the customer and staff are being met by providing the latest technology in color imaging, enabling major Trademark AIS to take advantage of the latest technology such as the EFW, Trademark Certificates, the Office Gazette, and public search databases. In addition, the benefit for the Cropped Image Manager is that color imaging will enable the Trademark customer to view images that accurately portrays the original document submission.

2.2.1.5 Trademark E-Commerce Law Office

a. Description

The E-Commerce Law office was established to provide a new concept for processing trademark applications electronically. A new office structure is being created with the goal of 30 days to first action for TEAS filed applications. The first technical phase of this project is limited to the pre-examination processing of new applications filed via TEAS. The goal is to process these applications on the floor where law offices are located and not to move them to the Pre-

Examination Section floor for any reason. Initial revisions to the examination process and the supporting office functions apply to personnel and not to the automated systems.

Future initiatives may include moving Intent to Use processing to the law office and being the first pilot office for processing amended identifications. In addition, electronic communication with the applicant also will be implemented. These efforts and initiatives will be addressed at a future date.

b. Commitments and Benefits

The Trademark E-Commerce Law Office meets the needs of the customer by supporting the total electronic record of a Trademark application. Also, this activity helps the USPTO move toward paperless E-Gov initiative as a complementary activity to the TIS/Madrid. In addition, the benefits of the latest technologies added to the E-Commerce Law Offices is the total customization of e-mail functionalities, correspondence loaded into TICRS with the use of programs, updated transaction status in TRAM database, and updated announcements of incoming and outgoing event notices in the TIS database. These communication technologies will ensure that the most recent information is distributed.

2.2.1.6 Trademark Electronic Application Submission System (TEAS)

a. Description

This Trademark Electronic Application Submission (TEAS) project provides for the implementation of an electronic communication capability with trademark customers using the Internet. The final system is intended to support the receipt of all Trademark forms electronically through standardized transactions using the Extensible Markup Language (XML) and Simple Object Access Protocol (SOAP).

The initial focus of the project is on the submission of data to the USPTO. Future operations will include electronic data transmission from the USPTO to customers for Office Actions created during the prosecution of a case and post-registration actions. This project is the first step towards a complete electronic workflow solution for Trademark prosecution.

The current strategy is to leverage the technologies and capabilities of mainstream World Wide Web browsers as a means for interacting with Trademark customers. The final goal is to make all transactions and interactions with Trademark customers electronic. For example, a priority activity is to make enhancements to the TEAS for the TIS/Madrid Protocol to enable this level of interaction changes in the Trademark community and the industry will need to be addressed.

b. Commitments and Benefits

The Trademark Electronic Application Submission (TEAS) project supports the Trademark Business Area macro performance goal of enhancing trademark protection. The USPTO made a key commitment toward reducing application processing time and increasing quality of trademarks. The link to the TIS/Madrid Protocol will enable electronic interaction with the WIPO and other member organizations in a defined format.

The electronic receipt and transmission of data will reduce the labor intensive processing of paper documents and is a key ingredient to the eventual automated electronic workflow of the Trademark processes. With this solution in place, it is expected that data accuracy will increase, pendency will go down, and lost cases will be reduced. In addition, the Trademark customer will have easy access and communication during their Trademark prosecution.

- **Customer satisfaction**: Achieve and maintain customer satisfaction by simplifying the application process through electronic filing;
- **Productivity**: Streamline data capture process in PreExamination Section; and
- **Cost Reduction**: Eliminate the cost to capture application data electronically.

2.2.1.7 Trademark Image Capture and Retrieval System (TICRS)

a. Description

The Trademark Office receives and processes large volumes of applications and related correspondence. Currently, paper versions of these documents are routed and stored in conventional paper file systems. The Trademark Image Capture and Retrieval System (TICRS) project will provide the capability to manage these documents in electronic form by capturing applications and related correspondence.

Scanning technologies are also required to maintain the database of cropped trademark images. The trademark image database contains over one million images. New images are added to this database continuously. Additionally, amendments to existing images are entered to replace the previous version. The database of images is currently updated, in batch. Maintenance of this database, in the future, requires more immediate changes. This project will install the capability to scan images and apply the update immediately from within trademark operations.

The scanning of incoming trademark documents will enable the implementation of re-engineered business processes, which will reduce processing cycle times and improve operating efficiency. Capturing drawings in an electronic format will replace the manual process of pulling drawings for use in the Trademark Search Library. Use of Optical Character Recognition (OCR) technology to convert scanned documents to text allows elimination of manual data entry and will improve quality.

A requirement that scanners be installed in the law offices for adding new or updated images in the law office to eliminate having to remove the paper image from the file and send it off-site has been implemented. A key aspect of this AIS is to enhance the system to support the Trademark E-Gov initiative and the TIS/Madrid protocol.

b. Commitments and Benefits

The TICRS project supports the Trademark Business Area macro performance goal of enhancing trademark protection. The USPTO made a key commitment toward reducing application processing time and increasing quality of trademarks. This commitment requires achieving electronic processing of trademark applications, including related correspondence. In addition, the TIS/Madrid Protocol and the Trademark E-Gov will be supported by TICRS. Benefits of the TICRS project are described below:

- **Unit cost**: Reduced data capture, storage and retrieval costs;
- **Customer satisfaction**: Improved data quality as data is captured via OCR rather than manual keying and improved record keeping will result in greater file integrity and reduction in lost records;
- **Productivity**: Reduce contractor costs and level of effort associated with manual processes; and
- **Pendency**: Minimize pendency by reducing processing time associated with recovery of "lost" or misplaced files.

2.2.1.8 Trademark In-House Photocomposition System (TIPS)

a. Description

The Trademark In-House Publication System (TIPS) creates the *Trademark Official Gazette* (TMOG), Registration Certificates, Updated Registration Certificates, and related products. Each week the Office notifies members of the public of the activity in the trademark registry. This is formally accomplished via the Gazette and related products. The Trademark Official Gazette provides the public with notification of the cases that are published for opposition (approved for publication by the trademark attorney advisor), those marks that are registered (both principal and supplemental registers), and cases that have undergone post-registration events (including cancellations, renewals, affidavits, amendments, corrections, restrictions, republications under section 12c and new certificates). The current photocomposition process provides the automated means whereby those products are created from the contents of the Trademark Reporting and Monitoring (TRAM) database. TIPS is extending the functionality of the current system by including images in the text data sent to the Government Printing Office (GPO).

Before the introduction of the trademark photocomposition system, it was necessary for all data for the Trademark Official Gazette to be keyed using paper files as the source. The introduction of this system allowed for publication directly from the automated records. This system is maintained and modified, as changes are required.

TIPS will provide an even greater level of automated support for the creation of the Trademark Official Gazette. Using desktop layout software the USPTO produces the proof of text and images of the Trademark Official Gazette at the USPTO rather than waiting for text only proofs from the Government Printing Office. By automatically incorporating the image data directly, the Office will be able to verify that the correct image is associated with the trademark application and will be able to reduce costs and production time by eliminating the requirement to create a separate camera-ready image for pasting into paper proofs. In addition, current development activities include enhancements to TIPS to support the Madrid Protocol and OG proof printing.

TIPS provides specific benefits that are intended to:

Print of the proofs with images at the USPTO allows proofreaders for the first time to verify that correct images are associated with the mark before publication;

Eliminate the manual process used to prepare the paper copy of the image for insertion in the Trademark Official Gazette; and

Ensure that the image server used by the search system and other microcomputer-based systems has the current version of the image associated with the mark

With the new release of TIPS (Registration Certificates in-house), the following benefits are to:

Provide the ability to print registration certificates and updated registration certificates in-house;

Eliminate the manual sizing of the Trademark image currently done as part of the final legal review; and

Reduce cycle time by eliminating sending data to Government Printing Office for printing of proofs and images to a contractor for preparation for publication

b. Commitments and Benefits

The Trademark In-House Publication System project supports the Trademark Business Area macro performance goal of enhancing trademark protection. The USPTO made a key commitment toward reducing application processing time and increasing quality of trademarks. Some of the steps necessary to realize this commitment are producing the Trademark Official

Gazette and registration certificates using digitized images rather than the cumbersome paper process.

Integrating text and image data will have a positive impact as follows:

Pendency: This system will aid in reducing trademark disposal pendency and will improve the accuracy of the electronic images of figurative elements. The process will remove the need for the manual pulling and matching of drawings from paper files and the mechanical reproduction and layout of these images. The Office is transmitting both text and image data in one electronic format to the Government Printing Office;

Customer Service: The USPTO will have the capability to print the registration certificates on demand in the Publication and Issue Section as a result of the process change. The process will drastically improve the ability of the USPTO to service requests for trademark records, as well as consolidating the means for maintaining vital office records. The ability to store and retrieve Registration Certificates and Updated Registration Certificates will drastically improve the time frame and process for obtaining and producing copies to satisfy customer requests; and

Data Integrity: Verifying and ensuring that the latest image for the trademark application is present on the image server will occur earlier in the processing cycle, thereby increasing the accuracy of data for pending applications.

2.2.1.9 Trademark Information System (TIS)

a. Description

The USPTO currently uses a paper-oriented process for processing Trademark applications. Pre-processing of Trademark applications includes: organizing the documents submitted; assigning a unique serial number; classifying the application; and routing the file to the appropriate examining law office. Trademark examining attorneys use the X-Search automated search system to determine if confusingly similar marks exist. If the Trademark is allowed to register, pertinent information is extracted and forwarded to the Government Printing Office for production of the Trademark Official Gazette, and the registration certificate.

A paper-oriented application process is inherently inefficient, error-prone, and labor intensive. The TIS System will supplement and eventually replace the paper applications and manual procedures with a system, which will electronically process and maintain, Trademark data (text and image).

Objectives of TIS include reduced operations costs, improved quality through workload and process management, reduced pendency, and international exchange of information to improve the protection of Trademark intellectual property. Additional objectives include improved access

to USPTO information by internal users and the public, improved management reporting capabilities, improved security, and improved efficiency of application management.

b. Commitments and Benefits

The TIS project supports the Trademark Business Area macro performance goal of enhancing trademark protection. The USPTO made a key commitment toward reducing application processing time and increasing quality of trademarks.

The implementation of "paperless" operations is part of the Business Process Reengineering effort. Without the systems to support the newly defined business processes, the USPTO cannot proceed with those processes that are intended to allow the USPTO to meet its goals of maintaining pendency times, enhancing examination quality through workload and process management, and reducing Trademark pipeline costs. The project is crucial to the concept and implementation of the re-engineered Trademark process, including the following initiatives:

Implement Automation for Patent and Trademark Applications: TIS provides the full electronic support for examination of Trademark Applications;

Expand Work-At-Home Opportunities: With TIS all documents are available electronically, thereby allowing employees to work on cases from their home as they become available and not have to come into work to pick up the paper files. All generate work is also handled electronically; and

Implement and Accelerated Examination Path: TIS allows for the electronic identification and notification of cases that need special processing based on application's attributes and status in the examination process.

In addition, TIS supports the President's Goal of promoting E-Gov by allowing USPTO to share information more quickly and conveniently with the public, businesses, and other intellectual property offices. In addition, a component of TIS, TEAS, supports the strategic goal of a citizen-centric E-Gov for Trademarks by providing for more efficient communication with the public and our customers by providing a single point of access to trademark application information.

2.2.1.10 Trademark Madrid System

a. Description

The USPTO became a Contracting Party (member) of the Protocol by depositing the Instrument of Accession (required membership document) with the International Bureau (World Intellectual Property Organization or WIPO). The Office has participated in meetings relating to the development of regulations for implementing the Madrid Protocol, a treaty concerning the international registration of Trademarks, which was adopted in Madrid, Spain, on June 27, 1989.

The Protocol itself relates to the Madrid Agreement Concerning the International Registration of Marks of April 14, 1891, as revised at Stockholm on July 14, 1967, and amended on October 2, 1979.

The USPTO, in conjunction with delegates from WIPO, the United Kingdom and Canada, defined procedures and formats to be used to exchange Madrid Protocol data electronically between WIPO and any member country of the Madrid Protocol. These standards cover both text and image data.

The bill implements the protocol related to the Madrid Agreement on the International Registration of Marks (adopted June 27, 1989 and effective April 1996). The Protocol permits U.S. trademark owners to file for registration in any number of member countries by filing a single standardized application, in English, with a single set of fees, with the USPTO. The Madrid Protocol System will support the following functions: accepting electronic as well as paper applications; publishing a revised version of the Trademark Official Gazette which includes Madrid Protocol information; exchanging electronic data with WIPO (the Electronic Data Interchange File); modifying application processing and post-registration software; and creating an archive file of all data sent to and received from WIPO.

The Madrid project includes the development of a new Internet AIS to support the exchange and processing of protocol filings. In addition, many existing automated information systems must be modified in order to support processing of Madrid filings in the USPTO and to support notification to the international bureau. Systems impacted by Madrid Protocol will include TRAM, TRADEUPS, TICRS, TIPS, TEAS, X-Search, TIS, RAM and PTAS.

b. Commitments and Benefits

Under Madrid Protocol trademark customers will:

Be able to obtain a single registration valid in all participating European Union (EU) member countries and other participating states, with one renewal date, by filing one application with the World Intellectual Property Organization (WIPO), with one fee, in one language;

No longer be required to register trademarks in individual EU member states;

Save money on amending their registrations by filing one amendment application with WIPO; and

Lead to reduce waiting periods for processing of trademark registration applications as the Protocol stipulates members must act upon the applications within eighteen months.

2.2.1.11 Trademark Tradeups System (TRADEUPS)

a. Description

The Trademark Data Entry and Update System (TRADEUPS) captures the character based trademark data elements. This data supports the processing of trademark applications through pre-examination, examination, publication and issue, and post-examination. It is also used for notification (publication) to the public at different points in the life of an application/registration.

As the number of filings continues to grow, it becomes costly and difficult to maintain accurate records of the content of those files. Since the data captured in TRAM is used to populate the database of the search system, the quality of examination is a function of the quality of the capture process. The Office of Trademarks is revising the filing process to improve the quality of the data submitted to the office and captured internally. Through the Trademark Electronic Application Submission (TEAS) initiative, electronic filing has been offered as a way to streamline the communications between the applicant and the trademark attorney advisors. For paper submissions, standard forms are being designed for all Trademark filings. These forms will more easily support scanning and optical character recognition for data entry. Both efforts rely upon data tagging as a way to identify data elements rather than forms-based presentation and acceptance of data elements. Future exchange of data both within and outside of the Office is envisioned to be through tagged data elements. TRADEUPS provides the facility necessary to process tagged data and supports these reengineering initiatives.

TRADEUPS accepts, and allows for the creation of, flat files of textual data. The data source may be electronic submission, scanning/OCR or keyed. The data is acceptable as either tagged or not tagged. The Legal Instruments Examiner is provided with this data in digital form and the ability to enter, change, tag, re-tag and verify the contents of the file. The initial implementation supported the capture of new applications.

Subsequent releases incorporated the business rules for other document types. TRADEUPS was enhanced in December 1998 to support modifications of existing trademark records. However, through the trademark registration cycle, it is necessary to amend and correct pending applications and registrations. These changes may reflect alterations in the bibliographic data content or changes to the elements that the office creates and maintains to describe each case.

TRADEUPS provides a common interface for entry or modification and validation of any trademark submission. A common interface minimizes training as personnel are reassigned from one area to another. It also supports the display of the trademark image so that validation and maintenance of image data will be improved. TRADEUPS will be modified to support TIS in the redesign of business processes, including modifications to support Madrid Protocol data.

b. Commitments and Benefits

TRADEUPS supports the Trademark Business Area macro performance goal of enhancing trademark protection. The USPTO made a key commitment toward reducing application processing time and increasing quality of trademarks. To meet this key commitment, the

USPTO needs to modernize the Trademark Reporting and Monitoring (TRAM) system. One of the steps necessary to realize this commitment is to capture and maintain the character-based trademark data elements.

The successful implementation of TRADEUPS has had a direct and positive impact on the efficiency and accuracy with which new applications are entered into the USPTO's database. Generally, the benefits of the system contribute to improving–

Productivity: Benefits in productivity will continue to be realized as less manual effort is required to enter the data from new applications with the introduction of electronically filed and scanned/OCR applications. The productivity increases will allow the Office to adapt to the increase in filings without proportional increases in data entry (contractor) staff;

Unit Cost: Streamlined data entry has resulted from all new processes. Less time is required to capture the character-based data and less effort is required to identify the data elements within incoming documents. Efficiency will be realized, as the data entry and data modification functions become increasingly similar. Operational support demands decreased as the introduction of this system removed the need to support USPTO non-standard desktop equipment;

Customer Satisfaction: Customer satisfaction is expected to increase as the office improves throughput and the quality of its records and decreases pendency. Some of this improved quality has been recognized with the data entry portion of TRADEUPS; and

Employee Satisfaction: The ability to modify data is available from the desktop, which is a capability that some attorney advisors have requested.

2.2.1.12 X-Search System

a. Description

The Trademark Office relies exclusively on automated searching for examination. The automated trademark search system (X-Search) contains data on live, abandoned, cancelled, and expired trademark applications and registrations in both text and image formats. This system is one tool used to determine the registrability of new applications. This is accomplished by executing sophisticated search functions against the data in a search for marks that are confusingly similar. The search includes the examination and retrieval of all trademark records including text and image data. The demand on the search system is increasing. Usage of the search system has continued to increase at a rapid rate. In FY 2001 there were 328 examiners using the system, averaging of over 250,000 searches per month.

In addition, members of the general public from within the Trademark Search Library and selected Patent and Trademark Depository Libraries use X-Search. Generally, the public relies

upon this system in the development of new marks, prior to filing for application. Demand by the public for access to X-Search is increasing. In addition to requests for extending the search system to additional PTDLs, there was a public demand for a search capability on the Internet. The Internet search capability is provided through the Trademark Electronic Search System (TESS) project.

In response to Public Law 105-330, the USPTO conducted a study on how to better protect Native American tribe official insignia. It was determined that the insignia is added to the existing database as non-registration data. The data can be accessed via the X-Search system and TESS.

In addition to the X-Search system, the ID-Manual was made searchable using BRS in June of 2001. In the future, the Trademark Manual of Examining Procedure also will be made searchable using BRS. A key enhancement area will be to convert data from Word documents to BRS Searchable Database to support TIS/Madrid.

b. Commitments and Benefits

The X-Search system supports the Trademark Business Area macro performance goal of enhancing trademark protection. The USPTO made a key commitment toward reducing application processing time and increasing quality of trademarks.

The X-Search Replacement project assisted the Trademark Business Area in their efforts to make improvements in the following areas:

- **Productivity**: by allowing increased numbers of concurrent users;
- **Employee satisfaction**: By reducing search times and providing enhanced functionality; and
- **Customer satisfaction**: By providing additional access to Trademark data through on-line access.

2.3 Dissemination

Dissemination of USPTO's extensive body of scientific knowledge stimulates development of new inventions and technologies that improve national and international economic conditions. The information dissemination function area at the USPTO can be divided into three offices: (1) the Office of Electronic Information Services (OEIS); (2) the Office of Public Information Services (OPIS); and (3) the Office of Public Records. These offices serve the public both separately and collectively. For purposes of providing clear understanding of their operations, needs, and plans, this Capital Asset Plan and Business Case has been developed with three

"answers" for each question. Taken as a whole, these responses represent the USPTO's information dissemination organization.

OEIS: The Office of Electronic Information Services (OEIS) oversees the effort to achieve Patent and Trademark business objectives for the dissemination of electronic information. Working with the Patent and Trademark businesses OEIS manages a line of electronic information products and services, develops plans for improving product lines, evaluates new electronic information products and services, researches marketplace alternatives, and manages customer accounts. OEIS also provides statistics, analyses, and reports relating to patenting activity for USPTO executive management, Federal and foreign government agencies as well as the public.

OPIS: The Office of Public Information Services (OPIS) promotes awareness of and provides access to patent and trademark information products and services to external customers. OPIS distribution channels include onsite public search facilities, a nationwide network of libraries, and telephonic-based 24x7 customer assistance service. OPIS maintains customer service operations and implements enhancements to current IT platforms for electronic information delivery or service control. OPIS utilizes existing USPTO information products, drives development and provides user requirements for new products, and develops training programs and general information products to assist external customers.

OPR: Office of Public Records is comprised of two business areas that operate on under a commercial, fee for service model—Assignment Service Division (supported by the Patent and Trademark Assignment System (PTAS)) and Document Services Division (supported by the Order Entry Management System (OEMS)). The PTAS system data supports information used in the Assignment Historical Database (AHD) system. The mission of OPR is to aid patent and trademark owners in establishing and maintaining their property rights by recording assignments and providing certified copies of official USPTO documents in support of priority and legal requirements. The PTAS system is an image based workflow system for the recordation of assignment documents. The information from PTAS provides the data for use in the AHD system used for the searching of recorded assignment information. OEMS is an order tracking system that accepts orders, requests documents from the various PTO image stores and physical locations, extracts data from various PTO databases for the creation of certification statements, tracks order status and directs the delivery process to be followed when completed.

2.3.1 Patent Data on the Web

a. Description

This system provides public access to the full text and images of patents and published applications via the USPTO web site. In October 2000, the patent database on the Web was expanded to include additional U.S. patent image data back to 1790 and other ancillary documents. The patent image data can be accessed by a class/subclass search or by patent

number. In FY 2001, the USPTO began electronically publishing patent applications and making them available on the web. Biosequence repository data was made available in FY 2002. In FY 2004, assignment data will be added to the web. OpenText in Albany, NY hosts the USPTO patent text (1976-Present) as a service. This function is expected to be moved in-house in FY 2004. Beginning in FY 2004 and completing in FY 2008, perfection of backfile data will be developed and placed on the web.

These patent databases, as well as other databases that the USPTO currently provides to USPTO examiners and Patent and Trademark Depository Libraries (PTDLs), are made available to the public using in-house resources. BRS Search is used as the search engine and to achieve economies of scale since the Web-based servers can "copy" the content of the in-house server. The data is replicated outside the USPTO firewall to ensure that public access does not negatively impact examiner access, and to prevent public access to PTOnet and USPTO's internal systems.

b. Commitments and Benefits

Offering the same databases used by examiners to the public improves the public's ability to search, enabling them to research the most recent technology and information. Cost reductions have been realized in FY 2004 as the Office will stop providing paper copies of cited patents in office actions and refer applicants to the web site for patent reference information. Also, making more data available could reduce the number of applications for ideas already patented. In addition, this brings access to patent and trademark information closer to citizens and businesses that need such information to make important business and investment decisions to successfully compete in the global economy.

2.3.2 Assignment Historical Database (AHD)

a. Description

The Assignment Historical Database (AHD) is the database used by various USPTO organizations and the Public Search Facilities for reviewing recorded assignments. The system today is a Clearpath Cobol/DMSII database with access from either legacy terminals or PC terminals. In addition to the on-line access, data is distributed on weekly, bimonthly and annual basis to USPTO customers.

The text data for issued and published Patent Assignments and Trademarks will be added to the Web in FY 2004. In addition to the current electronic store of assignment data there are data stores on Microfilm and Index Cards that will need to be assessed for transfer to new electronic Media.

b. Commitments and Benefits

The Assignment Historical Database supports the Customer Information Service performance goal to promote awareness of, and provide effective access to, patent and trademark information. The Program is committed to the following business goals:

- Consistently achieve customer satisfaction by understanding and supporting customers' needs;
- Promote the use and accessibility of intellectual property information;
- Develop the highest quality information products and services which deliver information when, where, and in the format needed; and
- Promote cooperation with other intellectual property offices through cooperative projects and exchanges.

2.3.3 CD-ROM Reference Library

a. Description

The CD-ROM Reference Library contains a collection of programs that allows the public to search information from CDs and DVDs that are produced by organizations within the Office of Customer Information Services (CIS). Working with the Patent and Trademark businesses, the CD-ROM Reference Library maintains and provides access to collections of patent, trademarks, and related information in CD and DVD format. The CD-ROM Reference Library responds to customers through various media and providing the public with patent and trademark information.

b. Commitments and Benefits

The CD-ROM Reference Library is making the commitment to provide the public with access to patent and trademark information in an efficient manner. The products and services of the CD-ROM Reference Library are beneficial to customers and staff alike by enabling the customer to receive information in a timely manner and allowing the staff to retrieve the information in a central location through electronic means. This system reflects continuation of CD-ROM and DVD libraries of patent, trademark and assignment information that can be independently accessed at numerous sites. These libraries provide a measure of backup capability and meet international treaty agreements.

2.3.4 Data File Delivery System (DFD)

a. Description

This system provides operational support for the dissemination of bulk full text and image patent and trademark data to customers. Data is available for dissemination via magnetic tapes and via FTP download over the Internet. Weekly releases of patent grants and published applications are assembled, validated, and made ready for dissemination to the public, international exchange partners, and to Patent and Trademark Depository Libraries (PTDLs). Files for FTP download are placed on a publicly accessible server but require password access, provided as part of the product sales agreement with customers.

b. Commitments and Benefits

This system supports the weekly dissemination of new patent grants and published patent applications. Through DFD, bulk data is provided to USPTO customers over the Internet and via magnetic tape media. The DFD system supports the goal of maximizing dissemination of USPTO information and enhances the availability of government information.

2.3.5 Enterprise Contact Center System (ECC)

a. Description

Currently, the Enterprise Call Center 2.0 (ECC 2.0) provides technology that allows the public and USPTO employees access to automated and interactive information about USPTO products, processes and services. Since ECC 2.0 technology is nearing the end of its 7-year life cycle and lacks the latest generation call center capabilities, it is being replaced with new technology, which will be referred to as ECC 3.0. The ECC 3.0 will evolve from a CALL center to a CONTACT center, migrating current ECC 2.0 functionality while allowing additional multi media customer interactions. These additional customer interactions include web chat with URL push, voice portal, speech recognition, unified messaging, and the capability of integration with Customer Relationship Management (CRM) and the use of IBM WebSphere as a HTTP server.

b. Commitments and Benefits

The ECC meets the commitments of the customer and the staff. The ECC provides automated Call Routing, Integration with CRM through API, ECC connectivity with Nortel PBX and digital phone at Carlyle Campus, and daily support of USPTO ECC. These capabilities enhance the ability of USPTO to improve its customer service functions, especially through the use of interactive tools. In addition, the benefits of the ECC are dissemination of information and call tracking, and reuse of data. Customers and staff will be able to exchange information by utilizing more than one source of communication. The ECC provides great flexibility in which the USPTO user community and its customer base can dynamically exchange information, and apply the same data for multiple sources of information dissemination.

2.3.6 Order Entry Management System/Certification (OEMS)

a. Description

The USPTO receives requests for copies of patent and trademark documents by: mail, fax, phone, electronic mail, or by direct customer input via the Internet web site, and fills these orders through the use of the Order Entry Management System (OEMS). Orders are entered, fees collected, requests processed, documents retrieved and reproduced, and the complete order package is routed for distribution by U.S. mail, Federal Express, Internet, or fax.
The OEMS interfaces with both patent and trademark electronic image systems to retrieve images used to fill customer requests. Documents which are not in an image store are retrieved from the paper format and reproduced manually. Currently, the OEMS is able to deliver copies of US Patents and published patent applications to customers through the Internet. It is planned that other public images will also be available for delivery through the Internet..

The OEMS is also capable of generating the official USPTO "certification" statement that is affixed to certified documents; generating form letters for correspondence with requestors; is able to provide status information to customers directly through the Internet site; and provides operational and management reports to the Office of Public Records.

Future enhancements include automating the exchange of priority documents with the World Intellectual Property organization, the Trilateral Partners, and other foreign intellectual property offices. In addition, the OEMS will be modified to provide an interface with IFW, and progress toward an object-oriented environment compatible with the USPTO enterprise architecture. OEMS must migrate to new software architecture to provide the vehicle for electronic business that USPTO commercial customers expect.

Feedback from customer focus sessions and preliminary market analysis showed a demand for specially bundled and customized information products that can be fulfilled with the use of OEMS. For example, customers have asked for "foreign filing packages" which would include a mix of individual documents (application-as-filed), inventor's declaration, recorded assignments) assembled and ready to transmit to foreign Intellectual Property Offices (IPO). Similarly, while much information is now available about patents and trademarks when issued, new products are being requested which would allow customers to receive current information such as maintenance fee payment status, ownership transfers and reclassification.

b. Commitments and Benefits

OEMS supports the Information Dissemination Services macro performance goal to promote awareness of, and provide effective access to, patent and trademark information. With the new OEMS and its regular enhancements, the USPTO will continue to have a highly flexible order management system capable of accepting orders for all publicly available USPTO products. The

fundamental design of OEMS anticipates business area updating of new products, retrieval sources, prices, fee codes, payment methods, customers, delivery medium, delivery times, etc.

OEMS provides readily accessible management information that includes a wide range of production operation statistics, daily management control reports, and overall program trend data by operating system, operator, product, and processing time. For example, individual operator identifications are assigned in order to capture individual productivity; sales information is available by product; processing times are available by product; and, the growth in the customer base is available by customer type/location and/or payment means.

2.3.7 Patent and Trademark Assignment System (PTAS)

a. Description

The Patent and Trademark Assignment System (PTAS) is a workflow/image-based system that automates the flow of assignment documents through the Assignment Recordation Services Program. The legal documents along with a recordation cover sheet enter the system via scanning, direct import from the Electronic Trademark Assignment (ETAS) sub system, the Electronic Filing System (EFS) , or faxed into the system. Paper submissions are scanned manually then stored (no paper is handed for Internet or faxed submissions) until they are ready to be mailed. Electronic submissions are faxed back to the customer with either a notice of recordation or a notice of non-recordation. The PTAS system moves the electronically scanned documents through the various functional phases (indexing, examining, and mailing). The PTAS automatically updates the public database (Assignments Historical Database) once the assignment is deemed recordable and the images are extracted to tape for microfilm conversion. This system also produces reports that provide the Assignment Recordation Services Program with information on the document cycle time and the number of documents processed during each cycle phase.

b. Commitments and Benefits

This system meets the commitments to the customers and staff alike by promoting the awareness of and providing effective access to patent and trademark information through Information Dissemination Services. The benefits of the PTAS include increased throughput capability, and more accurate recordation of assignments that encourages individuals and companies to always record transfer of properties in return for the fees charged by USPTO.

2.3.8 Patent and Trademark Assistance Center

a. Description

In order to provide improved service to trademark applicants, registrants, and the general public, the Patent and Trademark Office has implemented a pilot program called the "Patent and Trademark Assistance Center." The Center provides general information about patent and trademark registration process and responds to inquiries pertaining to the status of specific patent and trademark applications and registrations. Assistance can be received by in-person visits or by telephone. The Assistance Center also provides guidebooks and manuals that explain the USPTO application process.

b. Commitments and Benefits

This service meets the commitment to the customer by raising the level of customer satisfaction while lowering the pendency of the applications. The Assistance Center provides customers a means to have all of their questions answered either by telephone or by visiting the Assistance Center. This approach should benefit the customers and USPTO as higher number of inquiries can be answered and resolved in a timely manner.

2.3.9 Patent Data Dissemination System

a. Description

This system supports loading of weekly issues of grants and published applications. The patent and trademark applications and grants captured as electronic data are used to generate machine-readable, digital copies that are made available to the public in well-documented formats. Both domestic and international customers pay a fee based on USPTO's cost of disseminating the data. Customers who purchase patent and trademark text and image data files are primarily large-scale commercial retailers of on-line database services who provide the data to thousands of their customers, thereby contributing to wide-scale dissemination of USPTO information to the public. The USPTO also exchanges data files with its Trilateral Partners - European and Japanese Patent Offices.

b. Commitments and Benefits

This system promotes awareness of, and provides access to, patent and trademark information. The commitment to customer satisfaction is met by understanding and supporting customers' information needs as described below.

- Promote the use and accessibility of intellectual property information;
- Develop the highest quality information products and services which deliver information when, where, and in the format needed; and
- Promote cooperation with other intellectual property offices through cooperative projects and data exchanges.

The benefits to the customers are as follows:

- Provide effective access to USPTO information through the sale of patent and trademark data files to commercial vendors for the cost of dissemination;
- Improve the speed of delivery of data products to USPTO external customers;
- Improve the USPTO external customer's satisfaction with USPTO's data products;
- Deliver the patent and trademark data products to USPTO external customers on the day of public availability;
- Ensure the same high quality control of the data products as in the current system; and
- Allow the USPTO external customers on-line access to download appropriate data products.

2.3.10 Public Search Room/Badging System

a. Description

This system provides automated and internal controls to ensure file integrity while allowing public access to file content. The system includes a badging component to create plastic badges to identify customers. The USPTO's Public Search facilities provide customers, some of whom are professional researchers, with the opportunity to review and copy paper records of patents and trademarks, commonly referred to as file wrappers. The USPTO Solicitor has determined that file wrappers, as the only archival record of the prosecution history of a patent or trademark application, are legal documents that must be better controlled. The current system must be changed to ensure file integrity while allowing public access to the content.

A new controlled access file area where files are read and copied by the public was established in FY 1998 as the Patent File Archive. Through the use of a badging system (e.g., User IDs) containing customer information and the File Tracking System component, the number of files checked in and out can be tracked and limited.

Midterm actions in FY 1999 worked toward providing further security for the file reading area. In FY 2000, the USPTO improved the receiving and tracking of file wrappers and extended the system to the Trademark Search Library. The USPTO is scanning file wrappers to capture and retain data and images in FY 2003. This will allow Public Search Room customers to access electronic file wrappers via workstations. In FY 2003, the USPTO implemented electronic access via workstations, with many requested file wrappers being captured at the source.

b. Commitments and Benefits

The following benefits will be achievable through implementation of the Controlled Access System and User ID Database:

- Badging for access to search room by users will permit USPTO to implement file tracking and file scanning, with printing for multiple users also possible;
- File wrapper access is controlled because users will be limited to a maximum number that can be withdrawn at one time. Wrappers must be returned before new ones will be issued. Wrappers still outstanding when the search room closes will be tied to the identity of the searcher who withdrew them;
- Electronic access will eliminate loss/deterioration of paper file wrappers; and
- System will block file checkout beyond maximum number set for one user. Daily reports will identify outstanding files and users who checked them out.

2.3.11 Public Search Room/Universal Public Workstation (UPWS)

a. Description

The Public Search room provides the public with access to USPTO database search applications through availability of the Universal Public Workstation (UPWS). The UPWS provides a shell from which the applications will be launched. Their functionality is unaltered by the UPWS. UPWS resides in its own domain, UPWS Network (UPWSnet), and is separate from PTOnet. UPWSnet interfaces with PTOnet through a firewall that safeguards PTOnet from unauthorized access.

The USPTO imposes fees for the use of its automated systems in its public search facilities. The UPWS provides a single workstation platform for secured public access to USPTO systems, fees collected without staff assistance and before services are provided, and with appropriate usage statistics for financial and workload reporting. By building the fee collection into the UPWS rather than into each USPTO application, software development for multiple systems will be saved, and local and networked printing will be chargeable for systems that have previously had no vehicle for public fee collection.

b. Commitments and Benefits

The UPWS provides a client-server solution to provide public user access to USPTO automated applications and automate the fee collection processes within the Public Search Facilities. The UPWS controls public access to the search tools, collects the appropriate fees based on usage of

these tools, collects the appropriate fees for printed output from these tools, and provides user and management reports. Providing public access to this information on the USPTO campus enhances convenience for public customers and helps to increase awareness of the availability of USPTO information.

2.3.12 Technology Assessment and Forecast Services (TAF)

a. Description

An ongoing effort for Customer Information Services is to capture, enhance, and maintain data extracted from USPTO's patent text database and other data sources to form the Technology Assessment and Forecast (TAF) database. The TAF database is used to produce a wide variety of statistical and analytical reports published by the USPTO and specialized reports both in paper and electronic format, requested by USPTO management, other government agencies, and the public. These reports assist USPTO management in fulfilling the USPTO's role as advisor to the Secretary and the Administration in matters of policy concerning intellectual property, science, and technology. The TAF database is a major source of information used to produce USPTO's Cassis products.

Key activities for FY 2004 will be the migration of TAF database to a new server and operating system that will be supported by USPTO operations. Support for the current TAF database server and operating system will be discontinued in the near future. The TAF database will be migrated to a newer server and operating system that will be supported by USPTO operations. This initiative will enable the TAF database and IPD/TAF Branch to continue to meet USPTO obligations to provide accurate patent statistics to Federal and international organizations and to the public. The server migration will also enable the production of general patent statistics to meet the needs of USPTO management. Server maintenance is part of this activity.

b. Commitments and Benefits

Commitment to the customer and staff are met by improving the TAF database to provide greater variety and depth of patent information and a shorter response time for producing specialized TAF reports. The TAF database is continually increasing in size. This growth requires continuous maintenance and periodic upgrades to the database server to assure timely responses for internal and external customers. Operational improvements to the database and server reduce time required for manipulation and reporting of the data and improve data integrity. Considerable effort is made to verify and correct data inconsistencies. In addition, the TAF benefits the customers and staff by (1) making general patent statistics and information available through TAF products and reports generated from the TAF database and (2) meeting the needs of USPTO management for reliable and timely patent statistics and information by reporting via the TAF database.

2.3.13 Trademark and Assignment Data Dissemination System (TADDS)

a. Description

This activity supports the daily feeds for both the text file and 24-hour box image files to bulk data dissemination customers, and provides the daily feeds for both the bulk customers and the Internet systems of TARR and TESS.

b. Commitments and Benefits

TADDS supports the dissemination of trademark data for both text and images.

2.3.14 Trademark Application and Registration Retrieval System (TARR)

a. Description

The Trademark Application and Registration Retrieval (TARR) system allows USPTO customers to access trademark application information. TARR provides Internet access by the general public to the status of all trademark applications and registrations. This Internet capability will contain a link to general information about the USPTO and to a phone list of the Trademark Examining Attorneys. The site is securely isolated from the internal database and other internal USPTO systems to ensure the integrity of internal systems. To provide maintenance support for TARR functionality.

b. Commitments and Benefits

Customers are able to use the web site to retrieve information about pending and registered trademarks obtained from the USPTO's internal database by entering a valid trademark serial number or registration number.

2.3.15 Trademark Electronic Search System (TESS)

a. Description

The USPTO has always provided the public with access to trademark applications as soon as practicable after filing. Trademark data has been distributed in a variety of ways including: paper (TMOG); in bulk as files on magnetic tape; on CD-ROM (Cassis); via the telephone (status line and the trademark assistance center); at the Trademark Search Library, through the records maintained at the Patent and Trademark Depository Libraries (PTDLs); and through the X-Search system accessible at three PTDLs. This project allows the USPTO to offer a new,

enhanced search system of a more current trademark database on the Internet called the Trademark Electronic Search System (TESS). This database allows unprecedented opportunities for access to Trademark data with an average of nearly 3 million image pages and over 7 million text pages retrieved each month.

In August 1998, the USPTO provided a full text-searchable database available through the Internet. The search facility allows free search access to active applications and registrations. With the use of that facility, members of the public can conveniently search existing applications and registrations prior to entering the application process. This database was updated every two months.

In February 2000, the USPTO deployed TESS to replace the search database deployed in August 1998. In FY 2001, Native American Insignia data was added to the database for searching. TESS provides the general public users a text and image database that is updated daily. The USPTO will improve the current offering in response to comments and suggestions from its customers. Principally, the USPTO installed database will be updated more frequently and will contain expired trademarks. TESS is expected to be upgraded to BRS 8.0 to further enhance trademark searches on the Internet.

b. Commitments and Benefits

This system is intended to enhance customer satisfaction by improving the Trademark search capability that the Office currently supports. TESS also serves as an alternate search system in the event that the X-Search system is not available, thereby, establishing redundancies in the search functions to ensure that trademark data is available for dissemination. The benefit of the TESS is that customers and staff should have on-going access to trademark data.

2.3.16 USPTO Customer Contact Management System

a. Description

USPTO Customer Contact Management System (UCCMS) is a systematic and automated means to insure that USPTO is responsive to it customers whether the customer seeks delivery of a product or service or is seeking information. UCCMS will allow the USPTO to capture and leverage customer-specific information to create a more effective and efficient environment for the USPTO to deliver our products and services to our customers. USPTO will implement UCCMS in several phases. The initial phase calls for support for problem and knowledge management in the General Information Services Division and the Trademark Assistance Center. Additional phases will provide for customer outreach, Practitioner/Partner management, order entry management, and customer payment management. This activity ensures the continued maintenance and operational readiness of Patent and Trademark Assistance Center.

b. Commitments and Benefits

This system is intended to expand customer contact and response capabilities by providing problem and knowledge management, customer research, practitioner/partner management, order entry management, and customer payment management functionalities. Benefits to the USPTO include improvements in customer service, increased availability of USPTO services, ability to conduct and manage practitioner registration, improved public access to information as a result of enhanced customer response capabilities, and an overall capability for effective financial management.

2.4 Financial Management and Human Resources (Corporate Support)

2.4.1 Financial Management

Sound planning and effective uses of the USPTO's resources are dependent on the availability of accurate financial data. The Chief Financial Officer (CFO) is the principal advisor to the Director on budgetary and financial matters. The CFO oversees implementation of the Chief Financial Officers Act, the Federal Managers' Financial Integrity Act, and the Government Performance and Results Act, including the preparation of audited financial statements and performance measures, and is responsible for audit resolutions. The Deputy CFO and Comptroller provides resource management and policy in the areas of budget interpretation, formulation, justification, and execution; financial accounting; planning and implementation of all fee setting and collection activities; procurement activities; and, in collaboration with the Chief Information Officer, financial systems management. The Deputy CFO and Comptroller provide administrative oversight to and coordinate the activities of the Office of Finance, Office of Procurement, and the Office of Corporate Planning.

The Office of Finance performs accounting operations for the revenue, trust, and appropriated funds of the USPTO. This includes maintenance of general accounts and related fiscal records, preparation of financial statements and reports, audit and certification of vouchers for payment, issuance of deposit account statements, and collection of amounts due to the USPTO. In addition, the Office of Procurement awards and administers a wide variety of contracts and simplified purchases for the acquisition of goods and services required throughout the agency. Lastly, the Office of Corporate Planning formulates, interprets, and executes budgetary and fiscal policies. In collaboration with program officials, the Office of Corporate Planning also develops, establishes and maintains comprehensive budget plans that support the USPTO mission statement, goals and objectives, and that recognize total dependence upon user fees for agency income. The Office develops, presents, and defends annual budget requests; obtains the apportionment of user fees; and allocates and maintains budgetary accountability of funds based upon planned and actual collections of user fee receipts. The Office plans, directs, and implements all user fee activities of the USPTO, applying business-like standards which include the setting of user fees, monitoring of user fee receipts, and projection of current and future year user fee receipts. The Office also is responsible for maintaining external liaison in budget

matters, including the publication of reports on budget and work performance activities, and serving as budget liaison among the staff offices reporting to the Deputy CFO and Comptroller. All three offices also are responsible for the storage, retrieval, and reproduction of financial records.

The daily responsibilities of these three offices are supported by the Core Financial System Project (CFSP) that encompasses Momentum Financials, Procurement Desktop (PD), the Internet Purchasing Application (IPA), and Travel Manager.

No major upgrades or enhancements are planned for the CFSP in FY 2004. The primary objective in FY 2004 is to operate and maintain the current CFSP application software, hardware, and communications necessary to carry out the financial and acquisition activities to support USPTO business processes. Plans for FY 2005 include the replacement of PD and IPA with the implementation of Momentum Acquisitions (a subsystem of Momentum Financials) and Vendor Self Service. Objectives of this implementation will be to expand the USPTO's ability to participate in E-Gov and paperwork reduction initiatives; increase compliance with Section 508 requirements; and augment existing automated acquisition functionality. Achievement of these objectives will enable the USPTO to continue to maintain high quality financial information and to improve its ability to acquire the goods and services necessary for its mission.

2.4.1.1 Momentum Financials

a. Description

Momentum Financials, USPTO's financial system of record, is a commercial off-the-shelf (COTS) client/server application that provides all the major facets of Federal financial accounting. Momentum Financials subsystems include: the general ledger, budget execution, planning, purchasing, accounts payable, accounts receivable, automated disbursements, travel accounting, external reports, and fixed assets. Momentum Financials' graphical user interface provides an integrated workflow facility including seamless integration with other administrative support systems such as Procurement Desktop and Travel Manager.

b. Commitments and Benefits

Momentum Financials currently enables the USPTO to carry out its mission by providing support for effective financial resource management. This includes merging financial functions and data, electronic data processing, and data access. Momentum Financials covers all the major facets of federal financial accounting. When implemented, Momentum Financials will replace out-dated technology that is not Section 508 compliant with an integrated Web-enabled Section 508 compliant acquisition environment. USPTO continues to make a commitment to improve efficiencies and reduce demands on resources while providing accessible data electronically. The benefits of Momentum Financials (which will include Momentum Acquisitions and Vendor Self Service in FY 2005) for the customers are as follows:

E-Gov: Moving closer to E-government (99% of the USPTO's payments are disbursed electronically);

Customer Service: Momentum Acquisitions has the ability to transmit awards electronically; this will allow contracting officers to send electronic copies to contractors, Contracting Officer's Technical Representatives (COTR), and program managers to expedite the acquisition processing time;

Improved Workload Management: Contracting Officers will have the ability to electronically schedule milestones throughout the life cycle of each action, which will prompt the system to send automated reminders of scheduled deadlines; and

Greater Fiscal Integrity: Implementation of Momentum Acquisitions will ensure that contracting and financial data are accurate, up-to-date, and contained in a single system. This implementation will eliminate the need for the existing interface between Momentum Financials and Procurement Desktop; thus there will no longer be a need for data reconciliation to ensure consistency between the two separate systems.

The benefits of this system for the staff are as follows:

Customer Service: Momentum Financials provides users with easy access to correct entries quickly through drop-down lists for selected fields. The USPTO utilizes this functionality for approximately 50% of Momentum Financials' available fields. Momentum Financials' existing functionality provides for customized routing lists, accounting templates, approvals, and user-defined fields to meet special needs specific to individual program offices. There are over 200 customized routing lists, hundreds of accounting templates for each fiscal year, several types of approvals, and five user-defined fields. All of these have been established based on unique USPTO business rules and procedures utilizing Momentum Financials' existing functionality;

Better Management of Workload: All vendor invoices are scanned and stored in Momentum Financials for routing and record-keeping purposes. All the scanned invoices are routed to end-users for certification of receipt and acceptance of goods and services. The Office of Finance no longer has a need to store and maintain paper invoices. Momentum Financials enables multiple users to access documents as they are routed, eliminating time that might be lost when routing to a single individual who may be out of the office;

Information: Improved reporting capability provides timely and accurate data for managers to make effective budgeting and business decisions. Users are afforded ready access to financial data through on-line queries and reports. They are also able to export the results of the queries to third-party software products for further data analysis and manipulation. Existing on-line reports provide easy, quick access to important information; and

Greater Fiscal Integrity: Integration of other USPTO systems with Momentum Financials will ensure that financial information is accurate, up-to-date, and consistent among all systems. Accuracy and quality of the financial data will further facilitate the USPTO's track record of ten years of unqualified audits.

2.4.1.2 Enterprise Data Warehouse (EDW)

a. Description

The USPTO's first attempt to create an enterprise wide warehouse was with the Enterprise Data Warehouse in 1997. The challenge back then was to overcome data accessibility problems from multiple data sources. The solution was and enterprise data warehouse. The EDW resides on a USPTO server serviced and maintained by the Office of the Chief Information Officer. The EDW was developed to provide easy access to the data from a number of USPTO systems using Business Objects as the reporting tool.

The EDW includes data sources for financial and non-financial applications or data sources such as PALM (EXPO), RAM, Activity Based Modeling (ABM), National Finance Center Office of Human Resources, Federal Financial System (now retired), and Momentum. The EDW is a single database located in an Oracle 9i db.

The Financial Systems Division of the Office of Finance oversees the operations of the extract, transformation, and load from these data sources into a single EDW database. The loads are done via PL/SQL. Once the information is in the EDW the data is integrated in universe/s for the different subject areas.

The subject areas include Patent, Office of Human Resources, Compensation Projection, Cost Accounting, Revenue, Momentum, and data from the retired Federal Financial System. Finally reports are created using Business Objects for querying reporting and analysis of data.

Business Objects is a COTS product application. It enables organizations to track, understand, and manage enterprise performance. The agency's solutions leverage the information that is stored in an array of corporate databases. Each subject area addition requires that the Data Warehouse Team, consisting of all key stakeholders, identify which data elements from existing systems will offer value in an integrated read-only system, and copying that data to a subject area of the EDW. Long-term data warehouse activities include data quality engineering and the introduction of data mining to discover patterns in data and to conduct advanced data analysis.

Data Warehouse provides meaningful information to USPTO managers and analysts for analysis and support in decision-making. Based on interviews with USPTO executives, the business needs that drive implementation of a data warehouse are as follows:

- Productivity analysis and isolation of significant productivity factors;

- Workflow analysis to support reduced patent and trademark processing cycle times;
- Technology trend and workload analysis to support staffing and organizational structure decisions; and
- Financial analysis to support resource allocation.

b. Commitments and Benefits

The Enterprise Data Warehouse supports the macro policy performance goal of helping to protect, promote, and expand intellectual property rights systems. It accomplishes this by integrating a very critical asset, data. This is a Corporate Support commitment employing the strategy of effectively managing resources. The business benefits of the enterprise data warehouse:

- Allows for implementation of a common data architecture and realization of the benefits of data sharing;
- Focuses attention on data quality and requires data cleansing to integrate the data found in disparate source systems;
- Provides strategic and tactical information for decision-making. This information also is critical to corporate competitiveness; and

The Enterprise Data Warehouse enables the USPTO to carry out its mission by providing effective resource management through the creation of a centralized repository for key indicators linked to the strategic planning process.

In addition, EDW allows for Budget and Performance integration, one of the President's Management Agenda initiatives by reporting on budget, accounting, and performance in an integrated manner. This integration is designed to help produce performance-based budgets at the Agency.

2.4.1.3 Revenue Accounting and Management System (RAM)

a. Description

Serving as a subsidiary ledger to Momentum Financials, the Revenue Accounting and Management (RAM) system enables the USPTO to collect fees by means of multiple payment methods, including credit cards, checks, EFT, and deposit accounts, and expedites the processing of fee related refunds.

The first phase of the RAM system replaced the Cash Receipts/Deposit Accounts (CRDA) system. It also incorporated enhancements such as improved internal controls, audit trails, and validity checks. RAM increased the accuracy of the revenue accounting process, addressed known deficiencies in CRDA, and brought the USPTO into compliance with Federal requirements for automated financial systems. The second phase of RAM further enhanced reporting capabilities and also improved patent maintenance fee processing, and patent subscription services management.

Enhancements in the form of functional extensions to RAM will continue through FY 2006 and will feature changes identified through business reengineering efforts. These enhancements will include additional support for Electronic Commerce, and also will improve accountability through interfaces with various USPTO systems such as TIS/Madrid, TEAS, EFS, OEMS, PALM/EXPO, PTAS, ESSTA, and TRAM. Additional improvements will expand the number and type of USPTO products and services that customers can order over the Internet using credit cards.

b. Commitments and Benefits

RAM enables the USPTO to carry out its mission by providing support for business process improvements and effective resource management. By implementing this system, the Office of Finance will be able to provide better customer service. In addition, the Office of Finance will provide benefits to customers and staff as described below:

- **Productivity**: The Maintenance Fee Branch will increase productivity using the existing number of FTE;

- **Information**: Improved reporting will provide timely and accurate data for managers to make effective budgeting and business decisions;

- **Greater Fiscal Integrity**: Integration of other USPTO systems with RAM will ensure that customers have sufficient funds available in the USPTO Deposit Accounts at the time services are delivered;

- **Customer Service**: Customers will be able to use the Internet to conduct credit card transactions and check balances; customers will be empowered via an upgraded voice response system to monitor the status of their maintenance fees. When applicable, refunds for overpayments, undelivered services, etc., will be issued electronically; and

- **Better Management of Workload**: Business processes will occur in the office directly affected by the process, providing a systematic and consistent process for the management of the case. For example, the maintenance fee staff during the prosecution of the fee will process changes in address.

2.4.1.4 Office of Finance Imaging System (OFIS)

a. Description

The Office of Finance deployed the Office of Finance Imaging System (OFIS); an electronic image storage system designed to significantly reduce the costs associated with storage and retrieval of documents. The Office of Finance routinely incurred more than $250,000 in annual costs associated with the storage, retrieval, and reproduction of financial records prior to the development of OFIS.

This capability has been further expanded by increases in the volume and, accordingly, the capability of the OFIS to store financial documents other than those generated by the Revenue Accounting and Management System (RAM) system. Documents are scanned as images and routed to program areas for resolution. In addition, OFIS enables system users to obtain reports and generate correspondence to customers.

b. Commitments and Benefits

OFIS enables the USPTO to carry out its mission by providing support for effective resource management. OFIS will provide rapid and systematic storage of financial documents coupled with rapid retrieval capability not currently present with the manual operation. Benefits of the system include:

- **Customer response time**: A reduction in the time necessary for responding to customer inquiries for both internal and external customers: these customers include the Office of Finance and the Office of the Inspector General auditors;

- **Efficiency of staff resources**: Having access to data immediately will allow current staff resources to complete assignments more efficiently;

- **Opportunity costs**: Reduction in time spent retrieving documents, searching for lost documents, and rework, can be used by staff members to increase time spent on new assignments and allow more work to be accomplished; and

- **Storage costs**: Reduction in file space. Capturing documents in image form will allow a reduction in file space needed for storage and paper files. The space currently occupied by files and papers could be returned to the Office of Finance staff.

The system is designed to increase productivity by employees engaged in document storage and retrieval 100 percent. This increase of productivity will result from the increased rate at which documents are stored and retrieved and the elimination of manual errors and resultant time lost searching for improperly filed documents.

2.4.2 Human Resources

The Office of Human Resources assists the business areas in accomplishing their missions by providing recruiting, compensation and recognition, planning and consulting, and employee and labor relations. Many of the most significant business issues that the USPTO faces today are human resource management issues. Whether meeting customer hiring goals or meeting the rapidly increasing demand to promote industrial and technological progress in areas such as biotechnology or computer software, all USPTO managers have a growing need for speedy recruiting and meaningful and accurate information about their employees. Currently, the USPTO Office of Human Resources relies on several automated systems that, due to limited functionality and antiquated technology, fail to provide the Office of Human Resources with the functionality and information necessary to address these needs.

2.4.2.1 Equal Employment Opportunity Case Management Retrieval System (EEOCMRS)

a. Description

The Office of Civil Rights uses the Equal Employment Opportunity Case Management and Reporting System (EEOCMRS) to support the Office of Civil Rights processing of complaints of civil rights discrimination and requests for reasonable accommodations. The system uses a streamlined electronic document method within the Office of Civil Rights for entering, processing, archiving, and retrieving documents and issuing reports, in an efficient, secure, user-friendly, and quality work product.

b. Commitments and Benefits

EEOCMRS enables the USPTO to carry out its mission by providing an integrated approach to human resource management and support for business process improvements. The benefits of the system include:

- Improved case management;
- Positive control of every page related to a case;
- Perfect replication of case materials for delivering to interviewers or investigators;
- Case material readily available as needed;
- Cost and space savings from elimination of paper file storage for closed cases;

- Improved statistical reporting capability on all active EEO and reasonable accommodation cases; and

- Improved business operational efficiency through immediate access to case materials by all participants

2.4.2.2 Job Application Rating System (JARS)

a. Description

Since January 1998, the USPTO Office of Human Resources has used the Job Application Rating System (JARS) to expedite the processing of applications for employment from entry-level patent examiners. JARS has received complete approval by Office of Personnel Management (OPM) auditors and provides internal controls and streamlines labor intensive personnel processes. JARS complies with OPM instructions regarding the fair and open hiring of applicants for federal employment. Applicants submit applications by means of the Internet. Reviewers can view qualified employment applications accompanied by electronic images of supplemental documentation stored in a central directory. Supervisory Patent Examiners (SPE) and Sector representatives view all listings of all applicants for the sector and can re-score them accordingly. SPE and sector representatives can request the automatic issuance of Certification that applies the rule of three.

b. Commitments and Benefits

JARS enables the USPTO to carry out its mission by providing a streamlined and integrated approach to human resource management and support for business process improvements. Benefits of the system include:

- Reduced overall time from the initiation of a request for employment to completion of a re-scored listing;

- Elimination of paneling costs paid to another agency;

- Near instantaneous return of certificates; and

- Automated protection of veterans' hiring preferences

2.4.2.3 Time and Attendance System (TAS)

a. Description

The Time and Attendance System (TAS) will automate time and attendance submission and reporting. The system will integrate with the current Time and Attendance facilities provided by the Department of Commerce. The major activities for TAS is software upgrade and enhancement.

b. Commitments and Benefits

USPTO employees will be able to report time and attendance information directly from their desktops in a timely manner. The TAS will capable of automating audit submissions. The benefit of the enhanced TAS will allow Office of Human Resources to effectively manage its resources.

2.4.2.4 Office Administrative Services Request System (OASRS)

a. Description

The Office Administrative Services Request System (OASRS) provides a consistent centralized method for USPTO employees to request services from the Office of Administrative Services through the PTOnet. Additionally, OASRS now provides management and users a capability to check the status of various requests. The system tracks each request based upon a unique control number that it generates. The system also generates statistical reports that will be useful to management.

These efforts are being implemented through the automation of USPTO-1464 Forms. The system, in addition to making user friendly forms more accessible, also makes it possible for employees to be more aware of the type of services available from the Office of Administrative Services while facilitating the tracking and monitoring processes. USPTO plans to implement all of the following phases simultaneously:

- Phase I:
  - Office Services Division – Moving Services and Locksmith Services and
  - Space and Facilities Management Division - Telephone Repair.

- Phase II:
  - Space and Facilities Management Division – Building Services and
  - Office Services Division – Packing/Moving Boxes and Paper Requests/Deliveries.

- Phase III:
  - Space and Facilities Management Division – Telecommunications.

- Phase IV:
  - Space and Facilities Management Division – Design Services and Renovations.

At the beginning of FY 2001, the USPTO implemented a campus wide automated system for submission of requests for administrative services.

b. Commitments, Benefits, and Performance Measures

The Corporate business area enables the USPTO to carry out its mission by providing effective resource management. OASRS provides the following benefits:

- Immediate receipt, acknowledgement, tracking and checking of all requests for service;
- Elimination of the redundant function of redoing forms at administrative stations through the USPTO;
- Direct routing of correspondence through signatory authority for budget approval;
- On-line, electronic submission of requests for administrative services from the actual requester to the person responsible for insuring that the service is rendered;
- Scheduled and ad hoc management reports for all supervisors exercising authority over the process; and
- Built-in, on-line, remote application administration and reporting.

2.5 Intellectual Property Leadership (Policy)

a. Description

The Policy function provides leadership and direction to the USPTO's core business corporate support areas. The function also promotes and provides expertise in the area of intellectual property rights. Within this document, the Policy function encompasses those AISs required to support the Director, Deputy Director, General Counsel, Office of Enrollment and Discipline, and Office of Legislative and International Affairs.

The Policy business processes and their supporting systems continue to be in a state of positive change. Technology is being developed to assist in the performance of business processes. These innovations will provide greater effectiveness and efficiency to workers in the Policy business area. Significant progress has been made in making computer-based functions and data more available. Within this section is a summary of the next steps in the development of the AISs that consist of the Intellectual Property Leadership Management Support System. This includes all system development and maintenance initiatives currently planned, or under way.

2.5.1 Counsel's Case Tracking System (GCCTS)

a. Description

Amicus Attorney is a law practice management software for lawyers. It provides the USPTO's Office of the General Counsel with a solution for managing information, people, schedules, communications, and documents on client files. It can be integrated with the other Office of the General Counsel practice tools and will functionally provide the capability to schedule appointments, manage to-do lists, track people, draft documents, document management, document full text searching, ticklers, track phone calls and content data management.

The Office of the General Counsel provides legal counsel to the Director of the USPTO and represents the USPTO before the Federal Courts. Their primary responsibility is to defend decisions of the Director, Board of Patent Appeals and Interference, Trademark Trial and Appeal Board, and examiners in patent and trademark cases. Also represented is the Director at depositions of USPTO employees who administer USPTO's responsibility under the Freedom of Information and Privacy Acts. The Office of the General Counsel provides legal guidelines for USPTO personnel, maintain the General Counsel's Law Library, provide legal clearance for proposed regulations and correspondence, and monitor publication of USPTO decisions.

The Office of the General Counsel attends court and participates in court related activities. These efforts are managed through the installation and maintenance of Amicus COTS application software.

b. Commitments, Benefits, and Performance Measures

The Amicus COTS enables the Office of the General Counsel to carry out its mission by providing effective resource management. Implementation of the Amicus system provides the following benefits:

- Case Management
- Practice management
- Immediate tracking and checking of all requests for service is immediately accessible to the basic requester of service
- Provides tickler case management reports to users and supervisors exercising authority over the process.
- Document management and document full text searching.

2.5.2 Board Information System index (BISX)

a. Description

The enhanced Board Information System indeX (BISX) provides integrated information on the proceedings instituted before the Trademark Trial and Appeal Board (TTAB) to the USPTO's TTAB staff and to the proceedings' plaintiffs and defendants. This system allows Trademark Trial and Appeal Board staffs, trademark staffs, and the public to perform searches on proceeding data and print BISX query results from the browser. This system interfaces with the TTABP and the TRAM++ databases.

b. Commitments and Benefits

The BISX capability is meeting the E-Gov mandate by allowing the customers and staff to gain access to TTAB information electronically, thereby, enabling timely access to data and reducing the cost of processing the information. The benefit of BISX is that both customers and staff can search, view, and print specific TTAB information by taking advantage of the Internet, creating a single point of access for querying information through user-friendly interface.

2.5.3 Electronic Freedom of Information Act (E-FOIA)

a. Description

The Electronic Freedom of Information Act (E-FOIA) System is a collection of automated capabilities that enable USPTO to comply with the Freedom of Information Act (FOIA) requirement that mandates public access to records of agencies in the Executive Branch of the Federal Government. The Act also provides for certain exceptions to the release of records, known as FOIA exemptions. The Office of the General Counsel processes FOIA requests for the USPTO. In the last several years, FOIA requests to the USPTO have doubled and their numbers do not appear to be dissipating. The majority of the requests are for copies of USPTO contracts or other documents related to the administration of the contracts.

In 1996 Congress amended the FOIA statute to require agencies to create an electronic reading room for records that "have become or are likely to become the subject of subsequent requests for substantially the same record." Reference 5 U.S.C. § 552(a)(2)(D), as amended by Electronic Freedom of Information Act Amendments of 1996, 5 U.S.C. § 552(a)(2)(D)(West Supp. 1997) states that the statutory purpose of placing such records in electronic reading rooms is to divert some potential FOIA requests for previously released records. Reference H.R. Rep. No. 104-795, at 21 (1996), pertaining to the release of Government contracting records, which may contain FOIA exempt information. The Amendment also requires the USPTO to make all final agency decisions, entered after November 1996, available in the electronic reading room (Reference 5 U.S.C. § 552(a)(2), effective November 1, 1997). For the USPTO, these final

decisions include enrollment and discipline decisions from the Director and the Office of Enrollment and Discipline. These decisions usually contain personal privacy information.

The first step in this strategy was accomplished with the development of an electronic reading room on the USPTO web site in FY 1998. During FY 1999, operational procedures for posting documents were improved. During FY 2001, an electronic redacting capability was added to the process by which the USPTO adheres to the FOIA. Since 2002, an enhancement effort has been started to develop an automated facility that manages postings, file management, archiving, web page maintenance, and document integrity. Specifically, functionalities such as automated decisions posting pilot for one of the Boards and a new system with searching capability are being established.

b. Commitments and Benefits

The E-FOIA system enables the USPTO to carry out its mission by providing effective resource management in meeting the requirements of the FOIA statute aforementioned. In addition, the E-FOIA system enables USPTO to comply with the GPEA requirements toward a "paperless" workplace.

2.5.4 Executive Document Management System (EDMS)

a. Description

The Executive Document Management System (EDMS) helps the Director of the USPTO to track and respond to a wide range of official correspondence. EDMS records the status of all actions on official correspondence and makes immediate tracking of this correspondence possible. This ensures that official responses and/or other actions are handled in an appropriate and timely manner.

To facilitate this process, the current EDMS, which replaced an existing managed manual documentation process during FY 1996, takes full advantage of personal computer-based tools, COTS software and PTONet. The current EDMS is fully operational with periodic enhancements scheduled to take advantage of improvements and to expand functionality in the EDMS software.

b. Commitments and Benefits

EDMS enables the USPTO to carry out its mission by providing effective resource management. The goal of this system is to maintain a stable system of executive document management while continuing to improve efficiency and effectiveness of its automated procedures. In addition, responses to official correspondence occur in a timely and responsive manner and actions in response to official documents occur systematically.

2.5.6 Office of Enrollment and Discipline Information System (OEDIS)

a. Description

The Office of Enrollment and Discipline Information System (OEDIS) provides the Office of Enrollment and Discipline (OED) with an automated means to track applications from applicants who have applied for eligibility to practice patent law before the USPTO through enrollment in the examination process. All applicants who pass the enrollment and examination process are recorded on the official register of eligible agents and attorneys (the Roster) who may practice before the USPTO. The Roster is also maintained using OEDIS. Toward this end, the OED receives and is required to respond to a wide range of official correspondence for the administration and management of examinations for 6,000 applicants each year. OEDIS provides automated receipt and workflow of electronic application information capability. In so doing, the system has enabled USPTO to reduce the time it takes to process applicant information by electronically processing agent or attorney requests, letters, applications and actions. By using workflow, document management, and electronic forms software, the Office of Enrollment and Discipline (OED) accomplishes nearly all of the processing of applications without the movement of paper through the processing stream. Electronic processing of applicant enrollment information and case files provides information in a media that facilitates exchange of information to the customer (applicant), the USPTO, the OED as well as other external agencies or organizations.

Automation of applications has become necessary as the volume of application increases. Prior to the Examination deadline, OED receives on an average up to 550 letters, 450 Faxes, and 700 phone calls, requesting attorney/agent application packages. The Office also receives approximately 1,700 application packages, each of approximately 20-to-30 pages.

OED also has at any given time, about 150 open cases for the complaints against agents and attorneys that may result in disciplinary action. A variety of manual document management and control processes have evolved over the years to support these business needs.

b. Commitments and Benefits

Automation of OED supports the macro performance goal of instituting policy, control and procedures pertaining to the agent or attorney rights and eligibility in the representation of individuals in patent case law. Future enhancements to OEDIS provide for improved web access by OED managers and reviewers. In addition, the benefits include:

- A system that will provide for total automated processing of testing applications and related information requests;

- An archival storage that uses scanning technology;

- A system that will significantly reduce the need for physical space for file storage. Only those cases currently under review will require physical storage. The space formerly occupied by archived paper has been returned to staff; and

- An automated process will eliminate the need to hire a disproportionate number of additional clerical and administrative FTEs to meet the growing workload.

2.5.7 Appeals Case Tracking System (ACTS)

a. Description

The Appeals Case Tracking System (ACTS) records and manages appeals information using a client server application with automated workflow software to control the movement and record the disposition of each patent appeal case. ACTS enables the Board of Patent Appeals and Interferences (BPAI) to track the status of cases and provide relevant information pertaining to each patent appeal case. The system uses an interface to the PALM system and has increased the accuracy and reliability of appeals information. The system is accessible to users via PTOnet.

The Board of Patent Appeals and Interferences, the user of ACTS, is an administrative tribunal that consists of Administrative Patent Judges who review appeals cases and decide to affirm, reverse, or affirm in part a rejection in a patent application under appeal. Additionally, the judges define the appropriate result, such as the actual decision and the decision date. Administrative Patent Judges also review claims of interferences with existing patents and patent applications during the filing stage of a patent application. The Board will ultimately decide whom, if anyone is entitled to the right of the patent in question. The BPAI tracks information on each patent appeals case, annually receiving approximately 4,000 new ex-parte cases a year and approximately 200 inter-partes cases a year. The average number of cases under review at any given time is approximately 400, some of which can take several years to resolve.

USPTO completed the initial incremental deployment of the portion that supports tracking of appeals in 1998. An additional major deployment in FY 2001 provided for the automated tracking of interferences. Future enhancements consist of ACTS integration with XML for image file.

b. Commitments and Benefits

ACTS supports the macro performance goal of instituting policy, control, and procedures pertaining to patent appeals cases. To meet this top priority, the USPTO needs to electronically track office workflow. ACTS provides the following benefits to customers and staff: (1) ACTS accurately traces the progress and location of each appeal and (2) ACTS permits managers the additional flexibility of rapidly revising rules, roles and routing affecting workflow without disrupting the stability of the data that is used in this project. The enhanced version of ACTS

will benefit the customer by accurately tracing the progress and location of each interference with the same flexibility presently afforded to those who route and trace appeals.

2.5.8 Patent Cancellation Proceedings Electronic Filing

a. Description

Patent Cancellation Proceedings Electronic Filing allows for the electronic filing and tracking of requests to cancel existing patents that may be infringements of existing patents or inappropriate impediments to legitimate commercial activity. This system will provide automated support and internal controls to electronically file post grant cancellation of patents. The system will also enable storage of multimedia exhibits and records.

b. Commitments and Benefits

The Electronic Filing System for Patent Cancellation Proceedings meets the commitment to the customer and staff. With the creation of an electronic filing system, the office space rental costs for storing paper files can be minimized. Electronic filing can expedite cancellation proceedings without posing substantial costs in document handling. In addition, the benefits associated with implementing such a system are automated support, instant availability of documents, eliminating the need for storage of paper files and the costs associated with locating lost files, repairing damaged files and reconstructing files. The ability to mark a document for further reference would further increase judicial efficiency. Using the Internet from anywhere in the world, counsel will be able to file documents with the USPTO electronically. Additional benefits are described below:

- **Accessibility**: The ability to view, file and retrieve documents 24/7 (every day of the year, 24 hours a day) for USPTO users and the public;

- **Instant Notification**: The ability to receive immediate notice of new filings with the USPTO;

- **Low Cost to Users**: Use of standard Internet software would minimize out-of-pocket expenses, attorney travel time, postage costs, and the expense of maintaining and storing paper files;

- **Information**: The information concerning the filing of cases would be timely and accurate and will enable the Chief Judge, managers and administrators of the Board to make effective business decisions. APJs would also be able to access information relating to their proceedings in a highly expeditious manner. Bibliographic data about the parties will be collected via public user input into the system and will thus enhance data collection and management;

- **Storage Space**: The system, by creating a paperless electronic environment, would eliminate the need for storage space for paper files;

- **Potential Expandability**: The system would potentially be expanded to provide generation of statistical reports, workflow functions, and online collaboration within the Board; and

- **Human Resource Management**: The system would eliminate the need to hire additional personnel to find and locate paper files, to match papers with files, to reconstruct and repair files and the office space that would be required for such employees.

2.5.9 Office of Legislative and International Affairs Document System (OLIADS)

a. Description

The Administrator for Legislative and International Affairs is the principal advisor to the Under Secretary of Commerce for Intellectual Property and Director of the United States Patent and Trademark Office on public policy matters related to intellectual property protection including proposed legislation and international activities of the United States. The Office of Legislative and International Affairs (OLIA) formulates legislative and policy proposals, prepares supporting documentation to carry out the legislative programs and policies of the Patent and Trademark Office, and reviews and prepares analyses of other legislative proposals concerning intellectual property matters. OLIA prepares Congressional testimony on intellectual property for the Director, other Patent and Trademark Office and Department officials, and maintains liaison with Congress, the intellectual property bar associations, industry, and others concerned with proposed and pending legislation.

The staff of OLIA analyzes other policy issues before the Executive Branch and obtains public views through various means including public hearings. The Office promotes international development of intellectual property systems and advocates improvements and more cost-effective means of protecting intellectual property rights of U. S. Nationals throughout the world. This includes developing and maintaining multilateral systems for the protection of intellectual property rights; assisting in the establishment of agreements with other intellectual property offices; participating in the intellectual property aspects of trade consultations and the conclusion of bilateral investment treaties and trade agreements; promoting the establishment of adequate and effective systems in developing countries for the protection of intellectual property rights; developing international standards and procedures to encourage foreign filing by U. S. Nationals and facilitating access by U. S. Nationals to the information contained in U. S. and foreign patent and trademark documents; and providing administrative oversight to and coordinating the activities of the Office of Enrollment and Discipline and the Office of Public Affairs.

To assist in the accomplishment of these tasks, OLIA maintains an on-site library that is also used by the Director of the U.S. Patent and Trademark Office, other offices within the USPTO and the public. The library contains country files for over 200 separate countries, legislative files, subject files, Federal Register notices, public hearings and comments, and treaties and agreements. The anticipated growth in library volume and usage coupled with the need to insure that documents remain available and useable, mandate that the contents be converted to electronic form. OLIADS will develop an automated document management system to provide OLIA with the capabilities of scanning, indexing, searching and retrieving the documents OLIADS will also provide the capability to distribute documents via the PTO Intranet, USPTO web site and on a CD-ROM.

b. Commitments, Benefits, and Performance Measures

The Office of Legislative and International Affairs Document System allows the Office of Legislative and International Affairs to manage the storage and tracking of documents and provide for rapid and concurrent review by authorized users. The system will provide the following benefits:

- Accurate and rapid location of documents
- Automated tracking and safeguarding of documents
- Concurrent availability of documents
- Reduced storage space

2.5.10 Trademark Trial and Appeal Board Information System (TTABIS)

a. Description

The Trademark Trial and Appeal Board (TTAB) Information System is an administrative tribunal empowered to determine the right to register, and the subsequent validity of a trademark. The TTAB adjudicates the rights of parties in specific types of proceedings such as oppositions, cancellations, interferences, concurrent use, appeals from refusals by the Office to register a mark and extensions of time to file a proceeding. In addition, the TTAB receives other related documents and phone inquiries resulting in a high volume of paper and data exchange. Currently, the TTAB receives approximately 20,000 pages of correspondence per month and that volume is increasing yearly by 15-to-20 percent.

The TTAB needs an information system with the ability to enter data, prepare correspondence, track cases, generate reports for management, and monitor proceedings in an effective, secure,

and timely manner. Future enhancements to the replacement system will include making TTAB proceeding information available over the Intranet and Internet. Customers will also be able to use the Internet to file proceedings via email or via fax and the electronic submissions will be integrated directly into the TTABIS workflow.

b. Commitments and Benefits

The TTAB replacement system supports the Trademark Business Area macro performance goal of enhancing trademark protection. The USPTO made a key commitment toward accomplishing this macro goal – pendency at 3.0 months to first action and 13.8 months to registration/abandonment.

Benefits to be derived from the TTABIS replacement system include:

- Data entry methodology to provide the support staff with a flexible and user friendly system;
- Improved quality of data captured;
- Management capability to generate necessary reports;
- Ability to process increased submissions without increased FTEs, improved data dissemination to the public;
- Dramatically improved pendency; and
- Automated capability to generate and track work immediately on the user's desktop workstation.