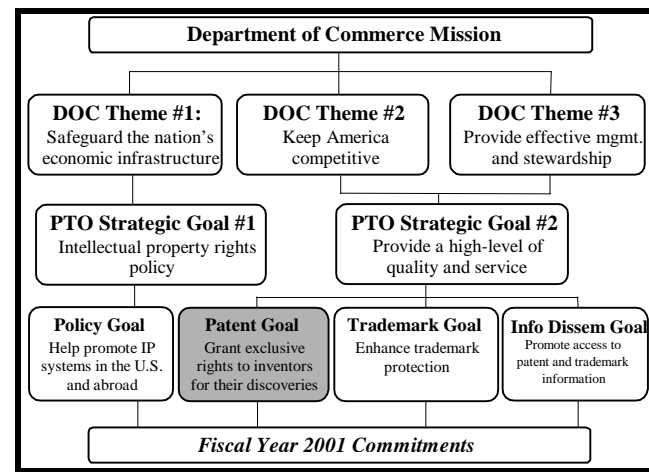


Patent Business

The Patent Business is one of the PTO's three core businesses. The primary mission of the Patent Business is to help customers get patents. We accomplish this mission by comparing the claimed subject matter of an inventor's application for a patent to a large body of existing technological information to determine whether or not the claimed invention is new, useful and non-obvious to someone knowledgeable in that subject matter. In the course of examining patent applications, examiners make determinations on patentability, prepare answers to briefs on applications appealed, make holdings of abandonments, recommend institution of interference proceedings to determine priority of inventorship, and act on other post-interference issues in accordance with the provisions of 35 U.S.C. and 37 C.F.R.

A United States patent confers on the owner of innovative technology the right to exclude others from importing, making, using, offering for sale or selling the patented invention in the United States in exchange for a full and complete disclosure of the invention. A patent represents a valuable asset and, as such, it attracts the necessary capital to establish, expand, and maintain U.S. industries not only in the United States, but also around the world. Therefore, we play a central role in supporting the Department's strategic goal to provide effective management and stewardship of our nation's resources and assets to ensure sustainable economic opportunities.



The Patent Business Environment

We have experienced a steady growth in application filings in the last decade of the twentieth century. While utility, plant and reissue (UPR) filings in fiscal year 1989 were 151,331, they reached an unprecedented mark of 272,221 in fiscal year 1999. Such a strong historical trend in filings coupled with a strong U.S. economy lead us to forecast that the next five years will demonstrate a strong annual growth in filings. Inferring from expenditures in research and development, the strongest growth in filings is expected to occur in communications, computer software, business methods and semiconductor inventions. The examination of filings in these technologies is complex and is dependent upon the availability of existing information. We need to be prepared to address the needs of these areas by expanding examiner access to information, by elevating the knowledge and skill level of our examiners, and by continuing to explore new and innovative ways of doing business.

Table 1 on the next page shows our key workload indicators from fiscal years 1996 through 2001. In addition to UPR filings, we also have experienced growth in other key areas of our business, such as filings under the provisions of the Patent Cooperation Treaty (PCT) Chapters I and II. These too require a corresponding alignment of resources to prevent us from missing treaty-imposed time requirements.

Table 1

Key Workload Indicators						
	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001
Utility, Plant, and Reissue (UPR) Patent Applications Filed¹	191,116	220,773	240,090	272,221	299,400*	335,400
Percentage Increase of UPR Application Filed	...	16	9	13	10	12
Inventions Filed²	158,427	182,805	201,777	219,288	241,200	270,100
Percentage Increase of Inventions Filed	...	15	10	9	10	12
PCT Chapter I Applications Filed	20,106	22,767	27,138	30,305	35,000	39,000
PCT Chapter II Applications Filed	9,194	11,577	13,570	14,151	18,600	21,000
UPR Disposals (allowed and abandoned)	180,196	196,688	203,227	219,556	235,600	256,400
Average Pendency (months)³	20.8	22.2	23.8	25.0	26.2**	26.6**
Average Cycle Time (months)⁴	14.6	16.0	16.9	12.9	13.1**	13.6**

* Based on fiscal year 1999 filing levels and initial 2000 estimates, fiscal year 2000 UPR filing levels could reach or exceed 305,000, or 12 percent over 1999 filing levels.
 ** Pendency and cycle time numbers for fiscal years 2000 and 2001 were revised based on (1) the final number of UPR filings in fiscal year 1999, (2) the enacted budget for fiscal year 2000, and (3) the requirements of the American Inventors Protection Act of 1999.

¹ Based on fiscal year 1999 actual filings and 2000 estimates, we have revised our fiscal year 2001 projections to 335,400 UPR applications from the original 291,000 estimate submitted in our 2000 Corporate Plan. Thus, in the aggregate, our fiscal year 2001 projection represents an increase of 44,400 UPR applications over our previous estimate.

² As result of GATT legislation in 1995, the PTO transitioned to tracking inventions rather than applications. The PTO expects that a natural result of expedited office actions will be a decline in *continuations*, or second applications filed to continue the prosecution of a prior application. Therefore, tracking the number of invention filings will serve as a more reliable and consistent measure of workload over time. Information on original inventions filed prior to fiscal year 1996 is not available. However, the recently enacted AIPA legislation transitions the PTO back to tracking applications.

³ Pendency measures patent application processing time from date of filing of an application to its abandonment or grant. This is an aggregate measure, which, unlike cycle time, does not segregate between PTO processing time and the time in-process attributable to the applicant (i.e., when the PTO is awaiting applicant's response to an office action, which may be delayed up to six months). Additionally, pendency time begins counting from zero when the applicant files a continuation of the original (parent) application or invention.

⁴ Cycle time is a composite measure of three components of PTO processing time: (1) cycle time from filing to first action, measured by the average PTO processing time for all new inventions that are pending first office action, (2) cycle time from first action to disposal, measured by the average PTO processing time of all cases pending after first office action, and (3) cycle time from allowance to publication of the patent grant, measured by the average PTO processing time of all allowed cases in the publication process. Cycle time is one metric for measuring PTO processing time. Based on customer input, the requirements of the AIPA, and the Patent Business strategic planning process, we expect to revalidate our metrics for processing time.

Given the above-depicted trend in growth and the rising complexity of filings, we must strive to find new ways of processing our work. To explore new processing options and to test reengineered designs, we opened the Patent Working Lab in March 1998. The Lab comprised 24 participants, representing various technologies throughout the Patent Corps. The Lab participants were grouped into four teams. Each team comprised four adjudicators (examiners), one analyst, and one assistant. The goals of the Lab were to improve patent application processing by training technical support personnel to perform higher-level administrative functions thus enabling examiners to focus their time on legal and technical considerations; encouraging teamwork and collaboration among team members; improving examination quality; and improving customer and employee satisfaction.

The Patent Working Lab concluded its mission in March 1999, providing the Patent Business important lessons. Most importantly, lab participants demonstrated that our non-examiner staff could effectively perform several tasks traditionally performed by examiners. Not only does this provide additional 'up-skilling' opportunities and assist in transitioning them to an automated environment, but it also enables patent examiners to focus more on the legal and technical aspects of the examination process. This concept supports our strategic direction to balance the distribution of work and has potential to deliver marked improvements in customer and employee satisfaction and greater quality of work products. Because of the demonstrated successes in the Lab, the Patent Business is planning to pilot these concepts on a larger scale in select Technology Centers during fiscal year 2000 to determine if the results would continue to be as encouraging when applied to a larger non-laboratory production environment.

During fiscal year 1998 we reduced by over 100 days the time needed for the initial review of patent applications. In fiscal year 1999, we consistently maintained an average processing time of less than 30 days in the initial review phase. This has contributed to achieving a fiscal year 1999 average cycle time of 12.9 months and is a good predictor of improved customer satisfaction. Also in 1998, we moved closer to accomplishing one of our four business goals — establishing fully supported and integrated Technology Centers. The realignment of the examining groups into six Technology Centers that parallel technology groupings in private industry has enabled us to focus attention to meeting specific customer requirements and allowed us to embrace new management concepts and techniques to best meet the unique requirements of each Technology Center. Proposed new initiatives in this domain will center on improving customer service and responsiveness; improving the quality of our searches; and streamlining our examination processes.

On the automation front, we currently scan all incoming patent applications. In August 1998, we built upon this technology using commercially available optical character recognition (OCR) to capture bibliographic data from the application when submitted to the PTO in a standardized format. This process is used to prepare and send an electronic acknowledgment of application receipt to the applicant and to automate the capture of bibliographic data. Our automation plans also include offering a variety of means for our customers to electronically file their applications. Working with volunteer applicants, in fiscal year 2000 we will be offering an electronic filing capability for utility applications and amino acid and nucleotide sequence listings for UPR applications filed.

A strong economy with low unemployment has caused stiff competition with the private sector for qualified candidates to fill patent examiner positions and other key vacancies. We also are challenged by the need to respond to customer expectations regarding the quality and timeliness of the patent process. We are committed to President Clinton's Framework for Global Electronic Commerce, whereby we will better meet the needs of the fast-moving electronic age.

The Patent Business began a second cycle of strategic planning effort (for fiscal years 2002 to 2006) in August 1999. The objectives of the effort are to get input from customers regarding priorities for the office, revalidate existing patent goals, and make modifications to the vision, mission, strategic directions and goals based on customer input. The planning process also takes into account employees' involvement and feedback. The target completion date for publication of the patent strategic plan is April 2000.

The Patent Business Case

The timely issuance of patents is critical from the standpoint of the inventor as well as for ensuring the operational effectiveness and financial stability of our business. As measured by cycle time, our current methodology for measuring the time it takes to process an invention, the term of utility patent protection begins on the date the patent is issued and ends 20 years from the filing date of the invention. As such, cycle time directly impacts the term of patent protection for our customers. Patent customers rely on timely feedback and action on their applications in order to take advantage of the economic opportunities a patented invention affords. To maintain financial stability, we must continuously strive to decrease cycle time and maintain high quality standards, while preventing a decline in our output or patent disposals. Patent disposals include patents issued. Patent issue and maintenance fee revenue results from patents issued.

However, Congress recently enacted the American Inventor's Protection Act (AIPA) of 1999, which sets forth new timeliness standards for the Patent Business. This new legislation, for example, provides that failure to issue a first office action on the merits of the claimed invention within 14 months of the filing date, or to issue a patent later than 36 months after the filing date, will result in a commensurate restoration of patent term to the diligent applicant. The over-arching goal of the patent system is not just the incentive it offers to the inventor to disclose his or her discovery, but the greater good which accrues to society as a whole from the use of the invention once the term of patent protection has lapsed. Therefore, it is incumbent upon the Patent Business to both maximize the term of patent protection for the inventor by reducing processing time, and also to avoid the negative impact on the public arising from the extension of patent term beyond that prescribed by law.

Consequently, our efforts will be directed towards achieving 12 months cycle time for all inventions, while at the same time striving to comply with the pendency constraints in the AIPA legislation. The Patent Business strategic planning effort will address these two needs as well as other significant requirements contained within the legislation. It is anticipated that our strategic planning process will likely result in revised goals and commitments and new metrics for determining timely processing.

In order to have the capability to meet the demands of examining patent applications as the number of filings continues to grow and inventions become more complex, we have adopted a three-pronged strategy:

1. To improve the quality of our products and services based on customer feedback;
2. To enhance our operational capacity by increasing our examining and support staff cadre of professional and technical support staff; and
3. To improve our productivity and organizational effectiveness by adopting new ways of doing business.

Year 2001 Commitments

All Patent Business activities planned for fiscal year 2001 support one or more of our High Impact Agency Commitments:

- Process all inventions in 12 months in 2003.
- Electronically process patent applications in 2003.
- Enable customers to use the Internet to conduct business electronically.

Business Goals and Objectives

All Patent Business activities planned for fiscal year 2001 directly support the Patent Business macro performance goal and our four business goals.

The Patent Business macro performance goal is to grant exclusive rights, for limited times, to inventors for their discoveries. In direct support of this goal and in concert with the mission of the Patent Business we have delineated the following business goals.

- Reduce PTO processing time to 12 months or less for all inventions in 2003.
- Establish fully supported and integrated Technology Centers.
- Receive applications and publish patents electronically in 2003.
- Exceed our customers' quality expectations, through the competencies and empowerment of our employees.

Although our goal is to achieve a cycle time of 12 months for all inventions, unanticipated growth in patent application filings and restricted use of fee income will negatively impact our ability to meet 2001 performance targets. With the available resources we will attempt to address our growing workloads, meet the timeliness provisions of the AIPA legislation, and continue to improve customer satisfaction with the quality of our products and services. Although a result of the strategic planning effort may be that our goals and objectives will be revised, we will continue to focus on key concepts such as enhancing the quality of our products and services, maximizing customer's effective term, enhancing employee satisfaction, and activating an e-commerce environment.

Table 2

Operational Budget
(Dollar amounts in thousands)

	Fiscal Year 1999 Actual		Fiscal Year 2000 Currently Available		Fiscal Year 2001 Request	
	FTE	Dollars	FTE	Dollars	FTE	Dollars
Patent Process	4,336	\$512,182	4,910	\$575,490	5,497	\$658,116
Information Technology⁵	217	\$91,943	228	\$93,249	228	\$114,809
Development		15,017		12,504		12,980
Operations		76,926		80,745		101,829
Resource Management⁶	200	\$22,502	224	\$25,583	224	\$35,955
Patent Total	4,753	\$626,627	5,362	\$694,322	5,949	\$808,880

For fiscal year 2001, we propose a budget of 5,949 FTE and \$808,880,000. This represents an increase of 587 FTE and \$114,558,000 over the fiscal year 2000 operating budget or 482 FTE and \$96,428,000 over the fiscal year 2001 base. Cost estimates also include our share of resource management and information technology infrastructure costs, computed in accordance with our activity-based cost accounting model. The corresponding increase in patent application filings represents a 12 percent increase or a projected fiscal year 2001 incoming workload of 335,400 utility, plant, and reissue (UPR) applications, compared to the fiscal year 2000 revised estimate of 299,400⁷. This increase in the growth of UPR applications filed is 21 percent when compared to the estimate in the fiscal year 2000 budget request level.

⁵ Cost estimates for development and operations are burdened with the Patent Business' share of enterprise information technology infrastructure, and distributed in accordance with our activity-based cost accounting model.

⁶ Cost estimates include information technology development and operations as burdened and distributed in accordance with our activity-based cost accounting model.

⁷ Based on fiscal year 1999 filing levels and initial 2000 estimates, fiscal year 2000 UPR filing levels could reach or exceed 305,000, or 12 percent over 1999 filing levels.

Manage Growth While Improving Processing Times

To enhance our operational capacity by increasing our examining and support staff cadre of professional and clerical staff

For this effort, we request an increase of 248 FTE and \$21,495,000, broken down as follows: (1) 198 FTE and \$15,000,000 to increase our examining staff to 3,161 examiners and 244 supervisory examiners; (2) 50 FTE and \$2,000,000 to increase our technical support and clerical resources ; and (3) \$4,495,000 to provide resources for printing 168,300 UPR patents.

The requested increase in examining staff is driven by the level of filings in fiscal year 2001 estimated at 335,400. The hiring plan supporting this increase augments the number of examiners by 200 (566 new hires, offset by 366 attritions) and the number of supervisory examiners by 14. This increase provides adequate resources for compensation, recruitment bonuses to qualified applicants, and examiner workstations.

The requested technical support and clerical staff increase is to align resources, Federal employees and contracted personnel combined, to provide the needed technical support to examiners and to perform tasks integral to the patent production pipeline parallel to examination. These include file room management, copying services, data entry, file retrieval, application scanning, library services support, etc.

Over time, increasing application filing levels have led to more patent disposals and issues and will continue to do so, as illustrated in Table 3 below. This, and a higher allowance rate resulting from process improvements, will produce 168,300 patents issued in fiscal year 2001.

Table 3

Performance Results at the Requested Level of Funding⁸

	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005
Number of patent disposals	256,400	276,400	296,700	325,000	343,400
Average Cycle Time (months) ⁹	13.6	14.2	14.9	15.7	16.6
Average Pendency (months)	26.6	27.5	28.8	30.1	31.7
Pending applications awaiting examiner action (EOY)	383,700	469,300	572,000	707,300	871,700

⁸ These performance results assume full funding in the outyears (inflationary adjustments as well as resource increases commensurate with growth in workloads.

⁹ As noted above, cycle time is one metric for measuring PTO processing time. Based on customer input, the requirements of the AIPA, and the Patent Business strategic planning process, we expect to revalidate our metrics for processing time.

In addition to increasing the size of our examining and support staff, we will also build on our successes from the Patent Reengineering Lab. We request an increase of \$1,000,000 to continue experimenting with programs that increase our operational efficiencies and link to our strategic goals. To address the increase in UPR filings, we will explore the feasibility of using different means and resources to accomplish search and examining activities, thereby shifting the examining corps' focus solely to critical aspects of patentability determinations. Additionally, we will begin planning for a virtual examination center, processing selected applications in a remote on-campus location. Based in our Lab environment, this virtual examination center will test and define the requirements of an e-business operation and may lead to our future of telecommuting and satellite offices. With respect to our legislative changes, the effects of the AIPA will require the Patent Business to integrate the requirements of Pre-Grant Publication with our current patent operation, streamlining and redefining our core business process. Lastly, we will continue to creatively solve many of our processing shortcomings in the business method application areas to maximize the applicant's term.

Board of Patent Appeals and Interferences

An increase of 2 FTE and \$200,000 is requested for the Board of Patent Appeals and Interferences. The Board is responsible for hearing and deciding appeals from adverse decisions of patent examiners concerning applications for patents, conducting interference proceedings, and making final determinations on questions of priority of invention and patentability. In fiscal year 1998, the Board disposed of 4,091 appeals. In fiscal year 1999, the Board disposed of 4,585 appeals, representing a 12 percent increase in productivity over fiscal year 1998. The Board is projecting a further increase in productivity to approximately 4,850 appeals in fiscal year 2000.

In fiscal year 2001, the Board is projecting to receive approximately 5,039 new appeals, which represents a 22 percent increase over that projected in fiscal year 2000. This increase is primarily due to the significantly larger number of patent applications being examined by the Patent Examining Corps. As a result, the Board will need to further increase its staffing in order to provide the capability to process these appeals. With this increase in staffing, the Board is projecting that it will be able to dispose of approximately 5,400 appeals.

This staffing request is absolutely needed if the Board is to achieve its commitment to the Department of Commerce's Inspector General's Office to reduce the level of appeals awaiting decision to a six-month level by fiscal year 2003. In fiscal year 1998, 26 Board-months were required to decide all pending appeals. In fiscal years 1999, the Board-months required to decide all appeals was reduced to 22. In fiscal year 2000, this number is projected to further decrease to 19. With this planned increase of staffing, the Board-months required to decide all pending appeals should further decline to approximately 16 months in fiscal year 2001.

Quality and Customer Satisfaction

To improve the quality of our products and services based on customer feedback.

Congruent with the Commissioner's emphasis on a PTO-wide quality management effort and recognizing that enhancing the quality of the examination process would have a major impact on customer satisfaction, we are placing high priority on quality improvement activities. Our objectives include continuously assessing our customers' quality expectations and utilizing customer feedback as an indicator of success, facilitating communication and sharing information among our employees, fostering teamwork and cooperation throughout the Patent Business, and attracting, training, and retaining high-performing employees. In order to enhance our efforts to increase the quality of our products and services and thereby improve customer satisfaction to 75 percent in 2001, we request an increase of 111 FTE and \$24,004,000. This increase includes the following key components for improving quality and customer satisfaction.

Customer Satisfaction

An increase of 86 FTE and \$13,943,000 is requested for activities that focus on increasing customer satisfaction. The Patent Business has carefully analyzed customer interests and performance expectations obtained from a variety of feedback fora, including customer surveys, focus sessions, roundtable discussions, and town hall meetings. The 1999 customer survey questionnaires were mailed to over 7,500 patent customers. The survey results were very positive, showing that overall satisfaction with our performance increased by approximately five percent, to 57 percent. It also showed that the Patent Business performance improved in 27 of 29 comparable survey items. Areas of greatest improvement from 1998 included the length of time until the filing receipt is issued, perceptions about fees, customer service areas (directing calls to proper office/person, returning calls within 1 business day), examination quality and handling of mistakes. Despite the gains, with overall satisfaction at 57 percent and many of the key drivers of customer satisfaction in the 40-60 percent satisfied range, there is still room for improvement. The most important customer satisfaction predictors requiring improvement were timeliness in mailing correct customer filing receipts, matching faxes with files, flexibility of staff in meeting customer needs, efficiency of the examination process, and length of the application process. We acknowledge these opportunities for improvement and are proposing to expand our in-process quality review and enhance our customer assistance program as follows:

Quality assurance program — This program includes in-process customer satisfaction reviews of examiner office actions by our Quality Assurance Specialists working within the Technology Centers. Customer satisfaction reviews are based on compliance with the Patent customer service standards of clearly communicating the examiner's position on issues in a patent application during *ex parte* prosecution and evaluation of the thoroughness of the examiner's search. These specialists review a statistically valid sample at the level of Technology Center, reviewing a minimum of 380 actions per Technology Center annually. Information from these reviews provides the basis for developing training programs to address areas of deficiency and make process changes to improve quality.

The Office of Patent Quality Review (OPQR) supports this effort by performing an independent customer satisfaction review of a small sample of cases reviewed by the Technology Center Specialists to validate their completed reviews. Similarly, the Center for Quality Services (CQS) supports this effort by contacting the inventors (or their representatives) of a small sample of the cases reviewed by the Technology Center Specialists and having the customers review the examiner office actions using the same standards as the Specialists have used. Aside from this in-process customer satisfaction review program, the Office of Quality Review conducts an in-process quality review, which looks at the accuracy or correctness of the patentability determinations of the examiner during ex parte prosecution. This review is similar to the end-product reviews traditionally conducted by OPQR with respect to allowed applications. (See the discussion under the Office of Patent Quality Review.)

Customer Service Representatives — These are individuals dedicated to serve as points of contact with customers from receipt of a customer inquiry to resolution of the issue presented. Responsibilities include logging and tracking each inquiry, analyzing the logged data to identify trends, investigating root causes, and recommending corrective action. The customer service representatives' database coupled with the in-process review findings will be utilized to monitor each Technology Center's progress toward customer service goal accomplishment, identify opportunities for improvement and conduct focused training.

Focus on Examiner Coaching — To enable supervisory patent examiners (SPEs) to focus on coaching their staff for better customer service and quality of work products in their work groups, we are proposing to establish office manager and assistant positions within Technology Centers to take charge of administrative responsibilities currently performed by supervisors. This program was piloted in fiscal year 1999 and demonstrated that for every office manager and assistant team, one full supervisory FTE would be freed up for examiner coaching. Therefore, the resources requested for fiscal year 2001 are expected to redirect 11 FTE to the quality improvement programs discussed in this section.

Partnering with our customers for better quality — This activity entails mailing the proof copy of a patent (after the initial data capture is completed and before the patent is published) to the applicant for review and correction before final publication. Partnering with our customers in this phase of the patent examination process will ensure that the issued patent is free of error and meets customer expectations. Aside from the quality improvement aspect, the requested increase includes an offset of resources in the Certificates of Correction branch of the Office of Publications, which projects a drop in the number of corrections requested as a result of this new approach.

The requested resources will adequately fund the above-delineated programs and will improve overall customer satisfaction in fiscal year 2001 to 75 percent. Specifically, improvements are expected in the following key standards: directing calling customers promptly to the proper office or person, from 64 percent in fiscal year 1999 to 80 percent in fiscal year 2001; returning customer telephone calls within one business day, from 57 percent in fiscal year 1999 to 80 percent in fiscal year 2001; setting forth clearly in written communications, the technical, procedural, and legal position of the examiner, from 63 percent in fiscal year 1999 to 80 percent in fiscal year 2001; and conducting thorough searches, from 64 percent in fiscal year 1999 to 80 percent in fiscal year 2001.

In addition to the above-described quality and customer satisfaction improvement activities in the national arena, the requested increase includes resources for improving the quality of processing international PCT cases. By adding four full-time equivalent positions to the staff in the PCT Legal Affairs Office and the PCT Special Program Office, these offices will have the required capacity to provide the desired level of legal advice, training, and assistance to our examiners and paralegals handling PCT cases thus improving the quality of our PCT products and services.

Training

A major component of our emphasis on quality is reflected in the training of examiners. The Patent Business recognizes that training examiners is a critical component for achieving a high-performing workforce and requests an increase of 17 FTE and \$2,345,000 in fiscal year 2001. With these resources, we will:

- Provide Patent Examination Initial Training to 566 new examiners. This program delivers approximately 200 hours of formal classroom instruction to all new examiners. Retired primary examiners will be hired to conduct this training thereby freeing supervisory patent examiners (SPEs) from this responsibility.
- Establish examiner-trainer positions to provide tailored on-the-job training to less experienced examiners. This training program was piloted in fiscal year 1999 and resulted in measurable improvements in the quality of the work product. These work products were rated higher than the Examining Corps average.
- Continue to offer the Examiner Education Program, whereby examiners visit various industry research and development sites to keep abreast of current technological advances.
- Offer technology training as in-house courses during duty time and off-site graduate courses during non-duty time. For duty hour training, we will organize on-site lectures about technology given by either PTO employees or outside experts. Off-site seminars and conferences will emphasize job-related areas of technology.
- Offer legal training for examiners, including lectures on current intellectual property topics of interest to all examiners, as well as PCT training. In addition, we will organize on-site courses on Patent Law and Evidence and Legal Method, designed to keep examiners abreast of rule changes and policies that alter the examination process. Legal training includes a series of training modules in practice and procedure for first year examiners.
- Offer tuition assistance for enrollment in non-duty hours Legal Studies as well as advanced Technical Training programs available through accredited institutions.
- Offer training in the application of automated tools intended to facilitate examiner access of information databases and communication with customers.
- Provide training in various in-house and external search systems as well as in several custom applications and specialized word processing packages. (These are in addition to the standard agency-wide training for the suite of office productivity tools, such as e-mail and word processing.)

- Provide access to all examiners to the courses offered by the Patent Academy, Office of Human Resources, and Office of Civil Rights.

Employee Satisfaction

Employee ownership and accountability for the benefit of the customer characterize the Patent Business environment in fiscal year 2001. The Patent Business views the skills, knowledge, and abilities of employees as the most valuable resource. By providing opportunities for employees to expand their professional competencies and experience personal growth and development in their careers, we are developing a diverse and expert staff who genuinely are interested in, and capable of, supporting and helping our customers get patents. As employee satisfaction increases, PTO expects customer satisfaction to increase too. The fundamental purpose behind our human resource management practices is to help build organizational capabilities to support our business goals and objectives by aligning organizational values, business strategies, and core competencies. Our proposed approach to human resources management includes the comprehensive training and special skill-enhancement programs discussed above.

Classification and Searching

An increase of 8 FTE and \$7,338,000 is requested for classification and search activities that include the following components:

Classification of foreign patents — Foreign patents are an important prior art resource for patent examiners. Currently, our automated search systems do not provide patent examiners with access to foreign patents by the U.S. Classification System. The Web Examiner Search Tool (WEST) 2.0, which is scheduled for deployment in the second quarter of fiscal year 2000, will provide electronic access to a limited set of foreign patents from 1979-1995 in the US Classification system. The requested increase includes resources for the development and refinement of electronic presumptive classifications applied to newly received foreign patent documents, development and maintenance of concordances for generating presumptive classifications, and continued refinement of the foreign patent data base. This activity would ensure the completeness of prior art searching and, therefore, would contribute to improving the quality of searches, a key driver of customer satisfaction.

Commercial databases — A crucial portion of the examination process is the search by an examiner for prior art pertinent to the invention claimed in an application. The “search” is an investigation of relevant patents and non-patent literature (technical journals, manuals, etc.) to determine if a claimed invention is new, useful, and non-obvious. In performing the search, an examiner relies on “prior art,” the body of public knowledge (which includes patents, non-patent literature, and common practice) known at the time the invention was created. Several planned activities focus in whole or in part on this vital phase of the examination process. With each new application an examiner must conduct a search of the relevant patent and non-patent literature (NPL). For many emerging technologies, such as Biotechnology, and Computer Software and Hardware, commercial databases provide the most relevant sources of prior art. The availability of non-patent literature in electronic form from commercial databases is also proving to be of increasing value for traditional technologies. This activity is directed toward the improvement of examination search quality by expanding the sources of electronic non-patent literature and supporting an increasing number of patent examiners.

Information Technology Resource Providers (ITRP) — The PTO continues to develop and deploy new automated search tools to improve the scope and depth of prior art searching by patent examiners. This program plays a critical role in the creation, development, and delivery of training for patent examiners on new automated search tools. In addition to developing training manuals and guides for use across the organization, the IT resource providers conduct technology specific training sessions tailored to the specific requirements of patent examiners in varying arts. They also serve as on-site experts for assistance to examiners, as well as consultation and coaching in the use of office automation tools, databases, and other information technology related issues.

Foreign patent data searching — This activity serves to provide an electronic source of foreign patent data for searching. This database will contain English-language abstracts, patent family information, detailed classification schema, and other information unavailable through PTO databases. Making this database available to our examiners would enable examiners to identify all published documents under the PCT minimum documentation requirements and would provide the English-language abstract of those documents.

Office of Patent Quality Review

An increase of 3 FTE and \$378,000 is requested for the Office of Patent Quality Review. This increase is congruent with the Department of Commerce Inspector General's Report to Congress, dated September 30, 1997, which included recommendations for improving the sampling and effectiveness of our independent quality review of allowed cases. In response, the OPQR completed an analysis last year to determine a sample size that is statistically valid and has taken actions to augment the OPQR staff to enable maintaining a satisfactory sample size. The requested increase provides additional resources to maintain a statistically valid sample size at the workgroup level. With the number of allowed cases increasing by more than 20 percent in fiscal year 2001¹⁰ and the concurrent growth in the number of workgroups within the Patent Technology Centers, this increase in resources would enable the Office of Patent Quality Review to cope with reviewing the increasing sample size.

The other component of this recommendation was to expand the patent quality review process to include the review of first actions and other work products that may be meaningful to patent managers. As discussed under the Patent Quality Assurance program above, the OPQR effort to address reviews of in-process work products includes two components. The first covers the review of *ex parte* office actions for customer satisfaction standards. The second includes reviews of *ex parte* office actions employing criteria for measuring the accuracy and correctness of the patentability determination by the examiner.

¹⁰ Total disposals in fiscal year 2001 are projected to be 256,400 compared to 235,600 in fiscal year 2000.

Legislative Developments

Our estimate for implementing the American Inventors Protection Act (Public Law 106-113) is 125 FTE and \$21,777,000¹¹ for fiscal year 2001. This recently-enacted patent reform legislation offers protection against unscrupulous invention promoters; provides a limited “first to invent” defense against patent infringement; extends patent term to compensate for certain processing delays; provides for early publication of patent applications also filed abroad; improves reexamination procedures; and provides the PTO with operational and financial flexibilities. Further information related to major proposals within the bill are discussed below:

- *Patent Term Extension:* Subtitle D of the American Inventors Protection Act of 1999 provides a patent term guarantee that would ensure that diligent applicants maximize patent term. An adjustment of the patent term is based on a guarantee of prompt PTO responses. The patent term will be extended day for day for any action beyond (a) a rejection or notice of allowance within 14 months of filing, (b) a response to applicant's reply to a rejection or an appeal taken within 4 months, (c) an act on an application within 4 months of a decision of the Board of Patent Appeals and Interferences or a decision of the Federal courts or, (d) a patent issued within 4 months of payment of issue fee. Additional resources are requested to handle the large number of petitions and requests for reconsideration involving patent term extension determinations that must be promptly handled. As noted above, this legislation may require us to develop new metrics for measuring processing times.
- *Pre-Grant Publication:* Subtitle E of the American Inventors Protection Act of 1999 provides for the publication of patent applications which have been published abroad at 18 months from the earliest effective filing date, subject to certain exceptions. Additional resources are requested to modify existing automated systems to a) recognize when an application meets the requirements for publication, b) prepare the application for publication, c) electronically publish the application, d) electronically disseminate the published application, and e) provide electronic access to the published application from within the Patent Search Room. In addition, resources are requested to classify these applications prior to placement in the electronic search files.
- *Expanded Reexamination:* Subtitle F of the American Inventors Protection Act of 1999 provides for the reduction of patent litigation by expansion of current reexamination procedures. This title expands third party participation in reexaminations to include interviews and all patent owner responses, provides for a third party right of appeal and for an estoppel provision applicable to third party requesters. Additional resources are requested to accommodate the expected increase in requests for reexamination. These additional resources are patent examiners, legal advisors, administrative patent judges for the Board of Patent Appeals and Interferences, and attorneys for the Office of the Solicitor.
- *Performance-Based Organization:* Subtitle G of the American Inventors Protection Act of 1999 alters the organization of the PTO by establishing two distinct organizations to address patent and trademark concerns. The PTO is subject to the policy direction of the Secretary of Commerce, who will appoint a Deputy Under Secretary of Commerce for Intellectual Property and Deputy Director of the United States Patent

¹¹ The requested increase is broken down as follows: (1) 118 FTE and \$20,006,000 for the Patent Business, (2) \$128,000 for the Trademark Business, (3) \$974,000 for the Information Dissemination Business, (4) 7 FTE and \$631,000 for the Policy Function, and (5) \$38,000 for Corporate Support function.

and Trademark Office, a Commissioner for Patents, and a Commissioner for Trademarks. However, PTO is responsible for management and administration of operations. The agency is now headed by an Under Secretary of Commerce for Intellectual Property and Director of the United States Patent and Trademark Office, who is appointed by the President. Also established are nine-member patent and trademark public advisory committees to advise the Director on agency policies, goals, performance, budget and user fees. In addition to these organizational changes, the bill also provides personnel and procurement flexibilities, ensuring more effective and modern management..

Information Technology

No increase is requested for the development of patent systems in fiscal year 2001. The projects outlined below will contribute to our goal of reducing cycle time to 12 months or less for all inventions when fully integrated into the examination process. A more detailed description and milestones relating to these projects can be found in our *Strategic Information Technology Plan*.

- ***Patent Application Capture and Review System (PACRS)*** - An earlier version of this system -- the Patent Image Capturing System (PICS) -- has been providing timely capture of application images and automated support of certification and licensing and review functions since April 1997. The expansion of scanning technology since then has facilitated the capture of application papers that will be needed to feed electronic examination. The system today focuses on automated OCR capture of the full text of patent applications received, automated capture of bibliographic data from applicant-supplied standard data sheets with subsequent automatic loading into the Patent Application Location Monitoring (PALM) system, automated first level licensing and review screening, and automated classification for initial routing to the Technology Centers. PACRS has begun to lay the foundation for processing patent applications into intelligent documents that will support parallel on-line examination systems as well as automated publication systems. This system directly supports our goal of receiving applications and publishing patents electronically for the first Technology Center in fiscal year 2002, and for all centers in fiscal year 2003.
- ***Tools for Electronic Application Management (TEAM)*** - In order to mitigate risk, refine the requirements, and validate the assumptions of the reengineered patent process, we are developing a series of prototypes before developing the complete automated information systems, which will fully support the electronic work place of the future. Initial prototypes have already been piloted in one Technology Center of the Patent Business. This prototype validated the capability to accept patent documents in paper form or on disk, capture and manage the necessary bibliographic data, organize the documents into electronic file wrappers, and then support all examiner processing and communication requirements. During fiscal year 1998 the TEAM project was created in order to move the prototype closer to a production system. An executable prototype for TEAM is presently under development and will be implemented during fiscal year 2000. This prototype will allow us to further refine the functionality needed in a full production environment. In fiscal year 2001, we will begin development of a production system, building on the knowledge learned from experiences and accomplishments of the earlier pilot and prototype efforts.

- ***Electronic Filing System/PatentIn***

Electronic Filing System (EFS) - This project will define the requirements and procedures to develop and implement a system to create, receive, and accept filing of U.S. patent applications, PCT applications, and other related papers electronically. EFS will interface with the Electronic Mailroom, ACRS, and the Revenue Accounting Management system (RAM), TEAM, and PCT Automation/Operations Workflow and Electronic Review (POWER). An earlier prototype for electronic filing validated the concept of applicants' submitting patent applications to the PTO using Commercial-Off-The Shelf (COTS) software packages, and the concepts in the draft Implementation Guide for Electronic Filing. The concepts contained in the Guide will allow the applicant community, third party developers, and the Office to use electronic filing to exchange electronic documents. Accordingly, the Guide presents a high-level view of "how electronic filing will work" without including a large amount of technical detail. The first release of EFS was a pilot for the filing of utility applications at the end of 1999. The electronic filing pilot will be expanded to include all communications with applicants. The pilot will allow us to incorporate lessons learned toward a production system for both national and international applications. This project directly supports our *High Impact Agency commitment* of receiving applications and publishing patents electronically for the first Technology Center in fiscal year 2002, and for all Centers in fiscal year 2003.

PatentIn - PatentIn provides an efficient and convenient means through which applicants may create a Sequence Listing to comply with U.S. and international filing requirements for biotechnology patent applications containing nucleic and amino acid sequence information. The PatentIn project involves multiple stages, including the development of a Web browser application, as well as Windows and DOS versions. PatentIn will provide value to applicants by enabling them to use the Internet to obtain up-to-date software products through the PTO Internet site as well as help support the electronic filing of sequence listings. The continuation of this project through fiscal year 2000 will facilitate the forward movement toward receiving applications and publishing patents electronically.

- ***International Priority Document Exchange (IPDE)*** – As a PCT Receiving Office, the PTO processes international application documents. A certified copy of prior applications must substantiate priority date claims in international applications. These copies are referred to as priority documents. Since the PTO is the single largest provider of priority documents to WIPO, streamlining the process for exchanging electronic documents will benefit both organizations. The IPDE will accomplish the delivery and receipt of priority documents with data security, since unpublished patent applications must be kept confidential. The first phase, designed to demonstrate the fundamentals of exchange of digital priority documents using transportable media, was completed in January 1998. The second phase, to be carried out in fiscal year 2001, is designed to test standards and support technology to exchange digital priority documents using the Trilateral network. The third phase, scheduled for fiscal year 2002, puts into production the exchange of priority documents using a network.

Operational benefits that the PTO expects to receive from these automation projects include the elimination of many manual processes such as hand delivery of paper files. With automation, manual data entry is reduced and files can be retrieved quickly via electronic search to be rapidly sorted, reviewed, and routed. These files can then be shared to allow concurrent processing. Using desktop workstations, examiner searches for reference data can be performed quickly and the examiner can subsequently produce correspondence with the applicant using a suite of electronic

forms. With files stored electronically, the status and location of applications can be provided to an applicant almost instantaneously, customers can establish priority in foreign filing more quickly, and formalities review and examination can be conducted more efficiently.

Aside from process improvements, projects like EFS and TEAM will increase the quality of the examination process. EFS will assist the applicant by screening the application for some legal formalities. TEAM will allow examiners to use word-processing functions to work with specifications, which may number over 100 pages, with some up to 1,000 pages long. This capability will allow the examiner to more easily search the specifications for terms and concepts that support the claimed invention, thus helping to maintain the clarity of the issues at hand. This capability will likewise enhance the ability of the examiner to search for and block any new matter contained in subsequent amendments to the application, which is not permissible.

Complementing the electronic processing of applications will be the Office Action Correspondence Subsystem (OACS). OACS allows users to generate PCT and US forms electronically with all of the necessary bibliographic data already loaded. Automatic form generation will strengthen the consistency of office communications with the public, while the automated insertion of PALM data will minimize the mistakes inherent in re-keying data by hand.

Finally, all program increases include the funds needed to provide new employees with access to our office automation capability. This access is ensured by the Chief Information Officer's organization through the acquisition of office automation software licenses; the preparation and installation of the workstation; and installation and connection to our network (PTONet) and our office automation servers. Requested resources would also fund the required technical support services (desktop workstation maintenance, help desk and software support, troubleshooting, etc.), as well as maintenance of the software licenses, network components, and office automation servers.

Fiscal Year 2001 Performance Goals and Targets

Our fiscal year 2001 request is designed to address the PTO goals and objectives included in the Department's Strategic Plan. The longer-term performance results of our business will provide our customers with the highest level of quality and services. The performance indicators delineated in Table 4 will measure the success of our business in fiscal year 2001. This table is based upon information drawn from internal automated workload tracking systems, customer and employee surveys, the ongoing cost accounting effort, and internal projections.

Table 4

Performance Targets					
Performance Goal: Grant exclusive rights, for limited times, to inventors for their discoveries	Baseline ¹²	FY 1998 Performance	FY 1999 Performance	FY 2000 Target	FY 2001 Target
Effectiveness Measure: Number of inventions filed ¹³ (Number of UPR applications filed)	158,427 (191,116)	201,777 (240,090)	219,288 (272,221)	241,200 (299,400)	270,100 (335,400)
Customer Satisfaction Measure: Overall percent customer satisfaction	50	52	57	70	75
Employee Satisfaction Measure: Overall percent of employee satisfaction	41	47 ¹⁴	*	75	*
Productivity Measure: Number of weighted applications disposed (per examiner FTE)	87.2	89.4	81.0	91.6	86.2
Efficiency Measure: Workload cost indicator ¹⁵	\$2,500.00	\$2,379.44	\$2,494.20	\$2,646.99	\$2,761.59
Quantity Measures: Number of applications (UPR) disposed per year (includes SIRs) Number of patents (UPR) issued per year	180,196 105,529	203,227 140,159	219,556 143,686	235,600 165,800	256,400 168,300
Quality of Output Measures: Average cycle time of inventions processed (months) ¹⁶ Percent of inventions achieving 12 month or less cycle time ¹⁷	14.6 47	16.9 32	12.9 62	10.2 80	10.0 85

* Survey is conducted every two years.

¹² Baseline measures are derived from fiscal year 1996 actual performance results except for the workload cost indicator estimates, which are based on preliminary activity – based cost accounting models of fiscal year 1997 actual cost accounting data.

¹³ Inventions exclude Rule 60 and 62 continuations and requests for continuing prosecution under Rule 129.

¹⁴ Survey conducted in 1998 using the Office of Personnel Management's Organizational Assessment Survey. Results reported for employees in the Office of the Assistant Commissioner for Patents are based on the question "Considering everything, how satisfied are you with your job?"

¹⁵ The workload cost indicator measures each business area's composite productivity rate, which is the ratio of costs per composite output unit of goods or services provided. This ratio is derived by using total business area costs as the numerator and the actual composite workload number, weighted total of key outputs, as the denominator.

¹⁶ The 2000 and 2001 performance targets of 10.2 month and 10.0 month cycle time will not be reached due to unprecedented workload growth and restricted use of fee income. We are projecting cycle time to increase to 13.1 months in 2000 and 13.6 months in 2001.

¹⁷ The 2000 and 2001 performance target of 80 percent and 85 percent of inventions achieving 12 month or less cycle time will not be achieved due to unprecedented workload growth and restricted use of fee income. We are projecting 59 percent of inventions achieving 12 month or less cycle time in 2000 and 54 percent in 2001.

Table 5

Key Objectives
1998 through 2001

<i>1999 Accomplishments</i>	<i>2000</i>	<i>2001</i>
<ul style="list-style-type: none"> • Hired 801 patent examiners to keep pace with rising workloads and attained 12.9 months cycle time. • Began to increase production by transitioning examiners out of PCT, Petitions, and PAC activities. • Conducted customer surveys and achieved a 5 percent increase to a 57 percent satisfaction level. • Increased partnership with customers (Biotechnology and Semiconductor partnerships, 3rd Independent Inventor's Conference). 	<ul style="list-style-type: none"> • Hire patent examiners to maintain 1999 staffing and production levels and attain 13.1 months average cycle time for inventions. • Continue transitioning examiners out of PCT, Petitions, and other non-examining activities. • Reduce the backlogs at the Board of Patent Appeals and Interferences. • Focus on quality improvement activities and achieve 75 percent customer satisfaction in four standards, thereby achieving an overall 70 percent customer satisfaction level. 	<ul style="list-style-type: none"> • Hire patent examiners to attain 13.6 months average cycle time. • Expand the quality assurance program to review work-in-progress during the examination process as well as after completion of examination. • Institute targeted training of examiners addressing common errors identified through the quality review processes. • Reduce the backlogs at the Board of Patent Appeals and Interferences. • Achieve 80 percent customer satisfaction in four standards, thereby achieving an overall 75 percent customer satisfaction level.
<ul style="list-style-type: none"> • PICS – Expanded image scanning of patent applications to support POWER. • EFS XP – Piloted receipt of biotechnology gene sequences over the Internet. • POWER (PCT) – Automated PCT Receiving Office operations (Phase 1). • EPO Search Report (PCT) – Provided limited electronic access to EPO PCT Search Reports and reference documents. • IPDE – Tested exchange of priority documents electronically with Trilateral Partners and WIPO. • PAIR – Provided application status via the Internet. 	<ul style="list-style-type: none"> • PACRS (PICS/ACRS) – Expand system capability to include image scanning of patent applications to support REPS and TEAM. • TEAM – Develop and implement electronic examination prototype. • EFS – Pilot electronic filing of US applications. • PPP -- Prototype electronic photocomposition, publication, and products. 	<ul style="list-style-type: none"> • TEAM – Begin development of an integrated system by building upon previous prototypes. • EFS – Pilot electronic filing of biotechnology patent applications over Internet. • POWER (PCT) – Pilot electronic receipt of PCT applications and automate PCT processing of Chapter II cases (Phase 2). • PPP – Pilot Prototype electronic photocomposition, publication and products. • IPDE – Continue testing exchange of priority documents with Trilateral Partners and WIPO.