

June 2005

INTELLECTUAL PROPERTY

USPTO Has Made Progress in Hiring Examiners, but Challenges to Retention Remain



G A O

Accountability * Integrity * Reliability



Highlights of [GAO-05-720](#), a report to congressional committees

Why GAO Did This Study

The U.S. Patent and Trademark Office (USPTO) is responsible for issuing U.S. patents that protect new ideas and investments in innovation and creativity. Recent increases in both the complexity and volume of patent applications have increased the time it takes to process patents and have raised concerns about the validity of the patents USPTO issues. Adding to these challenges is the difficulty that USPTO has had attracting and retaining qualified staff. In this context, GAO was asked to obtain information about USPTO's patent organization. Specifically GAO reviewed (1) overall progress in implementing the initiatives in its strategic plan; (2) efforts to attract and retain a qualified patent workforce; and (3) remaining challenges, if any, in attracting and retaining a qualified patent workforce.

What GAO Recommends

GAO recommends that USPTO develop formal strategies to improve communication and collaboration between management, patent examiners, and the union to help to address the issues identified in this report. USPTO agreed with our recommendations.

www.gao.gov/cgi-bin/getrpt?GAO-05-720.

To view the full product, including the scope and methodology, click on the link above. For more information, contact Anu K. Mittal at (202) 512-3841 or mittala@gao.gov.

INTELLECTUAL PROPERTY

USPTO Has Made Progress in Hiring Examiners, but Challenges to Retention Remain

What GAO Found

USPTO has made more progress in implementing its strategic plan initiatives to increase the agency's capability than initiatives aimed at decreasing patent pendency. USPTO has fully or partially implemented all 23 capability initiatives that focus on improving the skills of employees, enhancing quality assurance, and altering the patent system through changes in existing laws or regulations. In contrast, the agency has partially or fully implemented only 8 of the 15 initiatives aimed at reducing pendency. Lack of funding was cited as the primary reason for not implementing these initiatives. With passage of legislation in December 2004 to increase fees available to USPTO for the next two years, the agency is re-evaluating the feasibility of implementing some of these initiatives.

Since 2000, USPTO has taken steps intended to help attract and retain a qualified patent examination workforce, such as enhancing its recruiting efforts and using many of the human capital benefits available under federal personnel regulations. However, it is too soon to determine the long-term success of the agency's recruiting efforts because they have been in place only a short time and have not been consistently sustained due to budgetary constraints. Long-term uncertainty about USPTO's hiring and retention success is also due to the unknown impact of the economy. In the past, when the economy was doing well, the agency had more difficulty in recruiting and retaining the staff it needed.

USPTO faces three long-standing challenges that could also undermine its efforts to retain a qualified workforce: the lack of an effective strategy to communicate and collaborate with examiners; outdated assumptions in the production quotas it uses to reward examiners; and the lack of required ongoing technical training for examiners. According to patent examiners, the lack of communication and a collaborative work environment has resulted in low morale and an atmosphere of distrust that is exacerbated by the contentious relationship between management and union officials. Also, managers and examiners have differing opinions on the need to update the monetary award system that is based on assumptions that were established in 1976. As a result, examiners told us they have to contend with a highly stressful work environment and work voluntary overtime to meet their assigned quotas. Similarly, managers and examiners disagree on the need for required ongoing technical training. Examiners said they need this training to keep current in their technical fields, while managers believe that reviewing patent applications is the best way for examiners to remain current.

Contents

Letter

Results in Brief	1
Background	3
USPTO Has Made Greater Progress on Strategic Plan Initiatives That Enhance the Agency's Capability Rather Than Productivity and Agility	6
USPTO Has Taken Steps to Help Attract and Retain a Qualified Patent Examiner Workforce, but Long-Term Success Is Uncertain	9
USPTO Faces Long-standing Human Capital Challenges That Could Undermine Its Recruiting and Retention Efforts	16
Conclusions	24
Recommendations for Executive Action	32
Agency Comments and Our Evaluation	32

Appendixes

Appendix I: Scope and Methodology	34
Appendix II: Comments from the U.S. Patent and Trademark Office	36
Appendix III: Progress on Strategic Plan Initiatives	40
Appendix IV: GAO Contact and Staff Acknowledgments	50

Tables

Table 1: USPTO Average Patent Pendency by Technology Center, 2004	8
Table 2: Status of Capability Initiatives to Improve Workforce Skills	10
Table 3: Status of Capability Initiatives to Enhance Quality Assurance	11
Table 4: Status of Capability Initiatives to Change Legislation and Rules	12
Table 5: Status of Productivity Initiatives	13
Table 6: Status of Agility Initiatives	14
Table 7: USPTO Patent Examiner Hiring Data, Fiscal Years 2000–2004	22
Table 8: USPTO Capability Initiatives	40
Table 9: USPTO Productivity Initiatives	45
Table 10: USPTO Agility Initiatives	47

Figures

Figure 1: USPTO's 2004 Brand Image	18
------------------------------------	----

Figure 2: USPTO's 2002 Brand Image	19
Figure 3: Examiner Attrition as Percentage of Staff	23

Abbreviations

EPO	European Patent Office
OIG	Office of Inspector General
OMB	Office of Management and Budget
OPM	Office of Personnel Management
OPQA	Office of Patent Quality Assurance
PCT	Patent Cooperation Treaty
POPA	Patent Office Professional Association
USPTO	U.S. Patent and Trademark Office

This is a work of the U.S. government and is not subject to copyright protection in the United States. It may be reproduced and distributed in its entirety without further permission from GAO. However, because this work may contain copyrighted images or other material, permission from the copyright holder may be necessary if you wish to reproduce this material separately.



United States Government Accountability Office
Washington, D.C. 20548

June 17, 2005

The Honorable F. James Sensenbrenner Jr.
Chairman
Committee on the Judiciary
House of Representatives

The Honorable Frank R. Wolf
Chairman
Subcommittee on Science, the Departments
of State, Justice, and Commerce, and
Related Agencies
Committee on Appropriations
House of Representatives

The U.S. Patent and Trademark Office (USPTO) is responsible for issuing U.S. patents that protect new ideas and investments in innovation and creativity.¹ However, recent increases in both the complexity and volume of patent applications have lengthened the time it takes USPTO to process patents (“pendency”) and have raised concerns among intellectual property organizations, patent holders, and others about the quality of the patents that are issued. Over the last 10 years, the number of patent applications filed annually with USPTO has increased 91 percent from about 185,000 in 1994 to over 350,000 in 2004. USPTO’s resources have not kept pace with the rising number and complexity of patent applications it must review. Moreover, at times, USPTO officials acknowledge they have had difficulty competing with the private sector to attract and retain staff with the high degree of scientific, technical, and legal knowledge required to be patent examiners. To help the agency address these challenges, Congress passed a law requiring USPTO to improve patent quality, implement electronic government,² and reduce pendency.³

¹USPTO, an agency within the Department of Commerce, consists of two organizations, one for patents and one for trademarks. This report focuses on the patent organization, which accounts for about 76 percent of the agency’s resources.

²Electronic government refers to an increased reliance on information technology to conduct government operations and accomplish agency missions.

³Patent and Trademark Office Authorization Act of 2002, Pub. L. No. 107-273, § 13104, 116 Stat. 1899, 1900, required USPTO to develop a 5-year strategic plan for meeting these three requirements.

In response to the law, USPTO in June 2002 embarked on an aggressive 5-year modernization plan outlined in its 21st Century Strategic Plan (Strategic Plan), which was updated to include stakeholder input and rereleased in February 2003.⁴ USPTO's Strategic Plan includes 38 initiatives related to the patent organization that focus on three crosscutting strategic themes: capability, productivity, and agility. The capability theme includes efforts to enhance patent quality through workforce and process improvements; the productivity theme includes efforts to decrease pendency of patent applications; and the agility theme includes initiatives to electronically process patent applications. To fully fund the initiatives in its Strategic Plan, the agency requested authority from Congress to increase the user fees it collects from applicants and to spend all of these fees on patent processing.⁵ Legislation to increase the fees was enacted in December 2004;⁶ however, the changes will be effective only in fiscal years 2005 and 2006. Although USPTO's Strategic Plan includes some initiatives to improve the skills of its examination workforce, the agency's more detailed summary of its actions to attract and retain a qualified workforce is contained in the Strategic Workforce Restructuring Plan (Workforce Plan), which the agency developed in 2001.

In the context of the various efforts being undertaken by USPTO, you requested that we obtain information about its (1) overall progress in implementing the initiatives in the 21st Century Strategic Plan related to the patent organization; (2) efforts to attract and retain a qualified patent workforce; and (3) remaining challenges, if any, in attracting and retaining a qualified patent workforce.

To determine USPTO's progress toward implementing the Strategic Plan initiatives for the patent organization, we reviewed the initiatives contained in the plan, as well as agency documents regarding USPTO's progress in implementing each initiative. We also interviewed key USPTO officials and

⁴USPTO also prepared the Strategic Plan as part of the requirements of the Government Performance and Results Act.

⁵USPTO is funded by fees collected from the public for specific activities related to processing applications. The spending of those fees is subject to provisions in annual appropriations acts.

⁶Consolidated Appropriations Act, 2005, § 801, Pub. L. No. 108-447, 118 Stat. 2809, 2924 (Dec. 8, 2004).

union officials about the plan's implementation.⁷ We focused our review on tasks that were to have been completed by December 2004. To determine what actions USPTO has taken to attract and retain a qualified patent workforce and what challenges, if any, the agency faces in this area, we reviewed USPTO's Workforce Plan and other policies and practices related to human capital. We interviewed USPTO management and union officials, as well as officials from the Department of Commerce, its Office of Inspector General (OIG), and the Office of Personnel Management (OPM) about human capital initiatives undertaken by USPTO. We also reviewed results from USPTO and OPM employee surveys and compared human capital policies and practices with those recommended by GAO, OPM, and others. In addition, we attended a USPTO career fair for patent examiners to observe agency recruiting efforts and conducted focus groups with patent examiners and supervisory patent examiners to obtain their views on various issues related to USPTO's ability to attract and retain a qualified patent examination workforce. Our review focused exclusively on the activities of the patent organization and not those of the trademark organization. We are issuing a separate report addressing the agency's strategy for automating its patent process.⁸ Appendix I contains a detailed discussion of the scope and methodology for our review. We conducted our review from June 2004 through April 2005 in accordance with generally accepted government auditing standards.

Results in Brief

USPTO has made greater progress in implementing its Strategic Plan's initiatives to improve the patent organization's capability than it has in implementing initiatives to improve its productivity and agility. Specifically, of the actions planned to have been implemented by December 2004, USPTO has fully or partially implemented all 23 of the initiatives related to its capability theme, which focuses on improving the skills of employees, enhancing quality assurance, and altering the patent system through changes in existing laws or regulations. For example, USPTO established programs to periodically test the skills of patent examiners, and revised and expanded reviews to ensure the quality of examiners' work. In

⁷Patent examiners are represented by, but not required to join, the Patent Office Professional Association (POPA), an independent union of professional employees formed in 1964.

⁸GAO, *Intellectual Property: Key Processes for Managing Patent Automation Strategy Need Strengthening*, [GAO-05-336](#) (Washington, D.C.: June 17, 2005).

contrast, the agency has partially implemented only 1 of the 4 initiatives related to the productivity theme to help reduce pendency, and has fully implemented only 1 and partially implemented 6 of the 11 initiatives related to the agility theme to help improve electronic processing of patent applications. Agency officials primarily cited the need for additional funding as the reason for not implementing these initiatives. With passage of the legislation in December 2004 to increase fees available to USPTO, the agency is re-evaluating the feasibility of implementing those initiatives that it had previously deferred or suspended.

Since 2000, USPTO has taken steps intended to help attract and retain a qualified patent examination workforce. Specifically, the agency enhanced its recruiting efforts by, among other things, identifying the knowledge, skills, and abilities that patent examiners need to effectively fulfill their responsibilities and establishing a permanent recruiting team composed of senior and line managers. In addition, USPTO has used many of the human capital benefits available under federal personnel regulations to attract and retain qualified examiners, including the two benefits most frequently cited as important by examiners: flexible working schedules and competitive salaries. However, it is too soon to determine the long-term success of the agency's efforts, in part because neither recruiting efforts nor availability of benefits have been consistently sustained during the limited time they have been in effect. In 2002, for example, USPTO suspended reimbursements to examiners for law school tuition, in part because of funding limitations, although the agency resumed reimbursement in 2004 when funding from the fee legislation became available. Examiners in our focus groups expressed dissatisfaction with the inconsistent availability of these benefits, in some cases saying that suspension of benefits provides them with an incentive to leave the agency. Another reason adding to the uncertainty of USPTO's recruiting efforts is the impact of the economy, which, according to agency officials and examiners, has a greater effect on recruitment and retention than any actions the agency may take. Both agency officials and examiners told us that when the economy picks up, more examiners tend to leave USPTO and fewer qualified candidates are attracted to the agency. On the other hand, when there is a downturn in the economy, USPTO's ability to attract and retain qualified examiners increases because of perceived job security and competitive pay. This correspondence between the economy and USPTO's hiring and retention success is part of the reason why USPTO has been able to meet its hiring goals for the last several years, but recently has experienced a rise in attrition rates.

While USPTO has undertaken a number of important and necessary actions to attract and retain qualified patent examiners, the agency continues to face three long-standing human capital challenges that could also undermine its recent efforts if not addressed.

- First, the agency lacks effective mechanisms for helping managers to communicate and collaborate with examiners. Organizations with effective human capital models have strategies to communicate with employees and involve them in decision making; however, USPTO officials acknowledged that they do not have a formal communication strategy or actively seek input from examiners on management decisions. Most of USPTO's communication mechanisms emphasize communication between managers and not between managers and examiners. Patent examiners and supervisory patent examiners in our focus groups frequently said that communication with management was poor or nonexistent, and they reported little involvement in providing input to key agency decisions. Prior employee surveys and participants in our focus groups indicated that the lack of communication and involvement has created an atmosphere of distrust of USPTO management and lowered examiner morale, which is further exacerbated by the contentious relationship between USPTO management and the examiners' union.
- Second, human capital models suggest that agencies should periodically assess their monetary awards systems to ensure that they help attract and retain qualified staff. Patent examiners' awards are based largely on the number of applications they process, but the assumptions underlying their application processing quotas have not been updated since 1976. USPTO management and examiners have differing opinions on whether these assumptions need to be updated. For example, according to examiners, the assumptions do not reflect the impact of the increased use of electronic tools that has reduced the time required to find relevant patent literature but at the same time has increased the amount of literature that must be reviewed. As a result, many of the examiners and supervisory patent examiners in our focus groups and respondents to previous agency surveys reported that examiners do not have enough time to conduct high-quality reviews of patent applications. According to agency surveys, these inadequate time frames create a stressful work environment and is cited in the agency's exit surveys as a primary reason examiners leave the agency.

-
- Finally, counter to current workforce models, USPTO does not require ongoing technical education for patent examiners, which could negatively affect the quality of its patent examination workforce. According to agency officials, examiners automatically maintain currency with their technical fields by just doing their job of examining applications, which they believe contains the most cutting-edge information. However, patent examiners and supervisory patent examiners disagreed and said that the literature they review in applications is outdated, particularly in rapidly evolving technologies. USPTO offers some voluntary in-house training, but the agency could provide no data on the extent to which examiners have taken advantage of such training. Moreover, patent examiners told us that they are reluctant to attend such training, given the time demands involved. In contrast, USPTO's policy requires examiners to attend extensive training provided by the agency on legal issues on which examiners are periodically tested.

Although USPTO has taken a number of steps to enhance its recruiting efforts and better target a qualified pool of candidates, in light of its long-standing human capital challenges, we are recommending that it develop formal strategies to improve communication and collaboration across all levels of the organization, which will also help resolve differences of opinion between management and examiners on such issues as the assumptions underlying the quota system and requirements for technical training. In its written comments on a draft of our report (reprinted in appendix II), USPTO agreed with our findings, conclusions, and recommendations. In addition, the agency provided technical comments that we have incorporated as appropriate.

Background

USPTO administers U.S. patent and trademark law to encourage innovation and advance science and technology in two ways. First, USPTO grants to inventors exclusive rights to their inventions for a limited period of time, usually 20 years. During this time, the inventor can exclude others from making, using, selling or importing the invention. Second, the agency preserves and disseminates patent information, for example on issued patents and most patent applications. Such information allows other inventors to improve upon the invention in the original application and apply for their own patent.

To obtain a patent, inventors—or more usually their attorneys or agents—submit to USPTO an application that fully discloses and clearly describes

one or more distinct innovative features of the proposed invention (called claims) and pays a filing fee to begin the examination process. USPTO evaluates the application for completeness, classifies it by the type of patent and the technology involved,⁹ and assigns it for review to one of its operational units, called technology centers, that specialize in specific areas of science and engineering.¹⁰ Supervisors in each technology center then assign the application to a patent examiner for further review. For each claim in the application, the examiner searches and analyzes relevant United States and international patents, journals, and other literature to determine whether the proposed invention merits a patent—that is, whether the invention is a new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement to one that already exists. The examiner may contact the applicant on one or more occasions to resolve questions and obtain additional information to determine the proposed invention’s potential patentability. If the examiner determines that the proposed invention merits a patent, the applicant is informed, and, upon payment of a fee, USPTO issues a patent. The applicant may abandon the application at any time during the examination process. If the application is denied a patent, the applicant may appeal the decision within an established time. Each examiner typically reviews applications in the order in which they are received by USPTO.

The time from the date an application is filed until a patent is granted, denied, or the application is abandoned is called “overall pendency.” Over the past decade, overall pendency has increased on average from 20 to almost 28 months. However, pendency varies by technology center, ranging from 24 months for applications in such fields as transportation, agriculture, electronic commerce, mechanical engineering, and manufacturing to 41 months for applications in the fields of computer

⁹Patents typically fall into one of three categories: (1) utility—for useful inventions, such as processes, machines, articles of manufacture, or composition of matter; (2) design—for changes in configuration, shape, or surface ornamentation that do not involve changes in function; or (3) plant—for asexually reproducible plants. A fourth category, “reissue patents,” refers to patents USPTO grants as replacements for any patent that was in some way defective; these patents constituted less than one-half of 1 percent of patents issued in fiscal year 2003.

¹⁰USPTO’s eight technology centers are: (1) Biotechnology and Organic Chemistry; (2) Chemical and Materials Engineering; (3) Computer Architecture, Software, and Information Security; (4) Communications; (5) Semiconductors, Electrical and Optical Systems and Components; (6) Transportation, Electronic Commerce, Construction, Agriculture, National Security and License and Review; (7) Mechanical Engineering, Manufacturing, and Products; and (8) Designs for Articles of Manufacture.

architecture, software and information security (see table 1). In addition to overall pendency, USPTO monitors the time from when an application is filed until the examiner makes an initial assessment of the proposed invention's patentability and informs the applicant, called first action pendency. First action pendency also has generally increased in the past decade from 8 to over 20 months. In 2004, first action pendency ranged from an average of 14 months for applications in such fields as semiconductors and optical systems to 33 months for computer architecture and software applications. Such measures of pendency help USPTO assess its effectiveness in reviewing patent applications.

Table 1: USPTO Average Patent Pendency by Technology Center, 2004

Months		
Technology center	Overall pendency	First action pendency
Biotechnology and Organic Chemistry	29.9	19.2
Chemical and Materials Engineering	27.6	17.9
Communications	40.5	31.4
Computer Architecture, Software and Information Security	41.1	33.3
Mechanical Engineering, Manufacturing, Products and Design	24.1	15.2
Semiconductor, Electrical, Optical Systems and Components	23.9	14.0
Transportation, Construction, Agriculture, and Electronic Commerce	24.1	15.6
Average	27.6	20.2

Source: USPTO.

USPTO Has Made Greater Progress on Strategic Plan Initiatives That Enhance the Agency's Capability Rather Than Productivity and Agility

USPTO has made greater progress in implementing its Strategic Plan initiatives to make the patent organization more capable than it has been in implementing its productivity and agility initiatives. Specifically, of the activities planned for completion by December 2004, the agency has fully or partially implemented all 23 of the initiatives related to its capability theme to improve the skills of employees, enhance quality assurance, and alter the patent process through legislative and rule changes. In contrast, USPTO has partially implemented only 1 of the 4 initiatives related to the productivity theme to restructure fees and expand examination options for patent applicants and has fully or partially implemented 7 of the 11 initiatives related to the agility theme to increase electronic processing of patent applications and reduce examiners' responsibilities for literature searches. In explaining why some initiatives have not been implemented, agency officials primarily cited the need for additional funding. With passage of the legislation in December 2004 to restructure and increase the fees available to USPTO, the agency is re-evaluating the feasibility of many initiatives that it had deferred or suspended. For more details on USPTO's progress in implementing the 38 initiatives in the Strategic Plan, see appendix III.

USPTO Has Made Substantial Progress on Its Capability Initiatives

To improve the quality of its reviews of patent applications through workforce and process improvements, USPTO developed 23 capability initiatives: 9 to improve the skills of its workforce, 5 to enhance its quality assurance program, and 9 to improve processes through legislative and rule changes.

Workforce Skills Improvements

As shown in table 2, USPTO has implemented 5 and partially implemented 4 of the 9 workforce skills initiatives.

Table 2: Status of Capability Initiatives to Improve Workforce Skills

Initiatives	Implemented	Partially implemented	Not implemented
Increase the pool of qualified management candidates by adding awards to total compensation	X		
Explore alternate organizational structures for the workplace	X		
Develop interim pre-employment measures to assess English language skills	X		
Recertify the skills of examiners with authority to issue patents (primary examiners) through examinations and expanded work product reviews	X		
Certify that examiners possess the requisite knowledge, skills, and abilities prior to promotion to a position with authority to negotiate on behalf of USPTO	X		
Improve the selection and training of supervisory patent examiners		X	
Use examinations and other means to ensure that new patent examiners possess the requisite skills prior to promotion		X	
Implement a pre-employment test to assess English language skills		X	
Create an Enterprise Training Division		X	

Source: GAO analysis of USPTO data.

Although the agency has not estimated how much funding would be needed to implement the final 4 initiatives, their full implementation was hindered, in part by funding constraints, agency officials said. The current status of these partially completed initiatives is as follows:

- To improve the selection and training of managers, USPTO has added proficiency in supervisory skills to the requirements for a supervisory examiner and in 2004 required applicants for such positions to pass an examination, but the agency has not fully developed the supervisory curriculum or trained supervisors.
- To help ensure that new examiners have the requisite skills prior to promotion, USPTO has identified the knowledge, skills, and abilities needed for patent examiners and established training units in work groups for new examiners, but has not developed a structured process for subsequent promotions.
- To implement a pre-employment test to assess English language communication skills of new patent examiners, USPTO has, among

other things, revised its vacancy announcements to include English language proficiency as a required skill but has not developed an automated pre-employment test of such skills.

- USPTO has developed an action plan to establish an Enterprise Training Division, which was to have been in place in 2003, to consolidate responsibility for conducting legally required and other agencywide training, developing training policy, and monitoring funds spent on training.

Quality Assurance Enhancements

As shown in table 3, USPTO has implemented 3 and partially implemented 2 of the 5 capability initiatives to enhance its quality assurance program.

Table 3: Status of Capability Initiatives to Enhance Quality Assurance

Initiatives	Implemented	Partially implemented	Not implemented
Expand current quality assurance program to include works in progress (in-process reviews)	X		
Establish "second pair of eyes" reviews in each technology center	X		
Survey customer regarding transactions with USPTO on specific applications to supplement comprehensive customer surveys	X		
Evaluate the quality of examiners' literature searches		X	
Enhance the reviewable record for each patent application with additional information from the applicant and examiner		X	

Source: GAO analysis of USPTO data.

The status of the initiatives USPTO has partially implemented is as follows:

- The agency has begun to develop a plan and criteria to review the quality of searches and anticipates incorporating such reviews in the quality assurance program during fiscal year 2006.
- To enhance the reviewable record for patent applications, USPTO has developed guidance and amended forms to allow both examiners and applicants to provide additional information on the content of interviews and reason for decisions and strongly recommends, rather than requires, applicants and examiners to do so.

Process Improvements Related to Legislative and Rule Changes

As shown in table 4, of the 9 capability initiatives to streamline patent processing through legislative and rule changes, USPTO has implemented 1 and partially implemented 8.

Table 4: Status of Capability Initiatives to Change Legislation and Rules

Initiatives	Implemented	Partially implemented	Not implemented
Delete the requirement for physical surrender of the original patent papers	X		
Certify the legal knowledge of patent attorneys and agents who wish to practice before USPTO and periodically recertify the skills of practicing attorneys and agents		X	
Evaluate whether to adopt a unity of invention standard		X	
Simplify adjustments to the patent term		X	
Permit individuals who have been assigned patent rights to sign an oath declaring that the inventor is the original and first inventor		X	
Permit individuals who have been assigned patent rights to broaden the claims in an application		X	
Correct an inconsistency regarding unintentionally delayed submission of certain claims		X	
Eliminate certain exemptions from the requirement to publish most patent applications within 18 months of when they were first filed		X	
Amend current legislation regarding certain limitations on an inventors' right to obtain a patent		X	

Source: GAO analysis of USPTO data.

Although full implementation of these initiatives is largely dependent on actions by Congress, the status of the 8 partially implemented initiatives is as follows:

- To certify the legal knowledge of newly registering and practicing patent attorneys and agents and to monitor their practice, the agency offers registration examinations electronically year-round and issued proposed rules to harmonize ethics and disciplinary actions with the requirements in place in most states, but has not yet developed a formal program of continuing legal education requirements to periodically recertify the skills of practicing attorneys and agents.
- To evaluate whether to adopt a unity standard to harmonize U.S. examination practices with international standards and allow U.S. applicants to obtain a single patent on related claims that must currently

be pursued in separate patent applications in the United States, USPTO began a study of the changes needed to adopt a unity standard and sought public comment but has not completed its analysis, reached a decision, or drafted and introduced implementing legislation.

- For the other 6 partially implemented initiatives, USPTO is drafting proposed legislation or obtaining administrative clearance to introduce it.

USPTO Has Made Less Progress Implementing Its Productivity and Agility Initiatives

As shown in table 5, USPTO has not implemented 3 of the 4 initiatives that focus on accelerating the time to process patent applications and expand public input and has partially implemented only 1 of the productivity initiatives that allow the agency to increase fees and retain the funds. Following passage of legislation in 2004, USPTO has issued rules to increase fees generally and restructure fees to include separate components for different stages of processing both domestic and international patent applications, and for filing the application, searching the literature, and examining the claims. The separate components could, under certain circumstances, be refunded to the applicant. USPTO has not issued rules governing the refund of domestic fees. The revised fees are effective for 2005 and 2006.

Table 5: Status of Productivity Initiatives

Initiatives	Implemented	Partially implemented	Not implemented
Restructure fees and provide for refunds		X	
Offer patent applicants a choice of up to five examination options, based in part on the ability to rely on searches conducted by others			X
Offer patent applicants the option of an accelerated examination			X
Revise postgrant review procedures to allow greater public input			X

Source: GAO analysis of USPTO data.

Similarly, as shown in table 6, USPTO has not implemented 4 of the 11 initiatives related to agility, has only implemented 1 and partially implemented 6. These 11 initiatives are designed to further the agency's goal to create a more flexible organization and include efforts to increase electronic processing of patent applications, reduce examiners'

responsibilities for literature searches, and participate in worldwide efforts to streamline processes and strengthen intellectual property protection.

Table 6: Status of Agility Initiatives

Initiatives	Implemented	Partially implemented	Not implemented
Establish an information security program	X		
Transition to electronic patent processing		X	
Transition to electronic processing for postgrant reviews		X	
Ensure availability of critical data in the event of a catastrophic systems failure		X	
Promote international harmonization and pursue goals to strengthen international intellectual property rights of U.S. inventors		X	
Pursue international agreements to share patent search results		X	
Accelerate Patent Cooperation Treaty reforms		X	
Rely on other sources to classify patent documents			X
Rely on other sources to support domestic and international literature searches			X
Rely on other sources to transition to a new global patent classification system			X
Develop stringent conflict of interest clauses for search firms			X

Source: GAO analysis of USPTO data.

The status of the 6 partially implemented agility initiatives to increase electronic processing and harmonize U.S. and international practices is as follows:

- Although USPTO has largely accomplished the actions related to implementing image-based electronic processing of patent applications, it has not achieved the full extent of electronic sharing of patent documents with the European Patent Office the initiative had anticipated and the two offices continue to finalize security and protocols between their servers.
- USPTO has amended rules to generally allow electronic filing of postgrant review documents and trained additional judges in streamlined procedures, but it has not defined records management schedules for electronic documents or implemented full electronic processing capabilities to support these reviews, such as text searching and the ability to receive, file, store, and view multimedia files.

-
- To ensure the availability of critical data in the event of a catastrophic failure, USPTO has certified and accredited its classified system and its mission-critical and business-essential systems, uses scanning tools to identify security weaknesses, and uses intrusion detection systems, but has not acquired the hardware, software, staff, and facilities for a backup data center.
 - To promote harmonization of patent processing among international intellectual property offices and pursue goals to strengthen international intellectual property rights of U.S. inventors, USPTO participated in substantive patent treaty discussions that addressed such topics as the first-to-file (European) versus the first-to-invent (U.S.) standards, access to genetic resources, and definitions for such terms as prior art and novelty.
 - To pursue multi- and bilateral agreements with other intellectual property offices, USPTO completed pilot programs to compare search results with the Japan and European Patent Offices and with patent offices in Australia and the United Kingdom.
 - Regarding the acceleration of Patent Cooperation Treaty reforms, USPTO indicated that many significant reform procedures have been adopted in the last several years.

Although USPTO has not determined how much funding would be needed, officials said that the lack of adequate funding largely limited its ability to complete planned actions on productivity and agility initiatives that had not been fully implemented. With passage of the fee-restructuring legislation in December 2004, USPTO plans to commence work on these suspended initiatives. For example, it has assigned new teams to evaluate the feasibility of using contractors and international intellectual property offices to conduct literature searches. For greater detail on USPTO's progress in implementing the 38 initiatives in the Strategic Plan, see appendix III.

USPTO Has Taken Steps to Help Attract and Retain a Qualified Patent Examiner Workforce, but Long-Term Success Is Uncertain

Since 2000, USPTO has taken steps intended to help attract and retain a qualified patent examination workforce. The agency has enhanced its recruiting efforts and has used many human capital flexibilities to attract and retain qualified patent examiners. However, during the past 5 years, the agency's recruiting efforts and use of benefits have not been consistently sustained, and officials and examiners at all levels in the agency told us that the economy has more of an impact on USPTO's ability to attract and retain examiners than any actions taken by the agency. Consequently, how the agency's actions will affect its long-term ability to maintain a highly qualified workforce is unclear. While USPTO has been able to meet its hiring goals, attrition has recently increased.

USPTO Has Enhanced Recruiting Efforts to Attract Qualified Examiners

USPTO's recent recruiting efforts have incorporated several measures identified by GAO and others as necessary to attract a qualified workforce.¹¹ First, in 2003, to help select qualified applicants, USPTO identified the knowledge, skills, and abilities that examiners need to effectively fulfill their responsibilities. As part of this study, USPTO conducted focus group meetings with, and surveys of, experienced examiners to identify and validate key skills.¹² In doing so, the agency was responding to a recommendation from the Department of Commerce's OIG to better target candidates likely to stay at USPTO.¹³

Second, in 2004, the agency's permanent recruiting team, composed of senior and line managers,¹⁴ participated in various recruiting events, including visits to the 10 schools that the agency targeted based on the diversity of their student population and the strength of their engineering

¹¹See GAO, *Human Capital: A Self-Assessment Checklist for Agency Leaders*, [GAO/OCG-00-14G](#), version 1 (Washington, D.C.: September 2000); and Office of Personnel Management, *Human Capital Assessment Accountability Framework* (Washington, D.C., Sept. 20, 2000).

¹²USPTO, KSA Work Team: Knowledge, Skills and Abilities Project (Alexandria, Va., August 2003).

¹³Department of Commerce, Office of Inspector General, *U.S. Patent and Trademark Office: Patent Examiner Hiring Process Should be Improved*, Final Inspection Report No. BTD-14432-2-0001 (Washington, D.C., March 2002).

¹⁴USPTO's permanent recruiting team was established in 2002. However, the agency suspended recruiting efforts in 2002 and 2003 in the face of budgetary uncertainty.

and science programs.¹⁵ The team also visited 22 additional schools, participated in two job fairs, and attended three conferences sponsored by professional societies. To assist the recruiting team, USPTO hired a consultant to develop a new brand image for the agency, shown in figure 1 below.¹⁶ As part of this effort, USPTO and the consultant surveyed USPTO managers and supervisors and conducted focus groups with a range of ethnically diverse audiences, from college seniors to experienced professionals, to identify the characteristics of examiners and how the target market perceives the agency, as well as to get a sense of their work habits, values, and perceptions of work at USPTO. According to USPTO, the agency's new brand focuses on the vital role intellectual property plays in the U.S. economy and the career momentum of patent examiners. Agency officials said that USPTO uses its employment brand image at every opportunity, from Internet banner ads to print advertisements. They believe that this has enhanced public awareness of the agency and has helped distinguish USPTO from other employers.

¹⁵The 10 target schools selected are Florida International University, North Carolina Agricultural and Technical State University, North Carolina State University, University of Florida, University of Maryland, University of Pennsylvania, University of Puerto Rico-Mayaguez, University of Virginia, University of Wisconsin-Madison, and Virginia Polytechnic and State University.

¹⁶TMP Worldwide Advertising and Communications, *USPTO Task 1: Research and Evaluation* (Alexandria, Va., Mar. 10, 2004).

Figure 1: USPTO's 2004 Brand Image



Source: USPTO.

Figure 2: USPTO's 2002 Brand Image



Source: USPTO.

Finally, for 2005, USPTO developed a formal recruiting plan that, among other things, identified hiring goals for each technology center and described USPTO's efforts to establish ongoing partnerships with the 10 target schools. In addition, USPTO trained its recruiters in effective interviewing techniques to help them better describe the production system and incorporated references to the production-oriented work environment in its recruitment literature. During a USPTO career fair in February 2005, we observed that potential candidates were provided with a range of information about the work environment at the agency, received handouts, and heard a formal presentation about the agency and the role and responsibilities of a patent examiner. The presentation also included overviews of the basics of intellectual property, the patent examination

process, USPTO's production model, the skill set needed for a successful patent examiner, and the benefits the agency offers.

USPTO Has Used Many Federal Human Capital Benefits to Attract and Retain Examiners

USPTO has used many of the human capital benefits available under federal personnel regulations to attract and retain qualified patent examiners. Among other benefits, USPTO has offered

- recruitment bonuses ranging from \$600 to over \$10,000;
- a special pay rate for patent examiners that is 10 percent above federal salaries for comparable jobs;
- noncompetitive promotion to the full performance level;
- flexible spending accounts that allow examiners to set aside funds for expenses related to health care and care for dependents;
- reimbursement for law school tuition;
- a transit subsidy program that was recognized in 2003 and 2004 as one of the best in the greater Washington, D.C., area;
- flexible working schedules, including the ability to schedule hours off during midday;
- work at home opportunities for certain supervisory and senior examiners;
- no-cost health screenings at an on-site health unit staffed with a registered nurse and part-time physician;
- casual dress policy; and
- on-site child care and fitness centers at USPTO's new facility.

According to many of the supervisors and examiners in our focus groups, these benefits were a key reason they were attracted to USPTO and are a reason they continue to stay. The benefits most frequently cited as important by examiners were the flexible working schedules and competitive salaries. Many supervisors and examiners said that the ability to set their own hours allowed them to better coordinate their work

schedules with their personal commitments, such as a child's school or day care schedule. Concerning salaries, examiners also cited the special pay rate offered by USPTO as increasing the agency's competitiveness with the private sector. Although entry-level pay for examiners may not be as high as in the private sector, examiners who have been with the agency for about 5 to 7 years can earn up to \$100,000 annually,¹⁷ and new examiners can increase their pay relatively rapidly, in part because of the noncompetitive promotion potential available at the agency. However, some examiners commented that the benefit of the special pay rate is eroding over time because examiners do not receive annual locality pay adjustments to compensate for the high cost of living in the Washington, D.C., area. According to USPTO management, in 2002 the agency sought such an adjustment, but OPM denied the request because of a lack of justification. In addition to basic salary, examiners may also earn various cash awards based on production or other types of meritorious performance.

Lack of Consistent Recruiting Efforts and Benefits, along with Changes in the Economy, Could Affect USPTO's Efforts

The long-term effect of USPTO's recruiting efforts and use of benefits is difficult to predict for a variety of reasons. First, many of USPTO's efforts have been in place for a relatively short duration and have not been consistently maintained. For example, as shown in table 7, USPTO suspended recruitment and hiring in fiscal year 2000, which agency officials said resulted in its inability to meet its hiring goals for the year. Except for 2002, in those years where USPTO used its recruiting strategy consistently, such as 2001, 2003, and 2004, it not only met its hiring goals, but exceeded them.

¹⁷Career opportunities for patent examiners continue through the senior executive level. Historically, senior executives at USPTO have come from the ranks of examiners.

Table 7: USPTO Patent Examiner Hiring Data, Fiscal Years 2000–2004

Fiscal year	Examiner hiring goal	Examiner hires
2000	475	375
2001	360	414
2002	788	769
2003	300	308
2004	250	443

Source: USPTO.

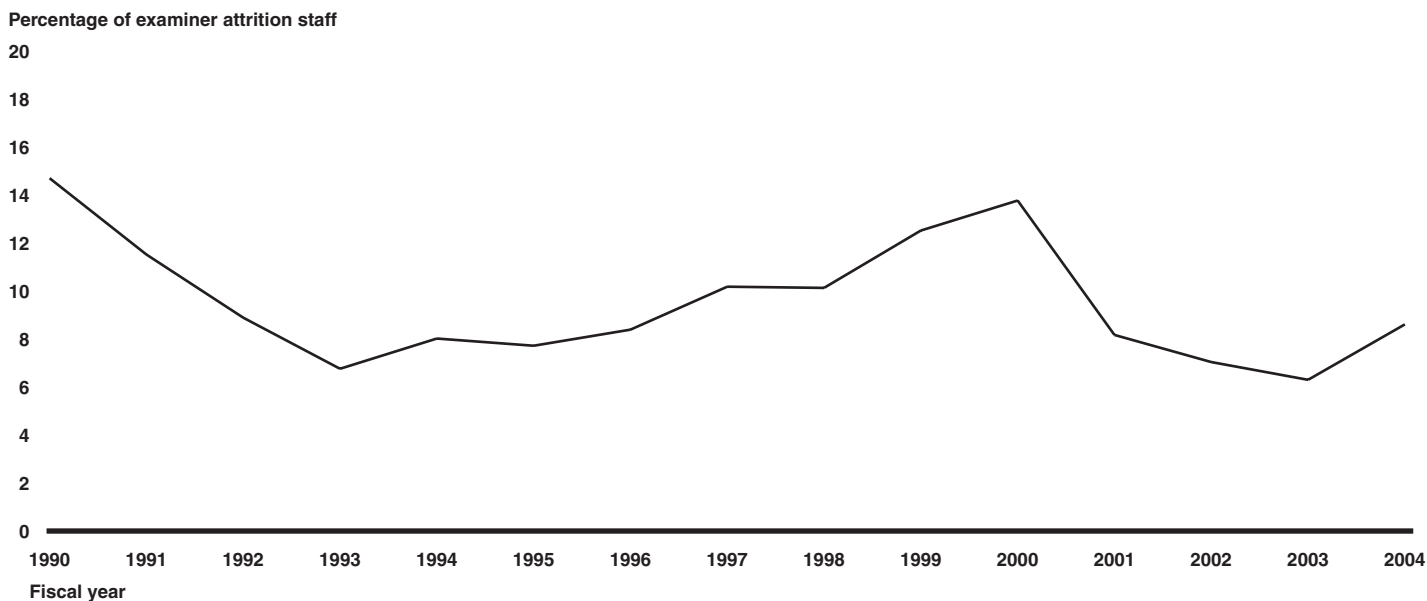
The second reason that creates uncertainty about USPTO’s success in retaining examiners is that USPTO has occasionally suspended some important employee benefits. For example, funding constraints led USPTO to discontinue reimbursing examiners for their law school tuition in 2002 and 2003, although the agency resumed reimbursement in 2004, when funding became available. Examiners who participated in our focus groups expressed dissatisfaction with the inconsistent availability of the benefits. Regarding law school tuition reimbursement, one examiner said, “I started when they started the [law school program] and then they cut it off and I had to pay [tuition] myself, which creates a large incentive to leave the office now that I have . . . student loans to pay off.” Other examiners expressed similar views. More recently in March 2005, USPTO proposed to eliminate or modify other benefits such as examiners’ ability to earn credit hours and alter examiners’ ability to set their own work schedules. For example, unlike current practice, examiners would no longer be able to schedule hours off during midday without a written request approved in advance. These benefits were cited by examiners in our focus groups as key reasons for working at USPTO, and eliminating such benefits may impact future retention.

The third and possibly the most important factor that adds to the uncertainty surrounding the success of USPTO’s recruitment efforts is the unknown potential impact of the economy. According to USPTO officials and examiners, because USPTO competes directly with the private sector for qualified individuals, changes in the economy have a greater impact on USPTO’s ability to attract and retain examiners than any actions taken by the agency. They told us that when the economy picks up, more examiners tend to leave USPTO and fewer qualified candidates accept employment offers. Conversely, they said that when there is a downturn in the economy, employment opportunities at USPTO become more attractive. When discussing reasons for joining USPTO, many examiners in our focus groups

cited job security and lack of other employment opportunities, making comments such as “I had been laid off from my prior job, and this was the only job offer I got at the time”; “I looked towards the government because I wanted job security”; and “. . . part of the reason I came to the office is that when I first came out of college, the job market was not great.”

The relationship between the economy and USPTO’s ability to attract and retain examiners is reflected in its attrition rates over time. As shown in figure 3, attrition among patent examiners declined from a high of almost 14 percent in 2000 to just over 6 percent in 2003. This decline coincided with a recession in 2001, a general slowdown of the economy, and subsequent collapse of the “high tech bubble”—which caused many Internet-based businesses to close, leaving computer scientists and engineers out of work. The decline in attrition was preceded by a more robust economy during a time when the high-tech industry was building up. At that time, attrition at USPTO was steadily rising.

Figure 3: Examiner Attrition as Percentage of Staff



Source: GAO.

Since 2004, attrition has risen again to almost 9 percent, fueled in part by an increase in the number of examiners who retired. By the end of fiscal year 2010, about 12 percent of examiners will be eligible to retire.¹⁸ Another trend that could affect USPTO's efforts to maintain a highly qualified patent examination workforce is the high level of attrition among younger, less experienced examiners. While attrition among examiners who have been at USPTO for 3 or fewer years has declined each year since 2000, attrition among these examiners continues to account for over half of all examiners who leave the agency. Attrition of examiners with 3 or fewer years of experience is a particularly significant loss for USPTO because the agency invests considerable time and money helping new examiners become proficient during the first few years. Managers and examiners told us that examiners usually become fully proficient in conducting patent application reviews in about 4 to 6 years. Managers we spoke with said the agency needs continuous recruiting efforts to offset these trends and continue to attract the best candidates. They said they hope to have constant recruitment efforts and year-round hiring in the upcoming years.

USPTO Faces Long-standing Human Capital Challenges That Could Undermine Its Recruiting and Retention Efforts

Although USPTO has taken a number of steps to attract and retain a qualified patent examiner workforce, the agency continues to face three human capital challenges of a long-standing nature that could also undermine its efforts in the future if not addressed. Current workforce models developed by GAO and others to help federal agencies attract and retain a qualified workforce suggest, among other things, that agencies establish an agencywide communication strategy, including opportunities for feedback from employees; involving management, employees, and other stakeholders in making key decisions; have appropriately designed compensation and awards systems; and develop strategies to address current and future competencies and skills needed by staff. However, USPTO lacks a collaborative culture, has an awards system that is based on outdated information, and requires little ongoing technical training for patent examiners. USPTO management and examiners do not agree on the need to address these issues.

¹⁸Governmentwide, about 40 percent of employees will be eligible to retire by that time.

USPTO Has Not Established Effective Mechanisms for Managers to Communicate and Collaborate with Examiners

Organizations with effective human capital models have strategies to communicate with employees at all levels of the organization, as well as involve them in key decision-making processes. However, lack of good communication and collaboration has been a long-standing problem at USPTO. For example, focus groups with examiners conducted by USPTO in 2000 identified a need for improved communication across all levels of the agency to assist in its efforts to retain examiners.¹⁹ Accordingly, one of the goals listed in the Commissioner of Patent's 2003 performance appraisal plan was to establish an effective communication strategy. However, when we asked for the agency's communication strategy, USPTO management officials acknowledged the agency does not have a formal strategy. Instead, USPTO officials provided us with a list of activities undertaken by the agency to improve communication. However, most of these activities focused on improving communication among managers but not between managers and other levels of the organization, such as between managers and patent examiners. The efforts to communicate with examiners were largely confined to presenting information to examiners and generally were not interactive, according to examiners.

Patent examiners and supervisory patent examiners that participated in our focus groups frequently said that communication with USPTO management was poor and that managers provided them with inadequate or no information. They also said management is out of touch with examiners and their concerns and that communication with managers tends to be one way and hierarchical, with little opportunity for feedback. Management officials told us that informal feedback can always be provided by anyone in the organization—for example, through an e-mail to anyone in management. However, some patent examiners believe they will be penalized for offering any type of criticism of management actions or decisions and therefore do not provide this kind of feedback.

The lack of communication between management and examiners is exacerbated by the contentious working relationship between USPTO management and union officials and the complexity of the rules about what level of communication can occur between managers and examiners without involving the union. Union officials stated that a more collaborative spirit existed between USPTO and the examiners' union from

¹⁹U.S. Patent and Trademark Office, *Retention Focus Sessions with Examiners and Primary Examiners, Center for Quality Service* (Alexandria, Va., February 2000).

the late 1990s to about 2001. During this period, both parties actively worked to improve their relationship. For example, in 2001, USPTO management and the union quickly reached an agreement that led to increased pay for examiners and paved the way for electronic processing of patent applications by having examiners rely more heavily on electronic searches of relevant patent literature. According to union officials, this agreement was negotiated in about 1-1/2 weeks, improved the morale of patent examiners, and made them feel valued and appreciated. Since that time however, both USPTO management and union officials agree that their working relationship has not been as productive. Both say that despite several attempts, neither USPTO managers nor union officials have improved this relationship and that issues raised by either side are routinely presented for arbitration before the Federal Labor Relations Authority²⁰ because the two sides cannot agree. USPTO and union officials are currently disputing the validity of their 1986 collective bargaining agreement, which USPTO deems defunct.²¹ In February 2004, this issue was presented for arbitration to determine the validity of the agreement. According to union officials, the arbitrator agreed with their position that the agreement was still valid and ordered a 1-year hiatus on negotiations on a new agreement. USPTO contends that the arbitrator said the two had “tacit agreements” but did not define the term. In March 2005, without continuing any debate regarding the validity of the 1986 agreement, USPTO issued a proposed new collective bargaining agreement with the union. The union denounced this proposal, reporting in its newsletter to examiners that “USPTO declares war on employee professionalism and patent system integrity.”

Some USPTO managers alluded to this contentious relationship as one of the reasons why they have limited communication with patent examiners, who are represented by the union even if they decide not to join. Specifically, they believe they cannot solicit the input of employees directly without engaging the union. Another official, however, told us that nothing prevents the agency from having “town hall” type meetings to discuss

²⁰The Federal Labor Relations Authority was established by the Civil Service Reform Act of 1978. It is charged with providing leadership in establishing policies and guidance relating to federal sector labor-management relations and with administering and resolving disputes under Title VII of the Civil Service Reform Act of 1978.

²¹A collective bargaining agreement is an official contract between USPTO and the union that sets forth the mutual understanding between the agency and union officials relative to personnel policies and practices and matters affecting the working conditions of patent examiners.

potential changes, as long as the agency does not promise examiners a benefit that impacts their working conditions. Union officials agreed that USPTO can invite comments from examiners on a plan or proposal; however, if the proposal concerns a negotiating issue, the agency must consult the examiners' union, which is their exclusive representative with regard to working conditions. For example, union officials said that agency management can involve examiners on discussions of substantive issues related to patent law and practice, such as how to implement electronic filing, but must consult the union to obtain examiners' views on issues such as the development of the Strategic Plan which contains initiatives that would entail, for example, additional reviews of examiners work and other changes to working conditions.

Given the lack of effective communication mechanisms between management and patent examiners and the poor relationship between management and the union, patent examiners report little involvement in providing input to key decision-making processes. For example, some of the examiners in our focus groups stated that although they had heard of the agency's Strategic Plan, they were not involved in developing it and had no idea what it entailed or how it was to be implemented. USPTO management officials we spoke to acknowledged that employees had no role in developing the Strategic Plan even though USPTO identifies its employees as a key stakeholder in the plan. This lack of employee involvement is not a new problem for the agency. For example, a study about the agency's performance measurement and rewards system conducted in 1995 by a private consultant stated that the agency must strive to include employees at all levels of the organization in the decision-making process to both introduce a variety of perspectives and experiences and to generate the critical support of employees to any new system developed.²² Additionally, responses to employee surveys conducted in 1998 and 2001 by USPTO and others indicate that employees believed that they did not play a meaningful role in decision making.²³ Specifically, a quarter of the examiners surveyed in 1998 expressed satisfaction with their

²²Booz-Allen & Hamilton Inc., *PTO Goal Study—Task One: An Assessment of the Current Performance Measurements and Rewards System* (May 1995).

²³Sirota Consulting, *Patents: USPTO Survey Results* (Alexandria, Va., November 2000); USPTO, Office of Quality Management and Training, Center for Quality Services, *Patents: 2001 Employee Survey, Summary of Findings* (Alexandria, Va., September 2001); and Center for Quality Services, *2002 Federal Human Capital Survey, Overview of USPTO Results* (Washington, D.C., April 2003).

level of involvement in decisions that affect their work. In 2001, less than half of examiners who responded to the survey said they believe USPTO management trusts and respects them or values their opinions. Agency-specific data from the 2004 federal human capital survey conducted by the Office of Personnel Management have not been released.

Managers told us that examiners do not need to be involved in decision making because all of the agency's senior managers—from the Commissioner down—"came up through the ranks." Moreover, they said the basic role of the agency has not changed in 200 years. As a result, senior managers believe they bring the staff perspective to all planning and decision-making activities. However, examiners in our focus groups believe that senior managers are out of touch with the role of examiners, making comments such as "I think it would help if upper management who haven't examined in decades could try to do some of it now—it's so drastically different than when they were doing it—and realize how difficult it is, and then maybe they might get a clue. I really don't think that they realize how much work it takes to examine an application. It is so different than when they were examining." Examiners in our focus groups said that the lack of communication and involvement has created an atmosphere of distrust in management officials by examiners and has lowered examiners' morale.

Examiners' Monetary Awards Are Based on Outdated Assumptions about the Time It Takes to Process a Patent Application

According to human capital models, an agency's compensation and rewards system should help it attract, motivate, retain, and reward the people it needs to achieve its goals. To ensure that their systems meet these criteria, agencies should periodically assess how they compensate staff and consider changes, as appropriate. Patent examiners' monetary awards are based largely on the number of patent applications they process, but the assumptions underlying their annual application-processing quotas (called production quotas) have not been updated since 1976. Depending on the type of patent and the skill level of the examiner, each examiner is expected to process an average of 87 applications per year at a rate of 19 hours per application. Examiners who consistently do not meet their quotas may be dismissed. Patent examiners may earn cash awards based

on the extent to which they exceed their production quotas.²⁴ Although examiners in our focus groups generally support production quotas as a way to guide their work and provide an objective basis for cash awards, they said that the time estimates involved are no longer accurate.

Examiners in our focus groups told us that, in the last several decades, the tasks for processing applications have greatly increased while the time allowed has not. For example, examiners said the number of claims per application have increased, which in turn increases the amount of relevant literature they must review and analyze for each application. Also, while the greater use of electronic search tools has improved their access to relevant patent literature, the use of such tools has also increased the amount of literature they must review. In addition, the complexity of applications in some fields has increased significantly, requiring more time for a quality review. Neither USPTO nor the examiners union has collected information on the effects that such changes as improvements in electronic search capabilities have had on the time required to review patent applications.

Moreover, many examiners in our focus groups said that the time limitations of the current production quotas are inconsistent with producing high-quality work and do not adequately reflect the actual tasks and time required to examine applications. For example, examiners have responsibilities included in their job expectations, such as responding to calls from applicants and the public and providing more documentation for their decisions, which are not accounted for in the production model. Examiners expressed concern that although the agency's emphasis on quality has increased under the Strategic Plan, examiners have not been allowed more time to fulfill these increased responsibilities for quality, and there are no negative consequences for examiners who produce low-quality work. Examiners told us that voluntarily working overtime to meet quotas is common at USPTO, and they find it demoralizing not to have enough time to do a good quality job. In commenting on a draft of this report, USPTO stated that quality is a critical element of an examiner's performance standards and if an examiner does not maintain quality, their

²⁴Individual goals are adjusted based on the technology in the application and the skill level of the examiner. For example, a junior patent examiner has more time to process an application than a senior examiner. Similarly, examiners who process applications for biotechnology inventions have more time than examiners who process applications for some manufactured items.

rating would reflect this deficiency. Consequences would depend on the level of deficiency.

Employee surveys conducted since 1998 suggest that these concerns are not new to the agency. Specifically, a quarter of the examiners who responded to the agency's employee surveys during the period 1998 to 2001 said that the amount of time available for their work was sufficient to produce high-quality products and services. The 1995 study conducted by a private consultant also noted that USPTO is production driven and that the agency's emphasis on production placed considerable stress on examiners. Although less than 25 percent of patent examiners who left USPTO in 2002 and 2004 actually completed an exit survey, about half who did cited dissatisfaction with the nature of the job, the production system, and the workload as factors that had the most impact on their decision to leave the agency.

In contrast, USPTO managers had a different perspective on the production model and its impact on examiners. They stated that the time estimates used in establishing production quotas do not need to be adjusted because the efficiencies gained through actions such as the greater use of technology have offset the demands resulting from changes such as greater complexity of the applications and increases in the number of claims. Moreover, they said that for an individual examiner, reviews of applications that take more time than the estimated average are generally offset by other reviews that take less time.

USPTO Does Not Require Ongoing Technical Education for Patent Examiners

Current workforce models suggest that professional organizations such as USPTO make appropriate investments in education, training, and other developmental opportunities to help build the competencies of its employees. Reviewing patent applications involves knowledge and understanding of highly technical subjects, but USPTO does not require ongoing training on these subjects. Instead, USPTO only requires newly hired examiners to take extensive training on how to be a patent examiner during the first year, and all other required training is focused on legal training. For example, newly hired examiners are required, within their first 10 months at the agency, to take about 200 hours of training on such topics as procedures for examining patent applications, electronic tools used in the examination process, and patent law and evidence. In addition, almost all patent examiners are required to take a range of ongoing training on legal matters, including patent law. As a result of the implementation of some Strategic Plan initiatives, additional mandatory training to help

examiners prepare for tests to certify their legal competency and ensure their eligibility for promotion from a GS-12 level to a GS-13 is also required. In addition, patent examiners who have the authority to issue patents (generally GS-14s or above) must pass tests on the content of legal training every 3 years. In contrast, patent examiners are not required to undertake any ongoing training to maintain expertise in their area of technology, even though the agency acknowledges that such training is important, especially for electrical and electronic engineers. Specifically, in its 2001 justification for examiners' special pay rates, the agency stated, "Engineers who fail to keep up with the rapid changes in technology, regardless of degree, risk technological obsolescence."

USPTO does offer some voluntary in-house training, such as technology fairs and industry days at which scientists and others are invited to lecture to help keep patent examiners current on the technical aspects of their work. Because this training is not required by USPTO, patent examiners told us they are reluctant to attend such training given the time demands involved. USPTO also offers a voluntary external training program for examiners to update their technical skills. Under this program, examiners may take technical courses related to their area of expertise at an accredited college or university. USPTO will pay up to \$5,000 per fiscal year for each participant and up to \$150 per course for required materials, such as books and lab fees. In addition, agency managers told us the agency will pay registration fees for a small number of examiners to attend conferences, although sometimes it will not pay travel expenses. While USPTO officials told us they knew of examiners who had taken advantage of these opportunities, the agency could provide no data on the extent to which examiners had taken advantage of these voluntary training opportunities. Some examiners in our focus groups said that they did participate in these training opportunities, but others said they did not because of the monetary costs or personal time involved.

USPTO believes that a requirement for ongoing technical training is not necessary for patent examiners because the nature of the job keeps them up-to-date with the latest technology. According to agency officials, the primary method for examiners to keep current in their technical fields is by processing patent applications. However, patent examiners and supervisors in our focus groups said that often the literature cited in the application they review for patents, particularly in rapidly developing technologies, is outdated, can be too narrowly focused, and does not provide them the big picture of the field. For example, in certain fields, such as computer software and biotechnology, some examiners told us that

the information cited in the application may be several years old even though it may have been current at the time the application was submitted.

Conclusions

To improve its ability to attract and retain the highly educated and qualified patent examiners it needs, USPTO has taken a number of steps recognized by experts as characteristic of highly effective organizations. However, the lack of an effective communication strategy and a collaborative environment that is inclusive of all layers within the organization could undermine some of USPTO's efforts. Specifically, the lack of communication and collaborative culture has resulted in a general distrust of management by examiners and has caused a significant divide between management and examiners on important issues such as the appropriateness of the current production model and the need for technical training. We believe that unless USPTO begins the process of developing an open, transparent, and collaborative work environment, its efforts to hire and retain examiners may be negatively impacted in the long run.

Recommendations for Executive Action

We recommend that the Secretary of Commerce direct the Under Secretary of Commerce for Intellectual Property and Director of the U.S. Patent and Trademark Office to take the following two actions: develop formal strategies to (1) improve communication between management and patent examiners and between management and union officials, and (2) foster greater collaboration among all levels of the organization to resolve key issues discussed in this report, such as the assumptions underlying the quota system and the need for required technical training.

Agency Comments and Our Evaluation

In written comments on a draft of our report, the Under Secretary of Commerce for Intellectual Property and Director of USPTO agreed with our findings, conclusions, and recommendations. The agency's comments suggest that USPTO will develop a communication plan and labor management strategy and educate and inform employees about progress on initiatives, successes, and lessons learned. In addition, USPTO indicated that it would develop a more formalized technical program for patent examiners to ensure that their skills are fresh and ready to address state-of-the-art technology. USPTO also provided technical comments that we have incorporated, as appropriate. USPTO's comments are included in appendix II.

We are sending copies of this report to interested congressional committees; the Secretary of Commerce; the Under Secretary for Intellectual Property and Commissioner of the U.S. Patent and Trademark Office; and other interested parties. We will also make copies available to others upon request. In addition, the report will be available at no charge on the GAO Web site at <http://www.gao.gov>.

If you or your staff have any questions about this report, please contact me at (202) 512-3841 or mittala@gao.gov. Contact points for our Offices of Congressional Relations and Public Affairs may be found on the last page of this report. GAO staff who made contributions to this report are listed in appendix IV.

A handwritten signature in black ink that reads "Anu K. Mittal". The signature is written in a cursive, flowing style.

Anu K. Mittal
Director, Natural Resources
and Environment

Scope and Methodology

We were asked to report on various efforts being undertaken by the U.S. Patent and Trademark Office (USPTO) about its (1) overall progress in implementing the initiatives in the 21st Century Strategic Plan related to the patent organization; (2) efforts to attract and retain a qualified patent workforce; and (3) remaining challenges, if any, in attracting and retaining a qualified patent workforce.

To determine USPTO's progress toward implementing the Strategic Plan initiatives for the patent organization, we reviewed the initiatives contained in the plan, as well as agency documents regarding USPTO's progress in implementing each initiative. We also interviewed key USPTO officials and union officials about the plan's implementation.

To determine what actions USPTO has taken to attract and retain a qualified patent workforce and what challenges, if any, the agency faces in this area, we reviewed USPTO's Workforce Plan and other policies and practices related to human capital. We interviewed USPTO management, union officials, and relevant interest groups, as well as officials from the Department of Commerce, its Office of Inspector General (OIG), and the Office of Personnel Management (OPM) about human capital initiatives undertaken by USPTO. We reviewed evaluations of USPTO human capital management efforts by OIG and by a private consultant. We reviewed USPTO employee surveys, USPTO documents on hiring and retention, and OPM reports on USPTO. We also reviewed results from USPTO and OPM employee surveys and compared human capital policies and practices with best practices recommended by GAO and OPM. In addition, we attended a USPTO career fair for patent examiners.

To obtain the perspective of patent examiners and supervisory patent examiners on issues related to USPTO's ability to attract and retain a qualified patent examination workforce, we conducted 11 focus groups. Participants were randomly selected from all patent examiners and supervisory patent examiners who had been at USPTO at least 9 months. A total of 91 examiners and supervisory examiners attended the focus groups. The number of participants in the groups ranged from 6 to 11; participants in 8 of the groups were patent examiners while the other 3 groups encompassed supervisory patent examiners. Participants were selected from both USPTO locations (Alexandria and Crystal City, Virginia). We developed questions for the focus groups based on literature reviews and by speaking with USPTO management, union officials, and interest groups. In addition, we developed a short questionnaire that asked for individual views of issues similar to those being discussed in the

groups. Following each discussion question, participants filled out the corresponding questions in their questionnaires. Trained facilitators conducted the focus groups and transcripts were professionally prepared. Prior to using the transcripts, we checked each for accuracy and found that they were sufficiently accurate for the purposes of this study.

We conducted a content analysis in order to produce a summary of the respondents' comments made during the focus groups. The classification plan was developed by two GAO analysts who independently reviewed the transcripts and proposed classification categories for each question. The classification categories were finalized through discussion with a third analyst. One analyst then coded all comments made during each discussion question into the categories. The accuracy of the coding was checked by another analyst, who independently coded a random sample of transcript pages for each question. The accuracy of the content coding was sufficiently high for the purposes of this report. Finally, the number of comments in each category and subcategory was tallied, and the resulting summary of the comments was verified by a second analyst. A quantitative analysis was conducted on the data from the questionnaires.

Our review focused exclusively on the activities of the patent organization and not those of the trademark organization. We conducted our review from June 2004 through May 2005 in accordance with generally accepted government auditing standards.

Comments from the U.S. Patent and Trademark Office



UNITED STATES PATENT AND TRADEMARK OFFICE

UNDER SECRETARY OF COMMERCE FOR INTELLECTUAL PROPERTY AND
DIRECTOR OF THE UNITED STATES PATENT AND TRADEMARK OFFICE

JUN - 7 2005

Ms. Anu K. Mittal
Director, Natural Resources and Environment
U.S. Government Accountability Office
441 G Street, N.W.
Washington, D.C. 20548

Dear Ms. Mittal:

Thank you for the opportunity to comment on the Government Accountability Office (GAO) draft report GAO-05-720 entitled, *Intellectual Property: USPTO Has Made Progress in Hiring Examiners but Challenges to Retention Remain*.

We very much appreciate the effort your team made in reviewing: (1) overall progress in implementing the initiatives in the *21st Century Strategic Plan* related to the Patent organization; (2) efforts to attract and retain a qualified patent workforce; and (3) remaining challenges, if any, in attracting and retaining a qualified patent workforce.

USPTO's first priority, as stated in the *21st Century Strategic Plan*, is improving the quality of the patents that we issue and trademarks that we register. This priority rests on the premise that American innovators deserve our absolute best efforts to ensure enforceable intellectual property rights here and abroad. To implement this priority, we have focused on both workforce and process improvements.

We appreciate the report's acknowledgment that the USPTO has fully or partially implemented all 23 initiatives focused on improving the skills of employees, enhancing quality assurance, and improving the patent system through changes in existing laws or regulations. We are proud that all of the capability initiatives have been partially or fully implemented in such a short amount of time.

By way of update, after GAO concluded its review, the USPTO issued three Requests for Proposals for the three outsourcing initiatives aimed at reducing pendency, including Pre-Grant Publication Classification, Reclassification, and Patent Cooperation Treaty Search.

As GAO states in its draft report, the USPTO has taken significant steps to attract and train a qualified patent examination workforce. Specifically, we have enhanced our recruiting efforts,

P.O. Box 1450, Alexandria, Virginia 22313-1450 - www.USPTO.GOV

Appendix II
Comments from the U.S. Patent and
Trademark Office

2

using many of the human capital benefits available under Federal personnel regulations. Some aspects of the USPTO's recruitment practices are well established. For example, our hiring and recruitment efforts have always targeted schools with strong engineering and science programs. USPTO recruiters have historically visited such schools, and have also reached out to qualified candidates by hosting job fairs and attending conferences sponsored by professional societies.

The USPTO makes every effort to maintain its highly attractive benefits program, consistent with responsible fiscal management. While lack of funding led the USPTO to suspend its popular law school program in fiscal years 2002 and 2003, the program was reinstated in 2004 as soon as funding was available. We are pleased that, with the full support of the Administration and Congress, USPTO now has the funds available to hire patent examiners at levels sufficient to keep pace with increased patent application filings. While our inability to hire has resulted in a record backlog of patent applications awaiting action, we hope to secure a long-term fee structure that will permit necessary patent examiner and support hiring, as well as the capacity to provide valuable benefits to our workforce.

There is no USPTO without our employees. We must be able to recruit and retain the best employees, and a strong human capital management program is a prerequisite for success. Prior to this year, our Office of the Chief Administrative Officer (CAO) had been combined with our Office of the Chief Financial Officer. One SES manager had oversight and responsibility for both budget and fiscal corporate planning activities, as well as all human capital management functions. Clearly, no one person could meaningfully cover so much territory. Recognizing the practical limits of placing so much management responsibility with one person, and acknowledging the importance of the CAO function to USPTO's success, in March 2005, I directed the realignment of the functions, programs and activities under the former Chief Financial Officer and Chief Administrative Officer into two distinct organizational units: (1) the Chief Financial Officer, and (2) the Chief Administrative Officer (CAO). This realignment created two distinct organizations reporting to the Under Secretary and Director: one for planning, financial management and outsourcing activities; and, a second, for administrative and human capital management activities. Separating these functions is designed to strengthen the Office's ability to effectively direct management focus to critical human capital efforts, including training, labor-management relations, and performance issues.

Consistent with this realignment, in May 2005 the USPTO hired a new CAO. Under the new CAO's leadership, the USPTO will establish a Human Capital Council composed of senior-level representatives from all USPTO business units, and will develop a Comprehensive Human Capital Improvement Plan.

We agree with GAO's finding that key improvements still need to be made, such as: (1) improving communication between management and patent examiners and between management and union officials; and (2) fostering greater collaboration among all levels of the organization.

Appendix II
Comments from the U.S. Patent and
Trademark Office

3

The following are our comments on the specific recommendations contained in the Draft Report:

Recommendation 1 – “improve communication between management and patent examiners and between management and union officials”

The USPTO acknowledges that a formal method of obtaining input from employees should be established. For that reason, management has extended a standing offer to the examiners’ union to meet regularly to discuss any issues of concern.

The USPTO participated in the Office of Personnel Management’s (OPM) 2004 Federal Human Capital Survey. We are working with OPM to further analyze employees’ response data. This effort will provide insights into the areas to which we should initially direct our focus. We also hope to use this data to develop a communication plan and labor-management strategy directed at increasing awareness and understanding of USPTO goals, objectives and programs; educating employees on how they can contribute to these efforts and their impacts on the USPTO; and continually informing our employees about progress on initiatives, successes, and lessons learned.

Recommendation 2 – “foster greater collaboration among all levels of the organization to resolve key issues discussed in this report such as the assumptions underlying the quota system and the need for required technical training”

A recent report from the Office of the Inspector General (OIG) of the Department of Commerce found that a reduction in examiner’s goals would be justified based on efficiencies that have been gained through various automated systems that have been deployed by USPTO. We assume that GAO’s findings are not meant to suggest that more time may be needed for examination. In this regard, it is important to note that a new award package has been developed which is closely tied to the USPTO’s goals and is presently the subject of proposed negotiation with the examiners’ union.

The USPTO has an active program of technology-specific training for all examiners. Examiners are encouraged to maintain current technical knowledge in their fields through the offering of tuition reimbursement for any job-related technical training, and through the use of on-site technology fairs and technology-centered training seminars. To further support examiners in their efforts to keep current with technological trends, managers help plan and host technology specific events designed for enhanced examiner learning. Examiners are encouraged to attend such training, and are given non-production time to participate in these activities. Most sessions are filled to capacity. Additionally, examiners are granted non-production time for technical training events, including Technology Forums in areas of emerging technologies, regularly scheduled technical lectures series by outside scientists, and off-site visits to meet with scientists from academia, government and private industry.

In addition to these ongoing efforts, we will develop a more formalized technical training program for patent examiners, to ensure that their skills are fresh and ready to address state-of-the-art technology in patent applications.

Appendix II
Comments from the U.S. Patent and
Trademark Office


4

We have also provided an enclosure with a list of specific comments that clarify and/or correct certain points covered in your report.

GAO employees worked long hours to prepare the draft report. I would like to thank you and the GAO team, and specifically mention Ms. Cheryl Williams, Ms. Vondalee Hunt, Ms. Ilga Semeiks, and Mr. Don Pless. I understand that Ms. Williams, Ms. Hunt, and Ms. Semeiks spent many hours talking to USPTO employees, conducting interviews and focus sessions, and of course, reviewing documents and writing the draft report itself. We thank you for your dedication to the highest standards of professionalism in preparing the draft report.

Again, we appreciate this opportunity to comment on the draft report.

Sincerely,


JON W. DUDAS
Under Secretary and Director

Enclosure

Progress on Strategic Plan Initiatives

USPTO issued its 21st Century Strategic Plan in June 2002, then updated and rereleased it in February 2003. The Strategic Plan responds to the Government Performance and Results Act and direction from Congress. The plan is centered on three themes—capability, productivity, and agility.

Strategic Theme: Capability

To become a more capable organization that enhances quality through workforce and process improvements, USPTO developed initiatives to improve the skills of its workforce (transformation), enhance its quality assurance program (quality), and improve processes through rule changes or proposed legislative changes (legislative/rules changes).

Table 8: USPTO Capability Initiatives

Capability initiatives	Status of actions planned through December 2004	Implementation details
Transformation		
Increase the pool of competent, qualified candidates for management positions, and reward current managers by offering awards of up to 10 percent of base salary as part of the compensation package.	Implemented	Actions implemented: USPTO developed award criteria and sought input from the supervisory examiners' professional association and USPTO senior managers. The program was approved in 2003, and performance appraisal plans for supervisory examiners were revised for 2004. As of November 2004, awards had been paid to all qualifying managers.
Transform the workplace by exploring alternative organizational concepts and structures.	Implemented	Actions implemented: Conducted preliminary consultations and research with the National Academy of Public Administration in 2002.
Develop interim pre-employment measures to assess English language oral and written communication skills for new patent examiners.	Implemented	Actions implemented: Developed procedures for supervisory patent examiners and hiring officials to use in assessing communication skills, and trained individuals in their use.

**Appendix III
Progress on Strategic Plan Initiatives**

(Continued From Previous Page)

Capability initiatives	Status of actions planned through December 2004	Implementation details
Recertify the skills of examiners with the authority to issue patents (primary examiners) through examinations and expanded reviews of work products.	Implemented	<p>Actions implemented: Developed an examination to recertify primary examiners every 3 years. As of December 2004, approximately one-third of primary examiners had successfully completed the examination. An additional one-third will be tested in 2005 and 2006. Thereafter, primary examiners will be retested once every 3 years. Increase the number of primary examiners' work products that are reviewed in annual quality reviews to more than four. Require primary examiners to pass examinations on the content of periodic training on changes in patent law, practice, or procedures.</p>
Certify the knowledge, skills, and abilities of examiners before they are promoted to a position with the authority to negotiate with applicants (partial signatory authority or GS-13 level).	Implemented	<p>Actions implemented: In 2003, USPTO developed a legal competency examination to certify the skills of patent examiners prior to promotion to GS-13. From March through December 2004, 152 examiners had successfully completed the examination and been promoted. Another 85 had taken the examination to help them prepare for future promotion. The requirement to pass the examination became effective March 1, 2004.</p>
Use examinations and other means to ensure that new patent examiners possess the requisite knowledge, skills, and abilities prior to initial promotion decisions.	Partial	<p>Actions implemented: In 2003, USPTO identified the knowledge, skills, and abilities needed for patent examiners, established training units in work groups for new examiners (Training Art Units), and developed recruitment materials to better educate candidates on the nature of the work.</p> <p>Actions not implemented: USPTO has not sought OPM approval to extend the probationary period for patent examiners to two years, developed a structured process for promotions after the first 6 or 12 months, or developed a pre-employment test to identify candidates with characteristics of successful examiners.</p>
Implement a pre-employment test to assess English language oral and written communication skills for new patent examiners.	Partial	<p>Actions implemented: Vacancy announcements include English language proficiency as a requirement; the automated application system was modified to include a writing sample, and in-person interviews are used to assess oral communication skills. To the extent possible, check references regarding communication skills. USPTO assessed the communication skills of all patent examiners hired from 2002 to 2004.</p> <p>Actions not implemented: The design and implementation of an automated pre-employment test was deferred due to a lack of funding, according to USPTO officials.</p>

**Appendix III
Progress on Strategic Plan Initiatives**

(Continued From Previous Page)

Capability initiatives	Status of actions planned through December 2004	Implementation details
Improve the selection and training of supervisory patent examiners.	Partial	<p>Actions implemented: In November 2003, USPTO added proficiency in supervisory skills to the requirements for selection as a supervisory patent examiner. In 2004, applicants for supervisory positions were required to pass a certification examination. Some training modules, such as coaching and feedback, have been developed and offered.</p> <p>Actions not implemented: Although a full complement of training was to be in place by September 2004, some courses are being considered or under development, including various management development courses.</p>
Create an Enterprise Training Division in the Office of Human Resources to centralize responsibility for legally required hard and soft skills, leadership, and other agencywide training as well as coordinating agencywide training policy and tracking funds spent on training.	Partial	<p>Actions implemented: USPTO developed a draft action plan to create an Enterprise Training Division in November 2004 and began work to select a USPTO-wide learning management system, implement an e-learning pilot, and establish a development center.</p> <p>Actions not implemented: This initiative was to have been completed in 2003 but has not been implemented.</p>
Quality		
Expand the current internal quality review program to include works in progress.	Implemented	<p>Actions implemented: By October 2004 the Office of Patent Quality Assurance (OPQA) had expanded its quality reviews to include reviews of works in process. The results of these reviews will be reported in the agency's fiscal year 2005 accountability report.</p>
Establish in each technology center some level of "second pair of eyes" reviews of work products.	Implemented	<p>Actions implemented: By October 2004, managers for each technology center have designed and implemented quality assurance reviews that include some level of second pair of eyes review. In addition, results from OPQA reviews identify work units with high error rates for more intensive second pair of eyes reviews. Quality reviewers in each technology center also annually review work products for examiners as part of performance appraisals.</p>
Augment periodic comprehensive customer surveys with surveys on specific applications (transactional surveys).	Implemented	<p>Actions implemented: Adjust the timing of comprehensive surveys to every other year and conduct transactional surveys in the off years. The first transactional survey was conducted in 2003. Although USPTO has conducted surveys under generic approval from the Office of Management and Budget (OMB) since 1995, beginning in 2004, each survey must be reviewed and approved separately by OMB, a process that can take about 6 months. As a result, USPTO did not conduct a comprehensive survey in 2004.</p>

**Appendix III
Progress on Strategic Plan Initiatives**

(Continued From Previous Page)

Capability initiatives	Status of actions planned through December 2004	Implementation details
Evaluate the quality of searches conducted by patent examiners.	Partial	<p>Actions implemented: OPQA is developing a plan and a set of criteria.</p> <p>Actions not implemented: OPQA reviews, both in process and end of examination (allowance) reviews, do not include an examination of the adequacy and comprehensiveness of the examiner's search. USPTO officials will pilot their plan and commence such reviews in fiscal year 2006.</p>
Enhance the quality of the reviewable record of the examination process.	Partial	<p>Actions implemented: Revised the interview summary form to provide a means for applicants and examiners to provide additional information on the content of interview. Revised the <i>Manual of Patent Examining Procedures</i> to reflect the change, and informally trained examiners. Examiners and applicants are strongly encouraged, but not required, to elaborate on decisions or the content of interviews.</p> <p>Actions not implemented: Examiners and applicants are not currently required to provide additional information regarding the content of interviews or elaborate on the reasons for decisions.</p>
Legislative and rule changes		
Delete the requirement for physical surrender of the original patent when USPTO reissues a patent that was defective.	Implemented	Actions implemented: Implemented through rules changes that became effective in September 2004.
Certify the legal knowledge of patent attorneys and agents registering to practice before USPTO, and periodically recertify the legal knowledge of registered attorneys and agents and harmonize ethics standards with those used by states.	Partial	<p>Actions implemented: In 2004, USPTO selected a contractor and began offering registration examinations electronically year-round. In December 2003, USPTO issued proposed rules to harmonize ethics and disciplinary actions with the requirements in place in most states, and obtained OMB approval for the ethics and disciplinary changes. USPTO will adjust questions on the registration examination as needed to reflect changes in patent law and practice.</p> <p>Actions not implemented: USPTO did not acquire the hardware and software to accept electronic registration forms due to funding limitations, according to USPTO officials. As of December 2004, USPTO had not implemented a continuing legal education program and recertification examination that was to have been in place.</p>

**Appendix III
Progress on Strategic Plan Initiatives**

(Continued From Previous Page)

Capability initiatives	Status of actions planned through December 2004	Implementation details
Evaluate whether to adopt a unity standard to harmonize U.S. examination practices with international standards and allow U.S. applicants to obtain a single patent on related claims that must currently be pursued in separate patent applications in the United States.	Partial	<p>Actions implemented: In 2003, USPTO began a study of the changes needed to adopt a unity standard and sought public comment. Based on the comments received, USPTO consulted with stakeholders on other options. In 2004 the agency conducted a business impact analysis of four options that is currently under review.</p> <p>Actions not implemented: USPTO has not completed its analysis, reached a decision, or drafted and introduced implementing legislation.</p>
Simplify adjustments to the length of time during which inventors can exclude others from making, using, or selling an invention, called the patent term.	Partial	<p>Actions implemented: USPTO is drafting proposed legislation and obtaining administrative clearance to introduce the draft legislation.</p> <p>Actions not implemented: Further action depends upon passage of the legislation, which is anticipated by 2008.</p>
Amend current legislation to permit individuals who have been assigned the rights to a patent, called the assignee, to sign an oath stating that the inventor is the original and first inventor of the invention described in the patent application.	Partial	<p>Actions implemented: USPTO is drafting proposed legislation and obtaining administrative clearance to introduce the draft legislation.</p> <p>Actions not implemented: Further action depends upon passage of the legislation, which is anticipated by 2008.</p>
Permit assignees to seek to broaden the claims in an application without the signature of the inventor.	Partial	<p>Actions implemented: The change requires legislation to amend current law and subsequent rule making by USPTO. USPTO is drafting legislation.</p> <p>Actions not implemented: Further action depends upon passage of the legislation, which is anticipated by 2008. May be merged with the initiative above.</p>
Correct an inconsistency regarding the treatment of unintentionally delayed submission of claims related to a previously filed provisional patent application.	Partial	<p>Actions implemented: The change requires legislation to amend current law and subsequent rule making by USPTO. USPTO is drafting legislation.</p> <p>Actions not implemented: Further action depends upon passage of the legislation, which is anticipated by 2008.</p>
Eliminate provisions that allow inventors to request publications of redacted versions of their applications and that require USPTO to publish applications for plant patents, which are typically granted in less time than the 18-month requirement to publish applications.	Partial	<p>Actions implemented: USPTO is drafting proposed legislation and obtaining administrative clearance to introduce the draft legislation.</p> <p>Actions not implemented: Further action depends upon passage of the legislation, which is anticipated by 2008.</p>

**Appendix III
Progress on Strategic Plan Initiatives**

(Continued From Previous Page)

Capability initiatives	Status of actions planned through December 2004	Implementation details
Amend current legislation regarding certain limitations on an inventor's right to obtain a patent. Currently, inventors are barred from obtaining a patent on one or more claims that have already been patented by another or published in domestic or foreign applications, unless the applicant files within one year of publication. Because examiners have not determined whether claims in published applications are patentable, the initiative is to delete the bar as it relates to published domestic or foreign applications, and to retain the bar only as it relates to claims in patents that have been granted.	Partial	<p>Actions implemented: The change requires legislation to amend current law and subsequent rule making by USPTO. USPTO is drafting legislation.</p> <p>Actions not implemented: Further action depends upon passage of the legislation, which is anticipated by 2008.</p>

Source: GAO analysis of USPTO data.

**Strategic Theme:
Productivity**

The agency's productivity initiatives are designed to accelerate the time to process patent applications by offering a range of examination options to applicants, reducing the responsibilities examiners have for searches of literature related to applications (pendency and accelerated examination), and creating financial incentives for applicants as well as an improved postgrant review process (shared responsibility).

Table 9: USPTO Productivity Initiatives

Productivity initiatives	Status of actions planned through December 2004	Implementation details
Fee restructuring	Partial	<p>Actions implemented: For 2005 and 2006, Congress passed legislation allowing USPTO to increase and restructure the fees it charges applicants to include separate components for filing the application, the examiner's search of relevant literature, and the review of specifications for the proposed invention to determine their patentability. In addition the legislation grants USPTO the authority to refund portions of the domestic and international application fees under certain circumstances and to charge higher fees for applications with claims and drawings for the proposed invention that exceed 100 pages.</p> <p>Actions not implemented: USPTO has not issued proposed or final rules to allow for refunding domestic fees.</p>

**Appendix III
Progress on Strategic Plan Initiatives**

(Continued From Previous Page)

Productivity initiatives	Status of actions planned through December 2004	Implementation details
Offer patent applicants a choice of up to five examination options based in part on the ability to rely on searches conducted by other entities and revise fees accordingly.	Not implemented	<p>Progress to date: Preliminary planning only.</p> <p>Actions not implemented: This initiative is related to the flexibility and work-sharing initiatives, and implementation depends upon access to additional funds, according to USPTO officials. In 2005, USPTO will continue efforts to select contractors and negotiate bi- and multilateral agreements with other intellectual property offices.</p>
Offer applicants seeking patents the option for an accelerated examination in exchange for payment of a fee.	Not implemented	<p>Actions implemented: This initiative seeks to expand the option for accelerated examination to applicants for all types of patents. The option is currently available to applicants seeking utility patents but is not widely used.</p> <p>Actions not implemented: USPTO has not conducted a pilot program or drafted proposed rules or legislation.</p>
Revise postgrant review procedures to allow for greater public input.	Not implemented	<p>Actions implemented: USPTO drafted proposed legislation that was introduced in 2004 but not passed. House members of both parties have indicated they will introduce the legislation for consideration by the current session.</p> <p>Actions not implemented: Because the legislation was not enacted, no implementing rules or other actions were taken. The legislation and rule changes are expected to be in place by 2008.</p>

Source: GAO analysis of USPTO data.

**Strategic Theme:
Agility**

To become an organization that responds quickly and efficiently to changes in the economy, the marketplace, and the nature and size of workloads, USPTO developed initiatives to implement electronic beginning-to-end processing of patents (e-government), increase reliance on the private sector or other intellectual property offices (flexibility), and streamline international patent systems and strengthen protection of patent rights as well as share search results with other international patent offices (global development).

**Appendix III
Progress on Strategic Plan Initiatives**

Table 10: USPTO Agility Initiatives

Agility initiatives	Status of actions planned through December 2004	Implementation details
Establish an information technology security program for fully certifying and accrediting the security of automated information systems.	Implemented	<p>Actions implemented: In 2003 and 2004, USPTO achieved full accreditation and certification for its seven mission critical systems, its classified system, and its eight business essential systems. External reviewers noted that many of the risks they identified could be addressed in the course of routine administration, although some, such as development of policy statements and monitoring programs, would need strategic planning and resources to address. In 2004, the Office of the Inspector General removed information security as a material weakness at USPTO. The agency has an ongoing program to annually complete security self-assessments of major systems including the use of scanning tools to identify weaknesses and intrusion detection systems. In 2003 and 2004, all USPTO staff and contractors completed the annual security training requirements.</p>
Implement an operational system to process patent applications electronically, including electronic image capture of all incoming and outgoing paper documents.	Partial	<p>Actions implemented: Using an incremental approach, USPTO adopted an image-based electronic-processing system for examiners. In fiscal year 2004, examiners processed almost 90 percent of patent applications electronically. In 2003, all paper files of pending applications and newly received applications were scanned into image files, and applicants could access their files over the Internet. In 2004, the public could access all publicly available patent application files via the Internet.</p> <p>Actions not implemented: USPTO did not achieve the ability to exchange electronic documents with the European Patent Office (EPO) that had been anticipated. Some tasks were eliminated due to both technical changes in the electronic systems used by each office and budgetary concerns. However, USPTO is still working with EPO to finalize security and protocol between the two servers. In addition, USPTO is waiting for EPO to deliver software that creates a submission package in compliance with USPTO's national electronic filing standards.</p>
Develop an automated information system to support a postgrant patent review process.	Partial	<p>Actions implemented: Rules have been changed to generally allow for electronically filing of documents and for adopting streamlined processes implemented since 1998. In 2002, USPTO began a pilot program and trained additional judges in the streamlined procedures.</p> <p>Actions not implemented: USPTO has not defined e-records management schedules, completed the design for basic electronic- processing, or implemented full electronic- processing capabilities, such as text searching of all documents and the ability to receive, file, store, and view multimedia files.</p>

**Appendix III
Progress on Strategic Plan Initiatives**

(Continued From Previous Page)

Agility initiatives	Status of actions planned through December 2004	Implementation details
Ensure continuity in the availability of business critical data in the event of a catastrophic failure of the agency's data center.	Partial	<p>Actions implemented: USPTO has completed its analysis of the impact to its business operations from the catastrophic loss of data and efforts to recover essential data. Specifically, USPTO has identified critical services and the associated applications required to provide those services; assessed how critical applications are to business operations; compiled recovery priority lists for each line of business; and compiled vendor cost data to support its plan.</p> <p>Actions not implemented: USPTO has not had sufficient funding to acquire the hardware, software, staff, and facilities for a secondary data center. Acquisition of the secondary data center, scheduled for operation in June 2004, has been postponed until 2005 and remains dependent on adequate funding. Until USPTO acquires funding for the secondary data center, the agency will continue to back up its critical data on a daily basis to tapes that are stored in a separate location.</p>
Promote substantive patent law harmonization in the framework of the World Intellectual Property Organization (WIPO), resolve major issues, and pursue harmonization goals to strengthen the rights of American intellectual property owners by making it easier to obtain international protection for their inventions.	Partial	<p>Actions implemented: Substantive patent treaty discussions were held in May 2004 during the meeting of the WIPO Standing Committee on the Law of Patents in Geneva. Major issues addressed included the first-to-file (European standard) versus the first-to-invent (U.S. standard), subject matter eligibility, and access to genetic resources.</p> <p>Because of the sensitive and confidential nature of this initiative, specific details were not published and no date was given for implementation.</p>
Pursue bi- or multilateral agreements with other intellectual property offices to share patent search results.	Partial	<p>Actions implemented: Pilot programs to compare search results were completed in 2003 and 2004 with the Japan and European Patent Offices and with patent offices in Australia and the United Kingdom. Analysis of the results was hampered because the pilot programs did not allow for sharing of search histories. A new pilot is ongoing that includes sharing information on the areas searched and on the queries used. USPTO is working to effect legal changes that would facilitate the use of searches conducted by other intellectual property offices.</p> <p>No date was given for completion of the ongoing pilot or implementation of search sharing and legislative changes.</p>
Accelerate Patent Cooperation Treaty (PCT) reform efforts, focusing on USPTO's proposal to simplify processing.	Partial	<p>Actions implemented: USPTO indicated that some reform procedures were adopted in January 2004.</p> <p>Because of the sensitive and confidential nature of this initiative, specific details were not published and no date was given for implementation. USPTO indicated it would continue to press for further reforms at the PCT Reform Working Group meeting in May 2005.</p>

**Appendix III
Progress on Strategic Plan Initiatives**

(Continued From Previous Page)

Agility initiatives	Status of actions planned through December 2004	Implementation details
Rely on private sector to classify patent documents.	Not implemented	<p>Progress to date: In 2002 and 2003, USPTO began to identify potential contractors, obtained OMB agreement to contract the search activities, and began to define the contract requirements. According to agency officials, funding constraints halted further action. The efforts were planned for implementation in the spring of 2004.</p> <p>Update: In 2005, USPTO will assign a new team to determine what changes, if any, are needed because of the delayed implementation.</p>
Rely on private sector to support national application and Patent Cooperation Treaty search activities.	Not implemented	<p>Progress to date: In 2002 and 2003, USPTO began to identify potential contractors, obtained OMB agreement to contract the search activities, and began to define the contract requirements. According to agency officials, funding constraints halted further action. The efforts were planned for implementation in the spring of 2004.</p> <p>Update: In 2005, USPTO will assign a new team to determine what changes, if any, are needed because of the delayed implementation.</p>
Rely on private sector to transition to a new patent classification system harmonized with the systems used by the Japan and European Patent Offices.	Not implemented	<p>Progress to date: In 2002 and 2003, USPTO began to identify potential contractors, obtained OMB agreement to contract the search activities, obtained legal advice, and began to define the contract requirements. According to agency officials, funding constraints halted further action. The efforts were planned for implementation in the spring of 2004.</p> <p>Update: In 2005, USPTO will assign a new team to determine what changes, if any, are needed because of the delayed implementation.</p>
Develop stringent conflict of interest clauses for search firms rather than a program to certify search firms.	Not implemented	<p>Progress to date: In 2002 and 2003, USPTO began to identify potential contractors, obtained OMB agreement to contract the search activities, and began to define the contract requirements. According to agency officials, funding constraints halted further action. The efforts were planned for implementation in the spring of 2004.</p> <p>Update: In December 2004, legislation passed by Congress set new requirements for outsourcing searching functions, which no longer includes certification of search firms, but instead requires stringent conflict of interest clauses.</p>

Source: GAO analysis of USPTO data.

GAO Contact and Staff Acknowledgments

GAO Contact

Anu K. Mittal, (202) 512-3841

Staff Acknowledgments

In addition to the contact named above, Cheryl Williams, Vondalee R. Hunt, Lynn Musser, Cynthia Norris, and Ilga Semeiks made significant contributions to this report. Allen Chen, Amy Dingler, Omari Norman, Don Pless, and Greg Wilmoth also contributed to this report.

GAO's Mission

The Government Accountability Office, the audit, evaluation and investigative arm of Congress, exists to support Congress in meeting its constitutional responsibilities and to help improve the performance and accountability of the federal government for the American people. GAO examines the use of public funds; evaluates federal programs and policies; and provides analyses, recommendations, and other assistance to help Congress make informed oversight, policy, and funding decisions. GAO's commitment to good government is reflected in its core values of accountability, integrity, and reliability.

Obtaining Copies of GAO Reports and Testimony

The fastest and easiest way to obtain copies of GAO documents at no cost is through GAO's Web site (www.gao.gov). Each weekday, GAO posts newly released reports, testimony, and correspondence on its Web site. To have GAO e-mail you a list of newly posted products every afternoon, go to www.gao.gov and select "Subscribe to Updates."

Order by Mail or Phone

The first copy of each printed report is free. Additional copies are \$2 each. A check or money order should be made out to the Superintendent of Documents. GAO also accepts VISA and Mastercard. Orders for 100 or more copies mailed to a single address are discounted 25 percent. Orders should be sent to:

U.S. Government Accountability Office
441 G Street NW, Room LM
Washington, D.C. 20548

To order by Phone: Voice: (202) 512-6000
TDD: (202) 512-2537
Fax: (202) 512-6061

To Report Fraud, Waste, and Abuse in Federal Programs

Contact:

Web site: www.gao.gov/fraudnet/fraudnet.htm

E-mail: fraudnet@gao.gov

Automated answering system: (800) 424-5454 or (202) 512-7470

Congressional Relations

Gloria Jarmon, Managing Director, JarmonG@gao.gov (202) 512-4400
U.S. Government Accountability Office, 441 G Street NW, Room 7125
Washington, D.C. 20548

Public Affairs

Paul Anderson, Managing Director, AndersonP1@gao.gov (202) 512-4800
U.S. Government Accountability Office, 441 G Street NW, Room 7149
Washington, D.C. 20548