



Report in Brief

June 16, 2020

Background

The U.S. Department of Commerce and its bureaus are required to follow federal laws to secure information technology (IT) systems through the use of cost-effective managerial, operational, and technical controls. This responsibility applies to all IT systems, including U.S. Patent and Trademark Office (USPTO) systems.

USPTO's mission is to "foster innovation, competitiveness, and economic growth, domestically and abroad, by delivering high quality and timely examination of patent and trademark applications." USPTO relies heavily on IT infrastructure, systems, and applications to achieve its mission.

One critical component of USPTO IT infrastructure is the Patent Capture and Application Processing System (PCAPS). PCAPS is a legacy information system initially deployed in the early 1970s that supports patent application capture, processing, reporting, and retrieval and display. It is comprised of multiple software applications including the Patent Application Locating and Monitoring (PALM) system. PALM is a critical system that tracks every step of the patent process and interfaces with more than 20 USPTO software applications.

Why We Did This Review

Our audit objective was to determine whether USPTO has adequate data recovery and contingency plans in place to ensure operational availability of PCAPS. This audit was conducted as a result of a prolonged outage that took place with PCAPS in August 2018.

U.S. PATENT AND TRADEMARK OFFICE

Deficiencies in USPTO's Backup and Restoration Process Could Delay Recovery of Critical Applications in the Event of a System Failure and Adversely Affect Its Mission

OIG-20-030-A

WHAT WE FOUND

We found that USPTO did not have adequate data recovery and contingency plans in place to ensure operational availability of PCAPS. Specifically, USPTO has no assurance that it can restore critical applications in the event of a system failure. We noted major deficiencies in its data recovery and contingency planning processes, including incomplete contingency documentation; inadequate contingency plan testing and participation; and poorly coordinated backup processes and monitoring.

Additionally, we found that USPTO's \$4 million-per-year alternate processing site is underutilized and does not provide the documented functionality, including timely resumption of critical applications in an event of system disruption. This is due, in part, to USPTO's continued postponement of replacing or upgrading functionally-limited legacy systems—an undertaking planned since 2012.

These identified deficiencies adversely affect USPTO's ability to carry out its mission in the event of disruption, failure, or unavailability of PCAPS.

WHAT WE RECOMMEND

We recommend that the Under Secretary of Commerce for Intellectual Property and Director of the U.S. Patent and Trademark Office direct the Chief Information Officer to do the following:

1. Implement recommendations outlined in NIST SP 800-34 to ensure that all contingency planning documentation contains the necessary components, including, but not limited to, recovery objectives.
2. Establish a documented process that ensures contingency plan testing includes functional testing that entails simulations of actual system disruption or failure, and that all required participants are involved with contingency plan testing.
3. Ensure that appropriate backup logs are delivered to the CIO Command Center and backup failures are flagged for review while also establishing a process to alert appropriate personnel who can promptly rectify any failures.
4. Make a determination whether the \$4 million in potential monetary benefits that we have identified in this report that is currently allocated for the Boyers alternate site can be used more efficiently.
5. Establish a detailed plan for the replacement of legacy systems and software applications, including milestones and deadlines, and enforce the plan in a manner that holds appropriate personnel accountable.