

Advantest Corporation

Leading manufacturer accelerates document review processes by over 45% using Adobe® Acrobat® software for collaborative, web-based review of product manuals

Advantest Inc.

www.advantest.com

In Partnership With

Ricoh Software
Solution Business Department
Kagoshima Development Center
www.ricoh-soft.co.jp/

Industry

Manufacturing

Challenges

- Accelerate review of complex product manuals
- Improve collaboration across international review teams

Solution

- Document Collaboration
Advantest is using Adobe Acrobat software and Adobe PDF to provide dispersed project teams with fast, efficient web-based review and commenting on lengthy product manuals.

Results

- Accelerated document review cycles by as much as 45%
- Improved quality and timeliness of reviewer feedback
- Minimized DTP production errors thanks to more accurate input
- Reduced costs to manage document review cycles

Systems At A Glance

- Adobe Acrobat
- Adobe Captivate™

Accelerating creation and review of product manuals

As digital equipment such as personal computers, cell phones, and other devices reach new levels of popularity worldwide, demand for semiconductors continues to rise. Headquartered in Tokyo, Advantest is the leading provider of testing equipment for semiconductors. The company recently saw year-over-year orders for products increase by 14%.

Advantest provides testers for a multitude of semiconductors, ranging from DRAM and flash memory to System LSI. All of the semiconductors deal with large-scale systems, and a product manual for a single Advantest testing product could be as long as 1,500 pages. With its focus on keeping production as efficient as possible—and keeping new product rollouts on schedule—the company set out to improve its processes for creating product manuals.

To accomplish this goal, Advantest is adopting new approaches to reviewing and approving the complex documentation that typically accompanies its products. The aim is to shorten the time to develop, review, and approve materials using a web-based system that streamlines document preparation. The system, called ELABO, leverages the power and flexibility of Adobe Acrobat software and Adobe Portable Document Format (PDF).

Manual review processes leave room for improvement

“One of our recent tester solutions was complicated—both in terms of hardware and software,” says Naoki Hirai, chief of SE Headquarter SE Technology Department Manual Division. “As a result, the length and complexity of the product manual increased substantially.”

After closely examining its process for creating manuals, Advantest realized that efficiency gains could be achieved by streamlining document review. Typically, a draft manual is written by a subject-matter expert, and the resulting draft is sent to as many as ten departments for commenting. However, the paper-based review processes makes it difficult to efficiently circulate the manual for review. As a result, review cycles can take more than two weeks to complete.

One strategy to streamline long review cycles—and complete documentation on schedule—is to accelerate the time it takes to write drafts. Unfortunately, this approach creates problems if product specifications change at later stages, requiring already approved documents to be revised and redistributed for review and approval. Other problems that hamper timely reviews include trying to track down reviewers who are traveling on business and difficulty gaining insight into the status of manuals sent out for review.

“With Acrobat commenting tools, we can select a section to be modified and write in corrections just like writing corrections with a red pen on paper.”

Naoki Hirai,
Chief of SE Headquarter,
SE Technology Department
Manual Division

Automating document review with Adobe Acrobat software

To address the problem, the company began exploring the use of Adobe Acrobat and Adobe PDF to support online commenting. For instance, if a draft manual in Adobe PDF is shared online, staff could review the document simultaneously, shortening review cycles that previously relied on paper. Another advantage of using Acrobat is that the company could address the challenges of having product development and the creation of product manuals done at international locations—which is increasingly common at Advantest. With Acrobat and Adobe PDF, staff could review document content online anywhere at anytime.

“I figured it was possible to use the commenting tools in Adobe Acrobat software to bring document review processes online,” explains Hirai. “When I saw Acrobat, I thought it could replace our paper-based processes. Most of our review work involves adding, deleting, and modifying words. With Acrobat commenting tools, we can select a section to be modified and write in corrections just like writing corrections with a red pen on paper.”

After studying system specifications, the decision was made to establish a WebDAV environment, which is an HTTP-extended standard that enables joint editing of content on the web. Once a manual is ready for review, it is uploaded to a centralized server. At the same time, specified reviewers automatically receive an e-mail alerting them that the manual in Adobe PDF is available.

Reviewers open and work on the Adobe PDF file from within their web browsers. In doing so, comments entered into the master Adobe PDF file are displayed, enabling all reviewers to see comments made by others. Entered comments are then uploaded to the web server, and the comment repository associated with the Adobe PDF file is updated automatically.

The dynamic ELABO system includes this and other interactive functions. “To meet Advantest’s needs, we provided well-developed functions such as job management and progress management to support flexible workflow settings,” says Isao Hasegawa, Solution Business Department Kagoshima Development Center Solution 2 Group Sub-leader at Ricoh Software, which worked on system development. When a user logs in to ELABO, an individual job list appears that identifies items for review; the deadline for each review item can be seen as well.

For requested review items, progress status is visible, highlighting which reviewers have completed their work and which reviewers have not. The system is versatile enough to be used for reviews other than manuals. It is also compatible with both Japanese and English to support international use.

Accelerating review cycles by as much as 45%

The development of ELABO began in December 2005 and was completed in March 2006. A period of testing followed. User reaction to the system has been very good. Typically, the paper-based processes left each reviewer with only a short amount of time to review documents, even though the cumulative time to complete document review was quite long. With the online review of documents, reviewers have more time to complete reviews and can do so on their own schedules. The improved insight into reviewer comments and better access to materials has ultimately shortened review cycles.

“In terms of revising manuals, Adobe Acrobat helped us shorten review time almost by half—to 4.7 days compared to 8.6 days for conventional paper-based review processes. The overall turnaround time was reduced by 30%,” says Etsuko Yoshikawa, SE Headquarter, SE Technology Department Manual Division. “In addition to the benefits of the simultaneous review process, working with digital data throughout the process increased overall work efficiency.”

Additional efficiency gains due to the more automated review processes are evident when manuals go for layout. Now, manuals sent to layout are clearer and do not contain errors that could result from staff misinterpreting handwritten instructions. Previously, rearranging sentences and images was a cumbersome process that was open to miscommunication and mistakes. With Acrobat, new image files, comments, and other items can be attached directly to the manual draft in Adobe PDF.

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Etsuko Yoshikawa,
SE Headquarter,
SE Technology Department Manual
Division

Distributing Acrobat to 300 people, going into full scale operation

To streamline staff training on the online document review processes, the company is using Adobe Captivate software. With the Adobe solution, Advantest is creating simulations that show reviewers exactly how to use the system and the Acrobat commenting functions. Each simulation is linked to the relevant section of ELABO. "Users who are not familiar with Acrobat might not know how to use various comment functions," explains Yoshikawa. "We thought that it would be easier to understand if we used Adobe Captivate to enable them to view the actual operation on screen, rather than try to explain it in sentences."

With a successful test operation, Advantest went into full scale operation of ELABO in August 2006, distributing Acrobat software to approximately 300 technicians involved in writing and reviewing manuals. Says Hirai, "As shown by the test operations, sufficient cost savings can be expected."

Advantest, well known for its high productivity, gained a new efficiency tool with Acrobat. In the future, the company plans to improve the entire manual preparation process by using ELABO to cover the process after DTP which is performed by affiliated companies.

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