



## Adobe Systems, Inc.

### Integrating eRoom for optimized print procurement

#### Benefits

- Provides vendors with secure visibility and collaboration tools around work-order specifications without exposing other parts of the project
- Increases efficiencies and cost savings through improved departmental visibility and organized collaboration
- Provides ability to integrate into Adobe's existing back-office systems through eRoom's extensible architecture

#### Business overview

Adobe Systems, Inc. is the world's leading provider of software solutions that create, manage, and deliver high-impact, reliable digital content. Adobe outsources production of software packaging to more than 50 global print vendors.

#### Adobe requirements

- Automatically route bid requests to each vendor, collect responses, and roll up quotes into a single database
- Host a portal for vendors to facilitate collaboration around material specifications
- Automatically generate and route print authorization requests

#### Challenges

Today's print production processes require a dedicated cross-functional team that includes members of the company and its vendors. The coordination and collaboration required to manage these processes are complex and time-consuming. Print production for a single package sometimes can include more than one hundred unique components. Software for example, consists of a box, CD, manual, quick guides, serial number, and registration card. Typically these components are printed and assembled in multiple languages.

Many companies outsource print production to achieve greater flexibility and lower production costs. But outsourcing often requires a greater amount of administration because print production coordinators must locate vendors, request quotes, and seek approval. This process must be repeated for each component because many vendors will produce only part of the job.

Print production teams often manage outsourcing through use of back-office systems such as e-mail, spreadsheets, and simple databases. Proposals are printed and sent to vendors. Bids are received and tracked manually using a simple database or spreadsheet. While these systems do the job, the process is inefficient and time-consuming.

With over 5,000 components individually managed and outsourced, Adobe needed to streamline the bidding process to increase productivity and reduce costs.

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## eRoom customization requirements

To address the collaboration needs for each product release, the Adobe program management team rolled out EMC Documentum® eRoom™ following best practices, creating templates for collaborating around project materials. The marketing, product development, and print production departments rapidly adopted eRoom standards, which now provide effective management of the company's combined release efforts.

### My eRooms

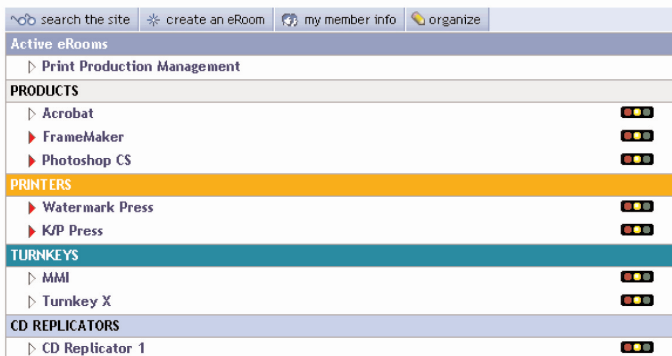


Fig. 1: Adobe's new organization: The My eRooms page defines the entrypoint to all product eRooms relevant to each production coordinator

Adobe's existing bid-management process was labor-intensive and inefficient. Each print coordinator created an RFQ in Excel. The fields and format of this file differed as each coordinator changed the copy to suit the particular needs of the current job. The RFQ was then manually e-mailed to each vendor along with a personalized message, introducing an inherent delay.

All negotiations on price and material quality with vendors were handled via e-mail, making it difficult to pass a particular job over to other coordinators when necessary. It was up to each coordinator to copy and paste the bid data into a FilemakerPro database where it was sorted in order to make an award decision.

When the awarded vendor had been selected, coordinators created a print authorization form in Excel, printed it off as a PDF, and attached it to an e-mail, which was sent to a department head for approval. Coordinators received the approved PDF and then forwarded it to the vendor via e-mail. Time constraints prevented the Adobe print production team from adequately notifying losing vendors.

In order to streamline this process, Adobe wanted to modify eRoom. EMC's professional services team conducted a thorough analysis and concluded that the requirements were as follows:

- Standardize on the criteria for a request for quote (RFQ)
- Automate the distribution of quotes to selected vendors
- Provide vendors with a structured response system
- Collect bids in central database
- Automatically generate and route print authorization forms
- Allow print coordinators to award vendors electronically
- Provide automatic feedback to vendors who were not awarded the job

## Solution: eRoom customization for print production

Adobe and EMC worked together to rapidly extend eRoom to act as a request, bid, and approval management system for outsourced jobs with vendors. eRoom was deployed to provide two key functions within Adobe's print production group. First, eRoom would provide a structured space for collaboration around each Adobe release. Second, eRoom would provide a solution for managing the request and bid process with worldwide print vendors.

The customization began by creating a new eRoom specifically for the print production team. The eRoom provides several databases for capturing component specifications, graphics requirements, issues, print authorizations, vendor information, and vendor quotes. The creation of these objects was a straightforward process using eRoom's standard interface.

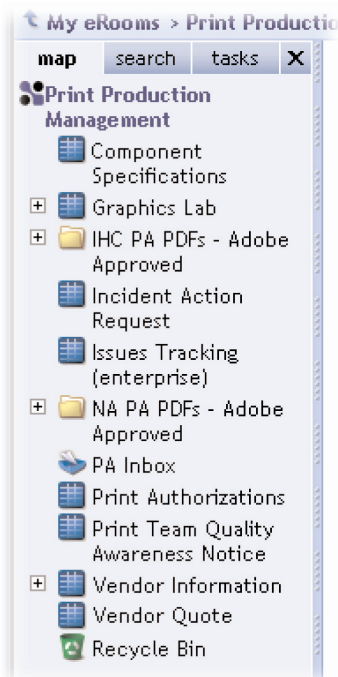


Fig. 2: Structure for managing bids and print authorizations in eRoom

Additional custom solutions were provided by utilizing eRoom's rich set of web services and APIs. These functions are available through eRoom's developer toolkit. Customizations are placed on the eRoom server and run when required by the user eRoom. With the developer's toolkit, it is possible to create, manage, and manipulate all eRoom objects. Developers can also create data entry forms or extend the functionality of standard eRoom interfaces. For a full explanation of features for eRoom developers, visit: <http://customernet.EMC.com/developer/>

### Vendor eRooms

The EMC professional services engineer modified the mechanism for managing vendors. A database was created and custom code added that would create an eRoom for each vendor added. When a new vendor record is entered, the print coordinator sends the eRoom URL and account information to the contact. The primary function of the vendor eRoom is to provide an enterprise database link into the print production supplier database. With this database, vendors can easily respond to RFQs and track previously submitted quotes. In addition, the eRoom provides a place for them to exchange files and collaborate on issues.

### Component specifications management

A second database was added that provides coordinators with a system to manage the lifespan of each component in a release. Component specifications can be entered directly through a custom form or by uploading them in a batch CSV format. eRoom can natively support the import of CSV format files to populate databases. Once the component specifications are loaded, coordinators can create print jobs which consist of various components. Custom code was added to allow coordinators to select components and assign them to a particular print job.

### Vendor quote management

Using eRoom's enterprise database technology a Vendor Quote management system was created to replace the manual RFQ creation process. The quote system was replicated and linked to each vendor eRoom. Using this system, publishing an RFQ now requires the following steps:

1. Each component contains detailed specifications and groups are created to package the components together as a single project entity. These details reside in the component specification database.
2. The print coordinator selects a list of components from the component specifications database and eRoom presents a list of possible vendors that match production needs (figure 3). eRoom automatically generates a list of vendors and eRoom sends out the RFQ notification. The RFQ is actually a record in the Bid database, and it is custom code that places this here. Custom code was written to handle much of this process. Code helps generate a list of matching vendors (based on component type and region) and generates the RFQ record for each vendor.
3. eRoom notifies each vendor that an RFQ awaits their review. Vendors enter their eRoom and place their bid information directly into the RFQ. The bid is made up of multiple fields and captures not only items such as unit price but also materials that will be used (figure 4). A custom form is used to capture these details and ties it directly to the original RFQ request located in the vendor quote database.
4. Print coordinators receive a notification from eRoom for each vendor's submission and view the vendor's bid inline with other bids. While the quote database can contain thousands of historical quotes, eRoom's grouping, sorting, and filtering functions allow coordinators to quickly and centrally narrow on bids for a particular project or component.

Print Production Management - Component Specifications  
**Request Quote from Printers**

Request a quote for the following components?

95221111	BOX,ACRO,5,0,UE,MLP,RET,HAPPYBOX	North America
95221212	CD,ACRO,5,0,UE,MLP,RET,HAPPYBOX	North America
95221696	HAT,ACRO,5,0,UE,MLP,RET,HAPPYHAT	North America
95221299	CD,ACRO,5,0,UE,MLP,RET,HAPPYCD	North America

Please select the printers from whom you are requesting a quote.

K/P Press

Watermark Press

Fig. 3: eRoom presents the correct list of vendors based on the selected component criteria

95001111  
**Edit Database Entry**

SAP Description	BOX,ACRO,5,0,UE,MLP,RET,HAPPYBOX
Flat Rate Unit Cost	
Currency	
Flat Rate USD Equivalent	95
Prepress Cost	
Printer Contact Name	
Pagination	
Signature Layout	

Fig. 4: Vendors respond using customized database entry forms to pass back their bid

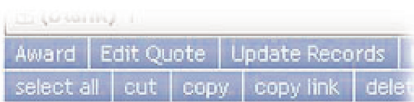


Fig. 5: Custom functions are integrated directly into the database command bar

5. After several days of collecting bids, the coordinator reviews the bid information for each component and awards the job to a vendor. To make this work seamlessly, custom functions were added to the vendor quote database that allow coordinators to select and award in a few clicks (figure 5). Custom code creates a print-approval request (described in next section) and alters the status field for those vendors who were not awarded.

### Print authorization

Adobe had recently deployed its own software to manage purchase approvals. As part of the vendor approval process, Adobe requested that eRoom automatically create a PDF using its Adobe Forms Server and forward that form to the Adobe Workflow Server for approval. In addition, the eRoom custom code listens for a response from the Workflow server and if approved, forwards the approved document to the awarded vendor's eRoom.

To do this effectively, custom code was added to eRoom that generates a web-service request targeted at the Adobe Forms Server. The request contains the items entered by the vendor and part numbers of the component. The Adobe Forms Server generates the print approval PDF form and sends it back to eRoom, which then assembles a second web-service request and sends it to the Adobe Workflow Server. This time eRoom sends the print approval and specifies the approval group to which the form is to be routed. As approvals require human intervention, there can be a delay while this transaction is completed. To accommodate for this, eRoom's web service methods were extended to handle the incoming response from the Workflow Server. Once a response is received, the awarded vendor's quote database is updated with the approved PDF and those vendors not awarded are notified.

“Other companies in the industry could definitely benefit from using a system like this.”

Ann Farley, Fulfillment Programs Manager

## Methodology

The eRoom Deployment and Management Methodology (eDMM) is a structured offering based on the best practices and learning from EMC's World Wide Consulting organization. eDMM is structured in six phases that progressively build on each other to ensure the organization has all of the necessary components to achieve maximum return on its investment in the eRoom platform. EMC committed two resources for this four month project which included definition, specifications, development, and testing (eRoom was already deployed within Adobe at the start of the engagement).

For more information on EMC's eDMM services, please visit our website at: <http://www.EMC.com/methodology>

## Summary

By choosing to customize and extend eRoom, Adobe deployed a best-of-breed solution to its print production team and vendors. In addition, because of eRoom's open and industry-standard web services, Adobe was able to leverage existing systems for managing approval and form generation.



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