University of California
Application for 2006 Larry L. Sautter Award for Innovation in Information Technology

University of California, Riverside - Online Purchasing System (eBuy)

Project Summary

UCR’s online purchasing system – known as eBuy – is a web tool utilized by campus faculty and staff for processing departmental purchase orders, requisitions, and business-to-business (B2B) e-procurement orders.

eBuy is accessed via the iViews administrative portal and uses UCR’s single sign-on infrastructure for authentication. The software provides departmental buyers and requestors the ability to attach estimates, packing slips, and supporting documents to orders, and further enables buyers to record information about transactions settled via the campus Procurement Card. eBuy seamlessly integrates with the campus financial system as well as UCR’s e-procurement vendors via web services. eBuy thus provides the campus with a myriad of purchasing functionality and a true one-stop-cyber environment for procurement needs.

Importantly, eBuy is integrated with UCR’s Enterprise Access Control System (EACS), UCR’s common authorization system used by 100s of campus System Access Administrators (SAAs). Using this tool, SAAs have established authorization for 600+ buyers and requestors located in all campus departments and units.

In summary, the eBuy purchasing system is extremely easy to use, provides a business-to-business e-procurement capability based on web services, integrates with the campus portal and common authorization systems, is used by over 600 campus web users, and seamlessly integrates with UCR’s financial system via PeopleSoft’s web services environment.
Project Team Members

Computing & Communications    Materiel Management
Andrew Cullum             Russ Lewis
Larry Ott                Linda Gutterud
Amber Jones              Chip Staples
Shylah Thurman           Marshall Holman
Luis Baquera
David Gracey

eBuy Project Highlights

Please see the notes below for details:


• Integration with EACS. eBuy is seamlessly integrated with UCR’s Enterprise Access Control System (EACS). Using EACS, 200+ UCR Systems Access Administrators (SAAs) located throughout campus departments and units assign very granular access to 100s of campus and UC agreements governing relationships with a myriad of vendors. For example, an SAA might grant access to the Dell computer agreement for purchases up to $10,000 to a particular departmental buyer. Another buyer might not have access to the Dell agreement at all, but might be authorized to the scientific supply agreements for purchases up to $5,000.

This integration of EACS with the eBuy has dramatically reduced “rogue spending at UCR” and has facilitated the deployment of an eProcurement infrastructure via a partnership with Sciquest corporation.

For more information on EACS, please visit the following URL: http://www.cnc.ucr.edu/iviews/enterprise_acc_control/

• E-procurement via Web Services. eBuy contains a business-to-business, server-to-server e-procurement functionality allowing for quick and immediate order processing using vendor hosted catalogs. These vendors have UC or UCR pricing agreements and have made their UC catalogs available via web services (the relationship is facilitated by Sciquest, a leading e-commerce vendor). eBuy’s e-procurement functionality allows campus users to perform the following:

1. Access e-procurement functionality directly from eBuy utilizing the iViews single sign-on authentication environment.
2. Shop vendor catalogs without re-authenticating via a trusted XML based infrastructure.

3. Return contents of shopping carts to the eBuy interface.

4. From eBuy (with a single click of a button) place orders with vendors and encumber orders at the same time (the encumbrance appears within PeopleSoft and the order, in the case of Fisher Scientific, appears on Fisher handheld devices on warehouse floors).

- **Financial System Integration via PeopleSoft’s Web Services.** eBuy uses PeopleSoft’s web services environment (known as the Component Interface architecture) to seamlessly integrate eBuy with PeopleSoft. Thus, when in eBuy, users have complete access to the entire suite of PeopleSoft business logic governing purchasing and accounts payable transaction processing. As a result, eBuy orders encumber, pay, generate journals, etc. *just as if these orders were created natively within PeopleSoft.*

- **Requestor Role.** eBuy supports a role known as Requestor; these users can start orders within eBuy and the authorized department purchasing personnel can complete the order. This reduces the use of paper forms and the need for returning hard copies to the end user.

- **eInvoices Integration.** eBuy has an electronic invoice loading system that uses PeopleSoft’s web services architecture to load invoices into PeopleSoft voucher staging tables. These invoices are then auto-vouchered and run through accounts payable matching processes without staff keying of data. Currently, the system is used with large scientific supply vendors (e.g. Fisher Scientific, Sigma) and is under pilot with UCR’s largest travel vendor.

- **eBuy Reporting and More.** eBuy contains an extensive reporting and analysis system, which includes “export to Excel” functionality as well as a wide variety of reports and Purchase Orders forms all in PDF format. Users have access to search and view all data, including legacy purchase order information from prior purchasing applications. The system contains a COPY AS NEW functionality that is extremely useful when only dates and pricing of prior orders need to be changed (and when the terms of the agreement don’t change or change very little, e.g., maintenance agreements renewed annually).

- **Support for Accounts Payable Processing.** eBuy provides a wide variety of immediate feedback to departmental buyers concerning the status of orders as they relate to payment. For example, the system forces work in progress (WIP) purchase orders to be encumbered within 10 days, ensuring appropriate processing of invoices.

- **Supporting Document Attached to Orders.** eBuy provides the ability to attach documents to purchase orders (e.g. quotes, estimates, packing slips, etc.)
Limited Development Budget. eBuy was developed by C&C with a one-time $70,000 funding commitment (for casual labor to fast track code development).

Transforming UCR Purchasing

To date (in a little over five months of deployment), eBuy has processed almost 30,000 web departmental purchase orders, totaling $11,441,000. Of the 30,000 orders, 2,800 were orders to our vendors participating in the e-procurement program, representing some $683,000 of the $11,441,000.

Technical and Systems Overview

Application Integration

eBuy combines various purchasing functions into a single interface for departmental buyers. From a single web page, buyers can perform the following:

1. Receive and act on requests from Requestors.
2. Send Requisitions to Material Management for further processing.
3. Issue purchase orders against 100s of agreements negotiated by Material Management (these are known as DAPOs, or Departmentally Authorized Purchase Orders).
4. Record (and communicate to Requestors) that a particular item has been acquired via a Procurement Card (and that no purchase order will be generated).
5. Shop electronic catalogs and subsequently create purchase orders and encumber funds as a result of the vendor catalog shopping experience.
6. All this procurement functionality is authorized by departmental Systems Access Administrators (SAAs). SAAs use the Enterprise Access Control System to assign access to agreements, eProcurement systems, etc. at various dollar thresholds based on departmental needs and user expertise. eBuy utilizes UCR’s single sign-on architecture and is completely integrated with the campus portal (iViews).
7. Finally, eBuy contains a complete suite of functionality for UCR’s Material Management enterprise-wide buyers. This functionality includes the ability to create, manage, and update agreements; to manage boilerplate terms and conditions and appendix text used on campus purchase orders; the ability to issue and manage changer orders; and the ability to issue blanket and lease POs.
Transferring data with Web services and XML - Importance and Relevance to Other Institutions

The eProcurement with eBuy system is a partnership between UCR and SciQuest and utilizes web services and XML to provide a transparent user experience for eProcurement purchases.

1. Upon entering the eProcurement site, eBuy sends XML data (to Sciquest) about the buyer (user).

2. The buyer adds items to their cart and, upon exiting the eProcurement site, XML containing all the purchase information is returned to eBuy.

3. When the buyer makes their purchase final within eBuy, a third XML file is sent (server to server, transparent to the user) to Sciquest confirming / placing the purchase.

4. eProcurement vendors (e.g. Fisher) see the orders immediately. In fact, employees in the Fisher warehouses receive order information on their hand-held PDAs and can therefore act on the order in the most efficient manner possible.

5. Importantly, other UCs have contacted UCR about this web services initiative and it may be replicated at other campuses (most recently, UCR has had extensive conversations with UCSD about this system).

eBuy also uses PeopleSoft’s web services architecture to integrate eBuy with the PeopleSoft Accounts Payable and Purchasing modules. Also certainly less transferable than the Sciquest web services initiative, UCR’s efforts may benefit the many other UC organizations running PeopleSoft.

eBuy uses this web services environment (know as the Component Interface architecture) to integrate eBuy with PeopleSoft. eBuy users interact with native PeopleSoft error handling and messages (within eBuy) just as if these orders were created natively within PeopleSoft.

Customer Satisfaction/Testimonials

“Departments love that we have a web based program. One person said that she can go home and take care of her sick children and also place orders at the same time. I’ve got a lot of positive feedback regarding the line item FAU, attachments and the standardization of combining both (really 3) purchasing programs into one. Personally the EACS program is so easy that I can teach people over the phone in just about five minutes.”

-Linda Gutterud, C.P.M., Principal Buyer
Purchasing

"...The system contains web enabled features and attributes that have exceeded the hopes and vision of the Team ...features like eCatalogs; these are electronic catalogs accessed seamlessly from eBuy from the following firms: Fisher Scientific, VWR, Grainger and Sigma. All these firms are high
transaction vendors at UCR. Other features include: Creation of orders via access from anywhere in the world, multiple FAU’s per line item, attaching attachments to orders, save as new/favorites, agreement orders, emergency orders, etc. A complete demo needs to be done of the system to do it justice and to provide an opportunity to show off the richness of the features.”

-Russ Lewis, Director Materiel Management

“The new e-buy application has improved our Dept. order processing immensely... New e-Catalog application within e-Buy, allows for quick and immediate order processing and completion of hosted catalog ordered items, all in one simple process... We now have the option of catching and correcting any errors by processing change orders that were made on initial data input of order and that were not noticed before PO was closed out.”

-Henry Gutierrez, Purchasing Specialist Botany & Plant Sciences

“The latest and great thing you have added is the new eCatalog system to eBuy. Talk about adding flexibility and speed to placing an order! I start in eBuy with the regular order information then hit Shop and off I go to an area that I can compare pricing, set up order carts, search for materials and pick what I want. I can even pick materials from several vendors and the system will make two orders out of it for me. How easy can that be!”

-Bill Sutton, Administrative Specialist Supervisor Entomology

“...Another advantage of this system, is the ability to change the FAU, up until the time the PO is paid in the system. This helps reduce the amount of expense transfers because the FAU was changed. Another advantage, is when the pricing/quantity comes in different, the purchasing clerk can make the necessary corrections and encumber the PO again. This reduces the number of encumbrance releases needed. Another advantage, is a requestor can now, start their PO and type in most of the information. The purchasing clerk then reviews the PO and finishes it. This has eliminated mistakes due to illegible handwriting and duplication of work. All in all, the new E-Buy system has been a great tool for the purchasing clerk as well as others.”

-Cindy Howard, Administrative Analyst University of California, CE-CERT

“I love eBuy! My favorite feature is "copy as new." I have so many repeat orders for the labs and this saves me so much time... eBuy has increased my ability to do my job faster and more efficiently.”

-Terri L. Romano, Purchasing Specialist Supervisor Biology, Cell Biology & Neuroscience and The Natural Reserve System
“Of all the various applications accessible through iViews, eBuy is the one I most often access from home and other remote sites. I am so pleased with its functions and the way it helps us do our jobs faster and more efficiently.”

-Janet Mauren, Management Services Officer
Philosophy Department

“**The Top Ten Reasons I Love eBuy...**

1. **eBuy is easy to navigate.** Every screen is well labeled and easy to understand. None of that "what the heck does that mean?".

2. **eBuy is wonderful for running searches.** I can search for a DAPO using ANY or ALL information that I have.

3. **eBuy lets me export to Excel.** This makes it so easy to mail my weekly reports to my co-workers telling them to please encumber and OK to pay their DAPOs.

4. **eBuy let me save all my delivery addresses.** I have 12 addresses so this feature is super cool and saves me a ton of typing each day.

5. **eBuy DAPO numbering system is so easy.** We no longer need separate place to file low and high value orders. These orders are now numbered sequentially regardless of dollar value.

6. **eBuy has great vendor information built in to the system.** So now, when I need a phone number or fax or address, I don't need to get out the purchasing system to go the vendor look-up.

7. **eBuy can be used from anywhere.** When my daughter had pink eye, I could check my work from home. This is a great feature.

8. **eBuy has a search engine for orders placed in our old purchasing system.** It is nice to be able to check everything, both old and new, from the same program.

9. **eBuy lets me add attachments AND save DAPOs in a PDF format.** This is awesome. This is especially useful when ordering uniforms and items with lots of detail - so much better than faxing.

10. **eBuy was rolled out with lots of training and a great group of people to answer questions.** So this just wasn't a change, it was a good change.”

-Sue Tomlinson
Business and Purchasing Assistant
UCR Housing Services
Timeframe of Implementation

July 2004 – Work began on converting old purchasing applications (eBuy)
June/July 2005 – Work began on eCatalog
December 2005 – eBuy rolled out to entire campus

iViews portal provides single sign-on access to EACS
Single sign-on access to eBuy
Welcome, Andrew Callum

Buyer Options
- Buyer Maintenance
- Assign Buyer Number
- Search PO’s

Transaction Options
- Create Order
- View Requests
- Search Orders
- Create Emergency PO (2 available)
- View Campus Agreements
- eCatalog Shopping
- Vendor Search
- Data Warehouse
- Reports
- Exit Application

New changes to eBuy!!

Attachments
We are happy to report that it is now possible to attach documents to eBuy orders and requisitions. Click HERE to view details.

FAU values for Search Screen
New columns to display FAU values (e.g., Activity, Fund, Project, Cost Center) are now available for selection. Click HERE to view details.

Cancel option is restored
The Cancel option has been restored. The Cancel option is available for requests – eBuy orders that have not been encumbered. As a reminder, you need to cancel an eBuy order that has been encumbered; a change order must be created.

Click HERE to view other eBuy changes...
Creating an eCatalog order

![eCatalog order interface]

**Order Type**: eCatalog

**Date Needed (MM/DD/YYYY)**: 06/07/2006

**Expected Delivery (MM/DD/YYYY)**: [Set]

**Line | Qty | UOM | Catalog Number | Unit Price | Tax | Tot Amt | Expected Delivery | Action**

**Sub Total**: $0.90

**Freight**: $0.00

**Grand Total**: $0.90

**View by Line Item, Item Totals, Descriptions**

**Save | Save & Exit | Finish eCatalog | Exit (No Save)**
eCatalog main page
eCatalog shopping cart view

![Image of eCatalog shopping cart view]

Shopping, Handling, and Tax charges are calculated and charged by each supplier. The values shown here are for estimation purposes, budget checking, and workflow approvals.
Display of item information from eCatalog cart

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Description: PumpNailer TD Press System

Sub Total: 1,029.00
Tax: 7.75
Grand Total: 1,106.75
eBuy encumbering order

![Encumbering Order](image1)

eBuy showing order placed and encumbered within PeopleSoft

![Catalog Order Finished](image2)
Viewing purchase order request information in eBuy

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Future enhancements to the eProcurement system

Computing and Communications is currently working with vendors to expand eCatalog offerings and electronic invoicing. Vendors that will soon be integrated with eCatalog include Grainger, Sysco, and Sigma. Plans call for an expansion of the electronic invoicing with vendors and to move from 2 vendors (currently) to 20 vendors within 1 year.

Site URL
http://ebuy.ucr.edu

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