Pinnacle Product: Custom Web Interface

"SDSU is still interested in using the front end you have created for Pinnacle.

The reason we have interest? In the quick presentation you did for us, it was clear that the modifications you have made would allow department and college telecom/network contacts the ability to submit work orders online. The interface provided by Pinnacle is too cumbersome to have users successfully submit requests, when they potentially may only need to access the system a few times a year. The Pinnacle interface can be very heavy and not very intuitive for someone who uses it on a regular basis. So, to have staff on campus access it would not work.

We will likely reach out to you in the next couple months about the potential use of the interface you have created."

-Kent McKelvey, Director Telecommunications and Network Services, SDSU

Campus Impact

Stated simply, UCR could not have rolled out the Pinnacle product without having first developing the web front-end. By doing so using Pinnacles API and web services, the solution UCR has created can be shared throughout the state.

The Pinnacle product is a very robust product with a huge amount of flexibility and capacity for data information. However, seeing the product demonstrated at SONY Pictures in Culver City CA, UCR observed that too many FTE were needed to administer the Pinnacle system as designed. The product is simply too cumbersome for the average user to use. At SONY work requests were still be either called in, or submitted on paper only to be hand entered by Communications staff with extensive training on the product. UCR vowed that if we purchased the product we would develop a web front end before deploying to our customers.

Initially, many of our peers within UC, the Pinnacle User Group and ACUTA (Association of Communications Technology Professionals in Higher Education) wondered why UCR would develop a web front end for the very robust Pinnacle product. However, since rolling out the interface we have talked with many organizations who find the Pinnacle interface extremely cumbersome, and who are considering abandoning the Pinnacle product because of it. Many are interested in the front-end we have developed, and the routines we have written. Universities that we have discussed these challenges with include the following; UC Davis, UC Santa Barbara, San Diego State University, UC Berkeley, Lawrence Berkeley Labs, Teachers College of Columbia University NY, University of Illinois, Champaign, Binghamton University, NY, Oregon State University, and Harvard University.

UCR has been invited by Windstream to present our custom web interface at the 2012 Pinnacle User conference in Nashville, Tennessee this coming October.
In summary, the July 1, 2011 rollout of UCR custom web interface was extremely smooth and totally unobtrusive to our campus users. To our customers it appeared to be the old system with new functionality.

Business Need

UCR began looking for a new Enterprise Communications Management System to build upon when the previous vendor stopped providing support for the old system, and would not sell their source code. Without access to the source code, UCR was unable to continue to provide enhancements to the existing communications work order system for the campus customers. Two non-negotiable criteria for the new base product were quickly established for the product that would be selected;

- The vendor selected would need to provide their source code.
- The product would have an Oracle database platform, the standard platform utilized for other campus developed Enterprise applications.

Ultimately, the Pinnacle product was selected because of the vendor’s willingness to collaborate with UCR in the vision for this robust product and apply it to the campus customer needs. Pinnacle committed to providing future software upgrades with table descriptions that wouldn’t impact UCR’s planned distinctive enhancements to the system. The vendor promised that customer changes would be identified with an institution’s name, a process that would ensure future upgradeability of UCR’s customized system. Finally, Pinnacle committed to provide support and integration for UCR’s CAS authentication system, and campus wide authorization system.

UCR successfully created a very user-friendly web front-end interface for the very robust Pinnacle product, but one that also allowed the campus customers to continue to do business as usual. The application is web accessible, and has the same look and feel, single sign-on, and authentication that other campus applications have.
Highlights

New features include the following: enhanced reporting where the work order number now appears on the ledgers, the ability to attach documents to the work orders, an advanced data work order section, and the ability to save orders and come back later to finish and submit them. In addition to the current transactor role, there is a new requestor role, and an inquirer role. Requestors can submit work orders to transactors without needing access to accounting and billing information.

There is a new department move work order function that makes it easy to request to move an entire department’s services from one location to another. Large department moves can be submitted easily with the customer only having to point and click to select which specific voice/data lines to move. Floor plans and spreadsheets can easily be attached directly to a service request.

Future enhancement plans include automating all cable (fiber, copper) information and a bar code process for inventory items (i.e. data routers, switches, APs etc.).

DEPARTMENT MOVE

Department managers can view all orders submitted within their accountability structure. Customers can download their monthly billing into an Excel sheet and then email individual reports to staff and faculty. Pinnacle provides over 200 standard reports, and there is an inherent ability to develop innumerable additional reports and graphs. The system has also been fully integrated with our PeopleSoft financial system.
The Process: Technology and Implementation

Technical Highlights:

The Communication Work Order System (CWO) is built within the Oracle 11 database utilizing the APEX 3.1 database tool, and the Oracle Application 10g Server. PL/SQL is used for the definition of actions via packages, procedures, functions and type definitions to present the dynamically generated content to the web. The vendor supplied software provides for numerous additional information user defined fields which allow for capture of the specific required data items and allows them to be passed through seamlessly to the application. The system has also been fully integrated with the PeopleSoft financial system, the IBM Student System and the Facilities Management System. Calls are made real time to campus authentication routines and facilities management database. The campus Oracle DB hosts the Pinnacle product and the programming language used to develop the Communications Work Order website was PL/SQL, along with JavaScripts and ExtJS.

UCR’s custom code resides separately in a different schema in the same Oracle database that hosts Pinnacle’s database. When there are upgrades to Pinnacle’s code, it will not affect UCR’s custom schema at all. By using the Pinnacle delivered APIs, but logic and data integrity is maintained. The work orders are stored in CWO database and are pushed to Pinnacle’s database. UCR’s Communication staff routes the orders between administration staff, switch group, field technicians, and Network engineers. Each group performs their function, adds their own parts, labor hours, and notes to the orders, and then routes the orders on.

Unlike the majority of the Pinnacle product implementations, UCR has only one administrative person from the communications department managing the work order process. Hundreds of administrative
staff in all departments across campus input their own work orders into the system, and communications technical staff close their own orders.

Campus customers launch the application through RSPACE using single sign on access. Campus staff login to CWO through CAS using the roles assigned to them by EACS SAA. CWO serves as the medium between the users and the Pinnacle product.

**UCR was very successful in developing a simple custom front-end for this very robust product that could be used by administrative staff across the entire campus, with little or no training and has kept the communications administrative staff to the very minimum. This approach can now be shared across UC and beyond.**

**Pinnacle System Diagram**

![Pinnacle System Diagram](image)

**Testimonials**

“The new system has allowed me to review the lines in the two different categories (department and individual services) which make it easier to review what lines/extensions are active. The new system also sends you any service request submitted via email which allows me to follow up on my Outlook calendar task list. The rate chart is very helpful for budget purposes. The help option is also great when you need immediate guidance. I am very thankful of the user-friendly system.”

-Zelda Glenn, UCR Palm Desert Center
“It does provide, in one place, the phone information for the department—so simple changes are really easy and it looks like any whole department change would be really easy. We don’t always make simple changes, so we pack a lot into one request sometimes. Not sure we package it up in the best way for you folks, but we start there. There is a lot of information easily accessed and that is very helpful.

The system gets the info to you folks fast and the response time is great. C&C staff is really customer-service oriented and as agreeable as can be—so the whole package of the work order system and the department as a whole works really well.”

-Mary DiFilippo, Intercollegiate Athletics, UCR

“The system was a bit intimidating at first (luckily) you made yourself available to my ton of questions. I am pretty comfortable with it now I think the added information (rates and reoccurring charges) are very helpful. The three step process makes it a little time consuming but at the same time it allows you to save and preview to make sure you got everything on one work order.”

-Ana Aldana, Physics and Astronomy, UCR

“The communications work order system is very convenient. Working with 4 departments, 1 program, and our admin unit it has work quite well.

Initially, when I sign in all of the accountability structures show, I easily pick which one I need and go from there. I can easily switch between accounts, which is very convenient. I find the system is easy to work, easy to grasp use of, and reliable.”

-Victoria Cross, Multidisciplinary Unit Departments, UCR

Timeline

December 2010  Project Initiation for Web Interface
April 2011  Focus groups Athletics/Physics/UNEX
August 2011  Open houses and informational sessions
July 2011  Deployment and announcement to campus

On the Web

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Support site:  dial.ucr.edu
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