

Sierra-Cedar Extends PeopleSoft with Financial Aid Solution at Apollo Group, Inc. Financial Aid Business Process Automation in Higher Education Vertical



APOLLO GROUPSM

BACKGROUND

Apollo Group, Inc. (APOL) was founded in 1973. Today, Apollo Group, Inc., through its subsidiaries—University of Phoenix (including University of Phoenix Online), Institute for Professional Development, College for Financial Planning, and Western International University—has established itself as a leading provider of higher education programs for working adults by focusing on servicing the needs of the working adult.

Sierra-Cedar automated the student eligibility verification and financial aid certification process to help Apollo Group meet a Department of Education deadline for providing additional loan funds to their student population. Apollo Group achieved a 600% ROI within a four month time frame by automating the Financial Aid process and processing 120,000 potentially eligible students in four weeks.

The Financial Aid process was automated by extending PeopleSoft using PeopleSoft Component Interfaces, Oracle SOA Suite comprised of 12 different BPEL processes containing over 450 BPEL steps, BPEL Human Workflow, and Oracle Rules Engine. The project took approximately 12 weeks which included designing the business process flows, process development, business rules creation, BPEL Human Workflow customizations, and full user testing.

CHALLENGES

In mid-2007, the Department of Education increased the amount of money a student could be awarded for financial aid year 2007. This additional funding presented a great opportunity for Apollo Group's students to receive additional financial assistance. Apollo Group had approximately 120,000 students that were potentially eligible for these additional funds. However, Apollo Group's process to review the student population for determining additional funds eligibility, awarding, certifying and disbursing was manual and very time consuming. This was work that needed to be done in addition to the existing financial aid processing necessary to support Apollo Group's existing student population of over 350,000 students. Apollo Group did not have the Financial Aid Officers required to process the additional funds eligibility for their large population of students in the timeline permitted. It was evident that Apollo Group would need to automate the student eligibility verification and Financial Aid certification processes to meet the deadlines established by the Department of Education and the business.

Without automation, determining eligibility for awarding, certifying and disbursing the Additional Funds would have resulted in significant costs to their organization.

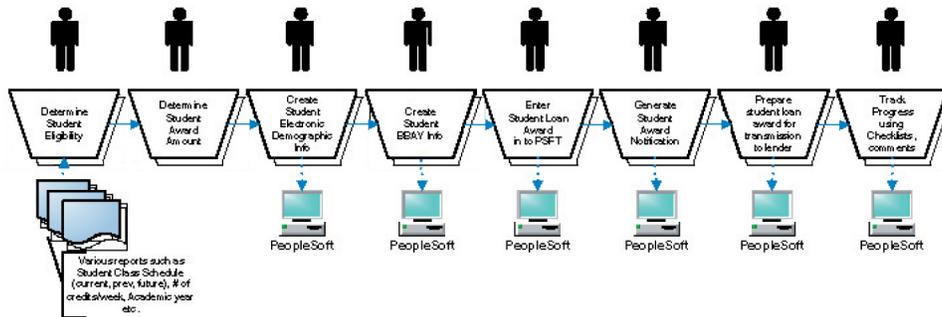
Industry	Higher Education
Stack	<ul style="list-style-type: none"> • Oracle iAS 10.1.3.1 • BPEL Process Manager 10.1.3.1 • Oracle Rules Engine • BPEL Human Workflow • JDeveloper 10.1.3.3
Integration Components	Oracle BPEL PM 10.1.3.1
Application & Modules	<ul style="list-style-type: none"> • PeopleSoft Campus Solutions 8.0 • PeopleTools 8.22 • Oracle E-Business Suite 11.5.10 • 2 Custom Applications
Oracle BPEL PM Deployment	Clustered (Active-Active) Solaris 9 Servers (2) for BPEL PM

SOLUTION

The Additional Funds financial aid certification process at Apollo Group is traditionally a very time consuming and manual process. Information from multiple applications is utilized by Financial Aid Officers to manually verify and determine the financial aid eligibility based on rules established by the Department of Education.

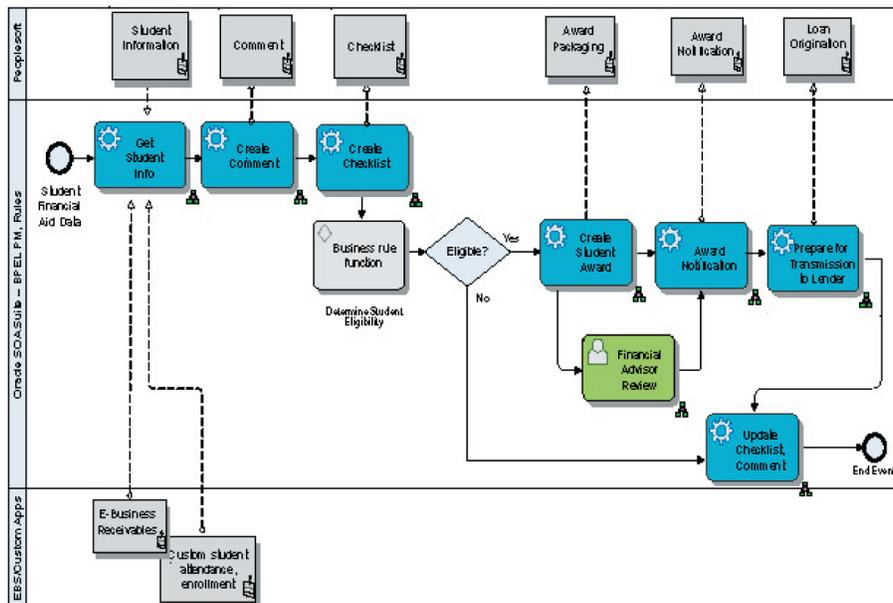
At a very high level, the Additional Funds financial aid certification process consisted of the following manual business steps:

Figure 1: Financial Aid Business Process



To automate the above processes, multiple components of Oracle Fusion Middleware were incorporated including: Oracle BPEL Process Manager, Oracle Rules Engine, and BPEL Human Workflow. The Oracle Rules Engine was used to determine the student eligibility and award amount. Oracle BPEL Process Manager was used to orchestrate the PeopleSoft services (Component Interfaces) and human workflow. The components were architected with the future in mind knowing this integration solution would be extended. The automated process is shown in Figure 2 below and the high-level architecture is depicted in Figure 3.

Figure 2: Automated Financial Process Overview



The Additional Funds process needed to evaluate students in a batch mode. To accomplish this requirement, a custom PeopleSoft Application Engine run control allows the Additional Funds BPEL process to be parameter-driven. This PeopleSoft Application Engine executes a PL/SQL procedure with the specified run control parameters. The PL/SQL procedure initiates the Additional Funds BPEL process.

The Additional Funds financial aid integration process starts with gathering the information required to determine a student's eligibility for receiving the additional loan funds. This student information (such as student budget info, term, other student awards, receivables, and student attendance) is gathered from Oracle E-Business Suite, PeopleSoft, and multiple custom applications using the database adapter and PeopleSoft Component Interfaces. This information is converted into a canonical format that is used throughout the remainder of the orchestration process.

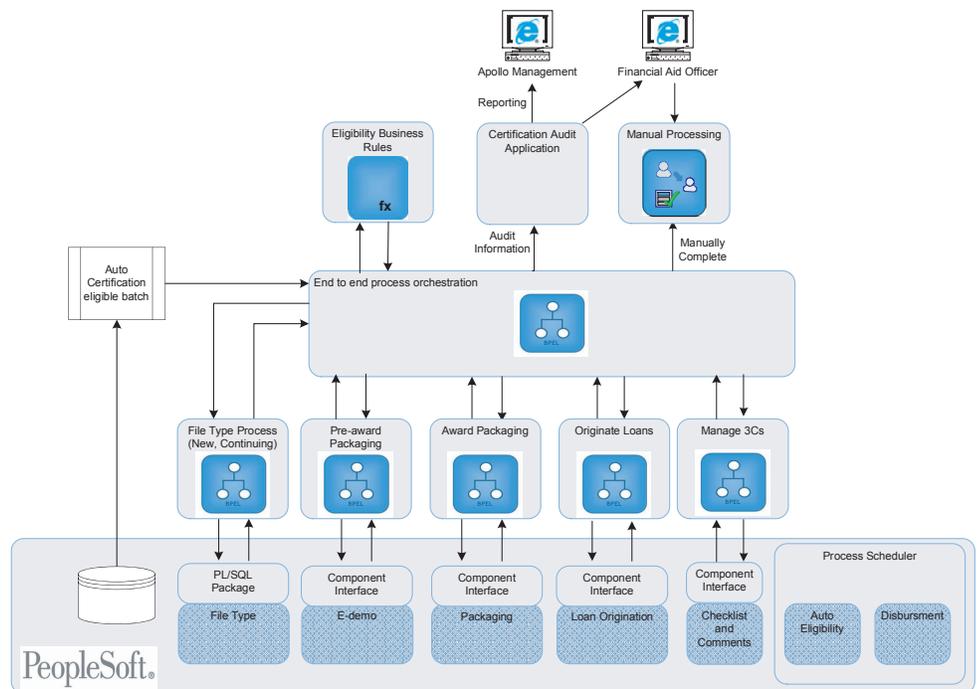
The rules that govern a student's eligibility for additional funds are dynamic and need to be quickly and easily modifiable. The Oracle Rules Engine was used to build a student eligibility rule set, containing 20+ rules, which provided the flexibility required by the business. The eligibility rule sets allow for the addition and updating of rules without having to change any BPEL processes and without any IT involvement. Once a student is determined to be eligible for additional loan funds by the eligibility rule sets, multiple areas of PeopleSoft have to be populated to complete the Additional Funds process.

The business logic in PeopleSoft was highly customized, utilizing PeopleSoft Component Interfaces to gain reuse of all Apollo custom business logic. The Component Interfaces prevent the need to duplicate any business logic in the BPEL processes. The integration with PeopleSoft component interfaces was done through PeopleSoft Java API and WSIF bindings to Oracle BPEL PM.

Sierra-Cedar's implementation of Oracle SOA Suite with PeopleSoft enabled us to meet our deadline to process 120,000 students and achieve a 600% ROI. Sierra-Cedar's complete understanding of our business needs and objectives combined with their quality people at every level ensured that this project was a complete success. They demonstrated a total commitment to this project and showed what a true partnership can accomplish.

Mark Forier
IT Director of Applications
Apollo Group, Inc.

Figure 3: Financial Aid Project Architecture



Handling Business and System Exceptions utilizing Sierra-Cedar's Exception Management System (EMS):

Sierra-Cedar's Exception Management System (EMS), which leverages Oracle Rules Engine, BPEL Process Manager, and Human Workflow was utilized to manage exceptions within the Additional Funds process. The Rules Engine was used to determine if an exception was business or system related and created the appropriate Human Workflow task.

Human Workflow tasks were dynamically routed using the Oracle Rules Engine to Worklist queues based on the type of business exception. This allowed Apollo Group to organize Financial Aid Officers into groups that had specific PeopleSoft expertise and as a result increased the efficiency of any manual steps required. The worklist groups also provided task security that satisfied regulations around the separation of duties.

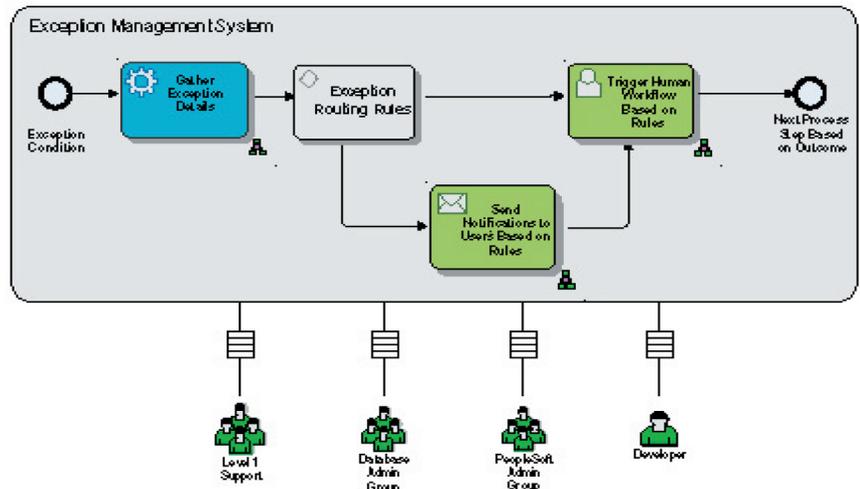
A custom Human Workflow task was created for managing business related exceptions.

This custom task was used by the Apollo Group Financial Aid Officers and contained all the information needed to continue the manual certification of a student loan. The task also dynamically created hyperlinks that took the user directly to the PeopleSoft page associated with that task's particular data issue.

Once a Financial Aid Officer received a task, they could either:

- a. **Fix the current issue and re-process student.**
This action closes the current Human Worklist task and re-runs the student starting at the beginning of the Additional Funds BPEL process.
- b. **Manually complete the process.** This action closes the Human Worklist task and then re-enters the BPEL process to update the student's PeopleSoft Checklists and Comments indicating the student as being completed manually.

Figure 4: Exception Management System



At Sierra-Cedar we build long term value for our customers leveraging our strong implementation expertise in PeopleSoft, Oracle E-Business Suite and Oracle Fusion Middleware. At Apollo Group we rapidly implemented Oracle SOA Suite in three months to automate the Financial Aid process and lay the foundation for Fusion.

Larry Fraize
Former AVP – Shared Technical Services
Sierra-Cedar

When the Additional Funds process encounters a system error (i.e. database is down, external system is not responding, etc.), the Oracle Rules Engine is used to determine the appropriate IT support group to examine the issue. A rule set with 10+ rules determines the routing and adds additional data based on the type of error.

When a system error occurs, a Human Workflow task is created and assigned to the IT support group. Once the system issue has been resolved the task allows the IT support person to terminate the current process, continue

after the BPEL scope that failed, retry the BPEL scope that failed, or restart the failed BPEL process from the beginning. Sierra-Cedar's EMS provided the flexibility that the Business and IT organizations required to handle exceptions quickly when system issues were resolved.

RESULTS AND BENEFITS

The automation of this process allowed Apollo Group to determine the Additional Funds eligibility for all potentially eligible students and ensure those funds were disbursed to the students. Apollo Group was able to provide their students with millions of dollars in additional financial aid assistance which would not have been feasible if these students were processed manually. Apollo Group achieved a 600% ROI within a four month time frame since it would have required over 150 additional personnel to process the loans in the same timeframe manually.

The solution created a framework of reusable services that will be used for further automation over the next few years, which will significantly reduce the cost of processing a student through the Financial Aid process. In addition, Sierra-Cedar's Exception Management System (EMS), which leverages Oracle Rules Engine, BPEL Process Manager, and Human Workflow, was implemented. The EMS will be utilized at an organization level for all future web services.

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