

## ITS Administrative Computing, Oracle/PeopleSoft Software Suite Strategic Plan 2008-2015

### 1. Introduction

The ABOR Strategic Area 3 and NAU Strategic Goal 7 call for continuous improvement to administrative effectiveness and organizational performance. Stable, supportable, functional and extendable administrative computing systems are necessary to meet this goal. NAU must continue to fund operational support for core HRMS, student, financial and data warehousing administrative systems while planning, funding and staffing systematic updates to these purchased packages. The next steps are to: adopt a planned, measured upgrade of the Oracle/PeopleSoft HRMS, payroll, student, and campus community systems; review the in-place CGI/Advantage financial, planning and budgeting systems in light of the vendor's retreat from the higher education market sector; complete and extend the multi-vendor data warehousing system; and to build and maintain strategic alliances across Arizona Higher Education.

### 2. IT Strategic Planning Climate

NAU faces multiple issues affecting the administrative computing environment. The most significant three affecting Information Technology Services and NAU business units are:

- a. The 12/2009 end-of-life of the current Oracle/PeopleSoft Version 8.9 software suites, including HR/Payroll, Student Services and Campus Community Systems.

This is a vendor-driven issue.

For their licensed products, Oracle/PeopleSoft provides a five-year Premium support period following the initial, or General Availability date. After this time three additional years of support may be purchased at an increased fee. Prior to 2007/Q4 Oracle held the position that customers needed to complete an extraordinarily expensive, significant technology upgrade during the 2010-2012 time frame. Because of customer demands and technical issues this onerous requirement has been lifted. Now routine support upgrades through four future release cycles of applicants based in the current technology is likely. Historically, NAU has taken advantage of the functional and technical upgrades provided by each alternate significant release, and this strategic plan recommends continuing this approach. Refer to Figure 1, NAU Along the Oracle/PeopleSoft Path to Fusion, for the timing and relationships among the releases, potential release paths, and when upgrades must be completed to avoid additional support fees.

- b. The shortcomings, perceived and actual, of the installed CGI/Advantage 3.5 Financial suite in light of emerging NAU business needs and vendor's retreat from the higher education market sector.

This is a vendor-driven issue.

CGI has no existing or announced functionality to support grant pre-award or effort certification processes. Conversations between CGI and key financial system

stakeholders resulted in vendor acknowledgement that they are not seeking new customers in the higher education sector, focusing instead on state and local government and the K-12 sectors. Until a future release, no earlier than December 2008, local modifications are required so the system will function beyond Microsoft based platforms and older versions of the Microsoft's IE browser. Vendor supplied real-time interface capabilities with other software suites is cumbersome and limited. Anecdotally the currently installed suite lacks necessary and desired functionality. With vendor acknowledgement there will be no higher-education-specific extensions to the Advantage package, this strategic plan calls for a formal review of the current system's strengths, shortcomings and potentials. Following this fact gathering, there should be a comparison of current functionality with similar information about other vendor packages, open source offerings, and of the potential for local extension of the installed financial system. This review will lead to the recommendation to extend, replace or support as-is the in-place financial package.

- c. Fiscal issues including: multi-year project funding, key personnel staffing, aging and training, and technical and business unit salaries compared to the cost-of-living in Flagstaff.

These are local issues.

Significant upgrades to acquired vendor packages usually occur at times that are not of NAU's choosing. During upgrade planning the vendor's schedule is matched with NAU needs and business cycles. Commonly, an upgrade starts in one fiscal year and completes in another. NAU staffs technicians at the optimum level for day-to-day support of in-place systems and uses outside consultants to back fill needs during upgrades. The current business model allows for one-year-at-a-time funding. This is an increased risk factor for outside consulting firms, and generally results in increased costs as vendors seek to offset that higher risk with higher prices.

In the current global economy every firm seeks the best available human resources at the lowest cost. NAU, because of our long-term use of the Oracle/PeopleSoft products lines and significantly lower than market salaries, is seen as fertile ground by peer institutions and headhunters. This affects NAU ITS and business units. Experience since 2005/Q3 shows an average loss of one Senior Business Analyst and Senior Programmer per quarter to other institutions or the private sector. Key to these losses is the extraordinary institutional knowledge and technical experience in NAU-specific modifications that leaves with the person. Additionally, the in-place teams are aging, with 50% of the Administrative Computing technical resources either eligible to retire today or within the next five years.

Staff turnover is highest in the ranks supporting the Oracle/PeopleSoft vendor packages used by NAU students, faculty and administrative staff. ABOR reports in their October 2007 Personnel Report (published in October 2008) that NAU is experiencing an average staff turnover of 19.0%, the highest of any ABOR group. Since 2005, ITS Administrative Computing has experienced a loss rate of five senior ITS technicians per year, a 15%

annual turnover loss rate based upon full staffing. A review of exit interviews completed within ITS Administrative Computing since 2005/Q4 shows that salary differential is the primary reason for leaving the University, with the opportunity for advancement a distance second. Most commonly noted is the differential between the cost of living in Flagstaff and the significantly under-market salaries offered by NAU. This salary differential makes attracting new and experienced/senior human resources difficult. Experience shows that most senior technical positions are being filled by internal candidates with a domino effect resulting, eventually, in filling a lower position with an intern, new NAU graduate or a junior outside candidate. The marketplace demands that key departments such as ITS and Enrollment Management, EM, must offer higher salaries to attract Oracle/PeopleSoft technical staff. There is little or no increase in central funding to support this need. The net effect is that fewer key staff members are available to meet expanding business needs (e.g. Sponsored Projects Effort Reporting). When emergency projects arise it causes delays in ongoing essential projects and pushes real needs off the calendar. An example is the emergency 2008/Jan needs for the Yuma academic restructuring intersecting with the essential needs of the "Pledge Tuition" project, the HR and Financial components of the NorthernSTAR Budget System project, two routine LOUIE Update & Fix cycles (Tax Update 07-F and U&F 08-A, and the real needs for ITS to upgrade the database infrastructure and Oracle/PeopleSoft tool set.

### **3. Strategic Areas, Goals, and Action Plans**

#### **a. Area #3 Administrative Effectiveness**

The primary goals of this strategic plan are to provide continued, stable and predictable administrative computing support at minimum cost. Since the mid-1990s NAU has chosen to acquire and tailor vendor products rather than open-source or locally develop core administrative applications. The experience with the Oracle/PeopleSoft HRMS, Student Systems and Campus Community, with the CGI/Advantage financial suites and the Informatica+SAP/Business Objects data warehouse corroborates the promise that acquired vendor products can provide "as-delivered" solutions meeting the basic functional needs of university administration.

In general, acquired vendor packages limit year-over-year operational cost increases and facilitate predictable year-over-year planning and budgeting. Additionally, the practice shifts the cost of system development and support from a fully variable to a partially fixed/partially variable model. While the annual cost of the installed basic vendor packages and suites are predictable and fixed, the development of local modifications, extensions of technology to support ancillary systems in business units, and the costs of human capital replacement and training are variable. Significantly most variable costs are human resource costs.

The challenge that parallels the promise of acquired vendor products is to assure ongoing funding to maintain, over time, distributed business unit and central administrative technical capacity necessary to extend the base applications as needed to support NAU business processes.

There has been a general increase in use of vendor and ERP products across all market sectors. In parallel, the ERP market is coalescing. With fewer vendors and products the variable cost of technical staffing is increasing year-over-year. These increases affect all participants using vendor and ERP software, including NAU business units, ITS and our vendor/consulting partners. It is beyond the scope of this strategic plan to complete a complex cost analysis of the real net dollar differential for human resources among vendor, open-source and locally-developed systems. It is generally accepted that using acquired vendor software increases fixed costs and reduces variable costs after one-time initial acquisition, installation and licensing fees.

NAU has absorbed most of these one-time initial fees, and this strategic plan supports continued minimizing the variable human resource costs associated with administrative computing.

- **Strategic Goal #1: Operate and Maintain Highly Effective and Efficient University HR and Student Admin Systems: Currently Oracle/PeopleSoft HRMS, Student and Campus Community Systems**

NAU has moderately tailored the base applications to meet locally identified and justified business needs. A committee review, acceptance and prioritization process is in-place and required before changes are applied.

In the balance, the acquisition and use of vendor packages to support these essential administrative areas has resulted in lower total costs than would have been experienced by other strategies. Within the scope of ABOR institutions, Moran Consulting estimated that the market-driven transfer of staff and resulted in significantly reduced cost to ABOR and the State of Arizona when ASU acquired and installed their Oracle/PeopleSoft suite. Charles Moran noted that ASU (and by extension the taxpayers and students) saved, "...somewhere between \$10 million and \$25 million." This evaluation of the realized potential of institutional collaboration (even when informal and market-based rather than planned) supports continued use of acquired vendor products.

- **Action Plan #1:** Initiate a measured and systematic upgrade of the Oracle/PeopleSoft HR/Payroll, Student and Campus Community Systems; moving from version 8.9 to 9.1.
  - The preliminary one-time funding estimate for this effort is \$2.4M. This is based upon the reported expenditures during the 2005-2006 8.9 Upgrade effort. Final budget estimates are pending the vendor release of Version 9.1 documentation, and review and impact analysis by NAU business units. Informal budget and project planning started during calendar 2007/Q4 with expenditures planned to start in 2008/Q2-Q3 and complete in 2009/Q3-Q4.

- **Strategic Goal #2: Operate and Maintain a Highly Effective and Efficient University Financial Systems: Currently CGI/Advantage System**

NAU has made few extensions to the CGI/Advantage base application to meet locally identified and justified business needs. A committee review, acceptance and prioritization process is in-place and required before changes are applied.

As noted earlier, the vendor will not enhance or modify the system to meet needs specific to the higher education market sector. The current release of this vendor package may not meet the long-term or emerging needs of NAU. Business units continue to build complimentary and ancillary systems to work around shortcomings. Emerging needs include addressing lacking features to support grant pre-award and effort reporting processes.

- **Action Plan #1:** Direct a thorough evaluation of the current CGI/Advantage financial system's performance and potential to meet NAU's expanding and long term needs. In light of CGI's retreat from the higher education market and to set future strategic direction this requires a critical evaluation of the commercial financial system product lines in the marketplace, of emerging open source offerings, and of the potential for local development.
  - The estimated cost of this effort is \$160K; comprising of \$80K new and \$80K current funds. Informal budget building started during 2007/Q4 with a decision point in 2009/Q3.
  
- **Strategic Goal #3: Operate and Maintain a Highly Effective and Efficient University Data Warehouse and Reporting Service: Currently Informatica and SAP/Business Objects Systems**

The NAU Data Warehouse has become mission-critical. The campus has seen the deployment of the Student Information Warehouse (2003-2005) and Financial Warehouse (2005-2007). During the current FY these will be joined by the Budget Warehouse (projected 2008/Q2) and a preliminary HR Information Warehouse (projected 2008/Q2-Q4). Routinely over a thousand reports a day are generated by business and central administrative users. These reports are run in support of significant, critical, necessary and routine business processes; examples include: Student Census, Budgeting, Status of Funds, Grant Reporting, Daily Enrollment Reporting, Application Admission Statistics, Class Schedules, Intercollegiate Athletics Enrollment Certification, etc.

A change management committee review, acceptance and prioritization process is in-place. However since 2007/Q3, the demand for mission critical work with overriding priority set by senior executives, ABOR, and the State has rendered end-user committee's efforts moot.

The capabilities and needs of the in-place systems are over-utilizing the ITS Information Resource Management team, IRM, the primary technical support for the data warehouse. Necessary work is being deferred, a situation likely to be aggravated by deployment of the Budget and HR Warehouses. Business Units are being tasked to develop products

for deployment across the campus, and although such distribution is part of the IRM charter, there is not enough time or resources to train these developers in best practices or to insure proper business rules are followed. Shortcomings likely exist in change management procedures, records retention, information physical and logical security, etc.

- **Action Plan #1:** ITS should evaluate realigning IRM resources to assure that effective database and change management support is provided the data warehouse applications. This support includes physical management, performance tuning, access control management, change management processes and verification. This plan is to minimize total costs, maximize system performance, address emerging audit concerns, and assure as much end-user data integrity and security as practical.
  - The cost of this evaluation is a part of routine business processing and no additional central funding is required.
- **Action Plan #2:** ITS should seek funding for two new, permanent data warehouse programmers to assure that the emerging warehouses and products are efficiently built and supported, and to provide on-going training and support to business units seeking to grow and maintain their own data warehouse resources.
  - Funding a Data Warehouse Programmer, Senior will require \$70,000 plus ERE.
  - Funding a Data Warehouse Analyst will require \$65,000 plus ERE.
- **Strategic Goal #4: Bi-Annual Formal System Review of All Administrative Systems**

As described earlier, the marketplace has seen a general increase in use of vendor, ERP and data warehousing products across all market sectors and a widespread market coalescing phase is ongoing. These events affect the entire University. Smaller vendors are swallowed up by larger ones, and there are fewer significant firms and products for any given sector or business need. This coalescence affects applications, operating systems, databases, infrastructure components, and most significantly - technical staff.

NAU supports a significantly distributed IT model. The University may gain financial benefit from the economies of scale found by sharing software development and support staff, shared or site licensing, transfers of unused licenses, common-use based on common-need acquisition and development, or other events. There is no enterprise inventory of ancillary or complimentary software systems in use, on the shelf or in development. There is no enterprise inventory of skill sets available or needed to support departmental or central administrative computing.

The goal of this formal review is to routinely identify the ongoing operational costs, the opportunities to share and the requirements to fundamentally change those systems in reaction to changes in the business, marketplace and economic factors facing NAU.

- **Action Plan #1:** Establish a formal bi-annual review process to provide a continual and cyclic evaluation of installed administrative computing systems. This review should include:
  1. Changes in system functionality and technology
  2. Changes in the skill sets of NAU technical resources
  3. Direction and goals of ABOR and NAU
  4. Goals and technical abilities of NAU business units and ITS
  5. Ancillary systems developed, acquired and discontinued by NAU business units
  6. Direction software vendors are moving their product lines
  7. Changes and trends in the acquired software marketplace
  8. Economics of the State of Arizona and NAU
  - The estimated cost of this effort is \$20K per year. This should be covered by existing funds.

**b. Area #7 IT Strategic Alliances**

NAU has a long-standing strategic alliance with Oracle/PeopleSoft that should be supported. This agreement calls for NAU to provide early feedback on releases of student and campus community facing systems in exchange for decreases in annual vendor support costs. Additionally this agreement leads to NAU being classified by Oracle/PeopleSoft as a "critical account" when installing vendor-supplied upgrades. This classification, in turn, leads to increased support and attention to institutional needs during these critical periods.

This plan will put NAU more near the leading edge and increase the real-dollar value of the alliance by increasing the level of support provided by the vendor.

Note the significant dollar value Moran Consulting estimate of the NAU staff, software and technology transferred to ASU in support of their Oracle/PeopleSoft installation efforts. This value was in spite of the collaboration and alliances being market-driven, not because of a strategic alliance among friends. One is left to wonder the value that full cooperation could yield an ASU-NAU-UofA alliance.

- **Strategic Goal #1: Maintain Strong Strategic Alliances with Other Arizona Universities**
  1. **Action Plan #1:** Continue to maintain strong cooperation with ASU on the Oracle/PeopleSoft system. Determine if going to version 9.1 together would benefit both universities.

2. **Action Plan #2:** Watch the efforts at UofA as they develop possible plans to move to the Oracle/PeopleSoft system(s). If they do make the decision to install parallel system, move to establish an MOU similar to the one NAU had with ASU on how collaboration efforts will be handled and funded.
3. **Action Plan #3:** Watch for other opportunities to build strategic alliances with our fellow Arizona universities on other administrative systems. Begin talks about a future direction for universities financial systems
  - The estimated cost of this effort is \$15K per year, covered by existing funds.

#### 4. Conclusion

The use of acquired vendor software packages to support NAU administrative business processes continues to be a cost effective way to meet business needs. To continue meeting these needs and assure the best available products are acquired and installed, the University should:

- Fund and support a measured, multi-year upgrade of the Oracle/PeopleSoft HR/Payroll, Student and Campus Community Systems from version 8.9 to 9.1 to promote institutional effectiveness in HRMS, Student Services and Campus Community areas until 2014.
- Direct a fact-based evaluation of the current financial system's performance and potential to meet NAU's long term needs to validate current products or set future strategic direction. Included in this is a critical evaluation of the commercial financial system product lines in the marketplace, emerging open source offerings, and the potentials of local development.
- Evaluate the benefits of realigning IRM staff. Specifically the potential to shift two database staff from IRM to the CCS/DBA team and up-filling IRM with additional customer-side technicians.
- Establish a formal bi-annual review process supporting a continual and cyclic evaluation of all administrative computing systems and support staff. These efforts are to set the stage for long-term stability and cost management.
- Support and maintain strong strategic alliances across Arizona Higher Education.

The new-money cost of the efforts to achieve these goals is:

- FY2008-2009 (July 1, 2008 – June 30, 2009) - \$450K in one-time funds, \$135K plus 2 FTE ERE on-going funds
  - 8.9 to 9.1 Upgrade - \$390K in one-time funds
  - Financial Software Review - \$60K in one-time funds
  - Bi-Annual Review Process – No new funds
  - IRM Staffing Changes - \$135K plus 2 FTE ERE permanent, on-going funds
  - Strategic Alliances – No new funds
- FY2009-2010 (July 1, 2009 – June 30, 2010) - \$1,520K in one-time funds
  - 8.9 to 9.1 Upgrade - \$1,500K in one-time funds

- Financial Software Review – \$20K in one-time funds
  - Bi-Annual Review Process – No new funds
  - IRM Staffing Changes – Continued funding of 2 FTE approved in FY2008-2009
  - Strategic Alliances – No new funds
- FY2010-2011 (July 1, 2010 – June 30, 2011) - \$500K in one-time funds (depending upon decisions from Financial Software Review)
    - 8.9 to 9.1 Upgrade - \$500K in one-time funds
    - Financial Software Review – Depends upon FY2008-2010 conclusions
    - Bi-Annual Review Process – No new funds
    - IRM Staffing Changes – Continued funding of 2 FTE approved in FY2008-2009
    - Strategic Alliances – No new funds

## 5. Related Plans and References

### a. Link to the NAU Strategic Plan

The Strategic Planning Council, with representatives from all campus communities, leads the university strategic planning process. Their reports and plans are available from the following URL:

<http://www4.nau.edu/pair/UniversityPlanning/UniversityPlanning.asp>

### b. Link to NAU ITS Strategic Plan

[http://www4.nau.edu/its/home/docs/NAU\\_IT\\_Strategic\\_Plan\\_2007.doc](http://www4.nau.edu/its/home/docs/NAU_IT_Strategic_Plan_2007.doc)

### c. References

1. A document used during development of this plan is the Oracle/PeopleSoft Higher Education User Group, HEUG, Whitepaper, "A Deliberate Approach for Leveraging Applications Unlimited", available from the organizational web site at: [http://www.heug.org/index.php?module=sthtml&op=load&sid=s1\\_001](http://www.heug.org/index.php?module=sthtml&op=load&sid=s1_001) – NOTE: A HEUG membership account is required before viewing the information at this site. University employees or ABOR members can self-register and create a personal account from the HEUG website noted.
2. Documents used during development of this plan come from the Oracle Customer Connection, various whitepapers and resources available from the corporate web site at: <https://www.peoplesoft.com/corp/en/login.jsp> - NOTE: A Customer Connection account must be created before viewing most of the key information at this site. NAU employees can contact Patrick Benson, Director of Administrative Computing, for account creation.
3. A very short history of the installed administrative computing software inventory:
  - a) Products from PeopleSoft were acquired for HR and Payroll in the 1990s. During 2001-2003, the PeopleSoft Student Systems and Campus Community suites were

added to the inventory. Oracle purchased PeopleSoft via a hostile takeover in 2002-2004. NAU has migrated from version 5.x to the current 8.9 through a series of efforts, the latest concluding in 2006/Oct.

- b) The AMS/CUFS Financial package was installed at NAU during the in 1989-1991 period. The vendor rebranded the package as AMS/Advantage in the later 1990s. NAU completed an upgrade from CUFS to Advantage 2.0 in 1999. AMS was purchased by CGI in 2005. In late 2006 CGI dropped the AMS name from the product line. NAU completed an Advantage 2.0 to 3.5 Upgrade in 2006/May. A routine upgrade to Version 3.7 is planning, with work set for 2008/Q2-4. CGI no longer pursues higher education sector customers (as of Jan 15, 2008).
- c) The data warehouse, comprising products from Informatica and SAP/Business Objects, was first deployed in 2003, in parallel with the addition of the PeopleSoft Student and Campus Community suites. In 2006 a financial warehouse was deployed. During 2008/Q2, a Budget and HR/Payroll warehouse be deployed in support of the SAP/OutlookSoft Budget and Planning System project.
- d) During 2007/Q4, both the Business Objects and OutlookSoft vendors were acquired by SAP. This vendor is expressing interest in expanding into the higher education market sector as a direct competitor with Oracle/PeopleSoft.

The arrows are the migration paths most likely to provide continued, cost effective support for the mission critical Oracle/PeopleSoft HR, payroll, student services and the campus community suites now supported by ITS Administrative Computing. This strategic plan calls for funding the first of these efforts, a migration from the current release level, Oracle/PeopleSoft version 8.9, to version 9.1. This release is tentatively scheduled to be generally available from Oracle late in calendar year 2008. A future upgrade, from version 9.1 to 9.3, anticipated by the vendor and higher education market sector, will provide support through 2014, with extensions through 2019 possible.

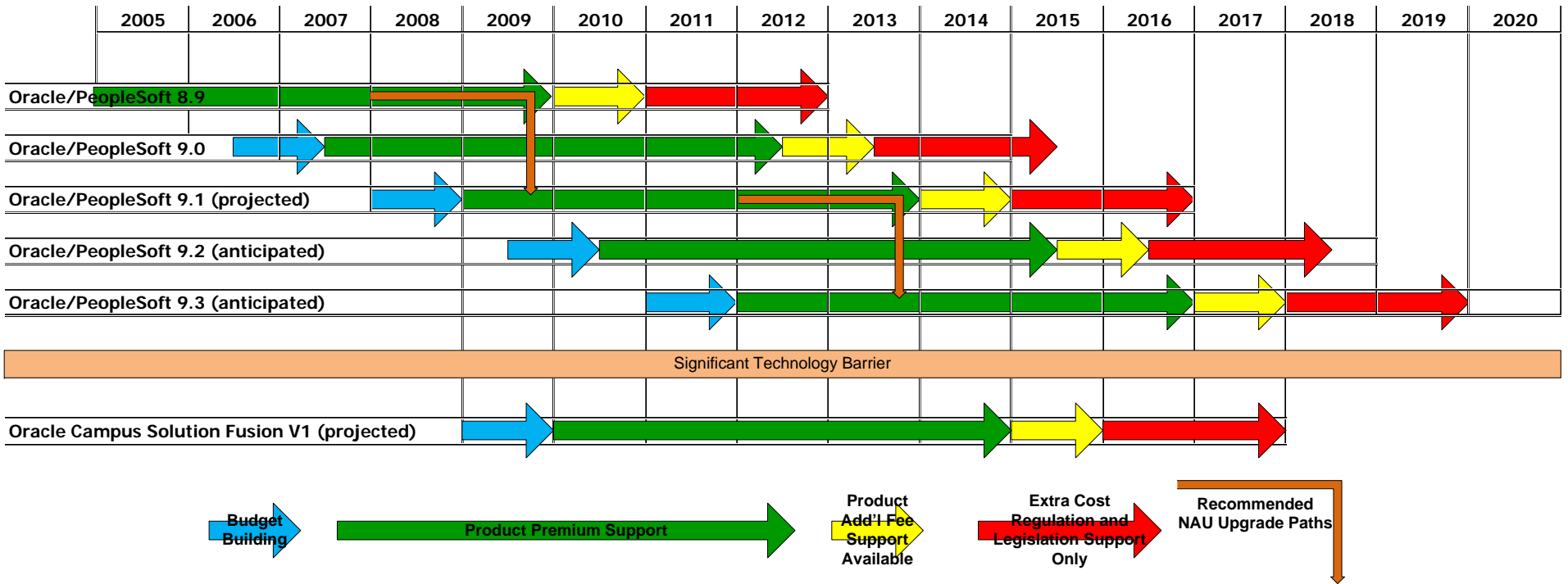


Figure 1 – NAU Along the Oracle/PeopleSoft Path to Fusion