NASPE Communication Awards Nomination March 2009

Submission Title: Submission Category:	Employee Self Service Gateway Electronic Website
State:	Utah
Contact Person:	Jean Mills-Barber
	Deputy Director
	Department of Human Resource Management
	Rm 2120, PO Box 141531, State Office Building
	SLC UT 84114-1531
	(801) 538-3076 - Office
	(801) 538-3081 - Fax
	jeanmills@utah.gov

1) Brief description of the submission.

The Employee Self Service Gateway (Gateway) is a browser-based tool that allows state employees to access, collaborate with, make decisions utilizing, and take action on a wide variety of human resource-related information. Employees are able to use the Gateway regardless of their virtual location, departmental affiliations, the location of the desired information, or the format of the information. The Gateway provides a 24/7 "one stop" location where the Department of Human Resource Management (DHRM) can communicate important information, in real time, to employees, employees can access accurate human resource information, quickly get answers to their questions, and complete necessary human resource transactions. Additionally, the website allows employees to manage their multiple employment related logins and passwords using a single Gateway login and password.

Prior to development of the website, a business plan was developed by DHRM to determine need, feasibility and cost effectiveness. As part of the business case for the development of the Gateway, it was determined that an off the shelf system would cost the State of Utah in excess of one million dollars as well as costly maintenance contracts. The decision was made to develop the gateway in-house, using the open source tool JetSpeed 2 that runs on Linux. The in-house system was developed for nearly a tenth of the cost and since development was handled in house, the gateway requires no maintenance contracts. The website consists of a variety of "portlets" that allow information to be easily linked, categorized, searched, and accessed. Currently, the Gateway is configured with nine user information tabs:

• *Home Page*: This tab contains general information, state-wide news and announcements, weather, traffic, local news links, and access to the state employee newsletter.

- *My Page*: This tab includes information most employees use frequently including access to the state's health insurance provider, retirement systems, employee discounts, and commonly used HR forms.
- *Benefits*: This section of the website provides specific and detailed information regarding all benefits including health, dental, life insurance, all types of leave, and flexible reimbursement accounts.
- *Training*: This tab includes information regarding state-wide trainings such as the Certified Public Manager and short courses offered by the Utah Leadership Institute. Employees can view course descriptions, register for courses, and track their individual training records using this tab.
- *Employment*: The employment tab houses information on compensation and classification such as pay plans, benchmark rankings, market comparability reports, job descriptions, employment opportunities within the State and the Utah Individual Performance Management system (UPM).
- Useful Tools: This tab consists of commonly used tools including the DHRM employee directory, state code, human resource rules, employee handbook, a calculator, dictionary and thesaurus.
- Management Tools: This tab is available only to supervisors, managers, and human resource staff. The management tab provides ready access to tools such as the on-boarding checklist, exiting state employment checklist, FMLA forms, reduction-in-force information, template letters, and the state's performance management system.
- *DHRM*: This tab is designed specifically for human resource employees. It provides easy access to key human resource information including the executive director's blog, HR2HR newsletter, policies and procedures, human resource rules, forms, and human resource training opportunities.
- *Index*: The index tab allows the user to find desired information quickly and easily by simply looking up the topic and clicking the associated link which takes the user directly the correct tab.
- *Quick Links*: Located on the left navigation bar of each page are quick links to websites frequently used by employees such as; payroll to enter time, health insurance, retirement, Utah.gov, State phone directory, State email and HR and IT online help.

2) How long has the submission been in existence?

The Gateway was launched on July 1, 2008. The site was launched two weeks early and under budget.

3) Why was the submission created?

DHRM recognized that the business process and flow of human resource information within the state workforce was less than optimal. In particular, the Gateway was created in order to address the following identified issues:

<u>No "One Stop Access" for state employees</u>: There was no "one stop access" to which a State of Utah employee could go to find employee-related information. State employees wishing to check or make changes to personal information such as payroll, retirement, benefits, internal job postings, IT help information, etc. had to do so by going to multiple web sites and/or submitting paper forms. Not having "one stop access" meant employees had to be very aware of the various organizations and websites for each of their services and benefits, and know the points of contact for each.

• <u>Multiple employee logins and authentications</u>: In addition to the necessity for an employee to go to multiple websites to find employee-related

information, when an employee navigated from one website to another they were required to re-enter their authentication (login) information. For example, after an employee entered a user ID and password to find a medical provider in the Public Employee Health Program system, a different login ID and password was required to check his/her flexible spending account balance. Additionally, each provider had different rules for user IDs and passwords. State employees had seven different provider sites that housed key information, each with a different login and password.

• <u>No single life change update mechanism</u>: Previously, if an employee had a life changing event such as an address change or marriage, the employee had to notify each organization separately of that change. This resulted in a loss of productivity and an increased amount of out-of-date information as employees often forgot to update with every provider.

• <u>Increased burden on HR staff to assist employees in accessing</u> <u>information</u>: Because there was no single point for employees to access key information, employees would default to the HR staff for routine information such as address change forms, health provider lists and payroll forms, increasing the workload on the HR staff.

To illustrate the challenge faced by employees when trying to navigate the various sites and gather information, the project team shared the experience of a relatively new employee who needed to make arrangements to have her wisdom teeth removed. The process to determine her coverage, find a provider, determine her remaining benefit balance, and flexible spending account information took her 55 minutes over four days, required her to visit five websites with four different logins and passwords, a call to the dental insurance provider and two calls to her HR representative.

4) How does this submission support the goals and objectives of your agenda/department?

Implementation of the Gateway supports DHRM's three strategic objectives in the following ways:

• Increase customer service: The Gateway has increased customer service for both staff and managers. The website provides customers with quick and easy access to human resource information that previously was only available during business hours by contacting an HR representative.

• Increase efficiency: Creating a "one stop shop" for all human resource information allows employees to access more information in less time resulting in increased efficiency. Additionally, consolidating and securing seven logins and passwords into one has helped to reduce the amount of time employees spend trying to remember logins and passwords or resetting these when forgotten.

• Decrease liability: Providing quick and easy access to consistent information such as the state code, human resource rules, or FMLA requirements allows both staff and managers to be more informed and make better decisions. Being more informed and making better decisions helps to decrease the state's liability.

5) Have you been able to measure the effectiveness of this submission? If so, how?

Since the implementation date, DHRM has monitored the usage of the Gateway using the Google Analytics Dashboard. During the period of July 1 and December 1, 2008, the site received 25,572 visitors. These visitors accounted for 77,563 visits to the

site. Of particular importance for DHRM was the percentage of returning visitors. Returning visitors accounted for 69.63% of the visits made during this time period. This data indicates that users have found value in the site and have chosen to make return visits. Data for the period of Jan 23 to February 22, 2009 indicate a continuation of this trend with 7,987 visitors and 17,650 visits. Returning visitors constituted 75.17% of the visits. The Gateway receives up to 5000 hits a day from State employees which indicates a significant increase in the efficient dissemination of information.

Additionally, the project team repeated the employee situation discussed in item #3 with an employee using the Gateway. The employee was able to access the necessary information in eight minutes, without having to call an HR representative, a significant improvement.



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	Agency Intranet and Help Desk To access your agency's intranet, use the link that is listed. Please note that not all agencies have their own intranet. (If nothing is shown below then your agency may not have an agency intranet) http://www.dhrm.utah.gov/hr Benefits and Employee Profile Go to My PEHP to verify health plans, review claim status and your PEHP mailing address. At My URS you can check how many years of service Utah Retirement Systems has on record for you or what investment options are available on your savings plans.	
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IT Help Desk GroupWise Web Access Utah Commuter Link	Utah Code Utah Code HR Section	Please use the following materials to recruit new employees:
Utah Legislature Homepage	On-Boarding Checklist	Interviewing Guidelines
	Socialization is an important part of a new employee orientation process. Creating a positive first impression of the workplace, making an employee feel welcomed and valued, and creating a clear understanding of performance expectations will maximize the success of the organization.	Recruitment Checklist Reference Release Reference Checking Job Interview Resource
	Managers and Supervisors should begin planning for an employees arrival, using the New	Recognition and Rewards
	Hire Checklist as soon as a candidate has accepted a job offer. This tool is used to ensure that all appropriate steps are taken to maximize the efficiency of the employees first day and their orientation into the organization.	▶ 2008
	On-Boarding Checklist	Exiting State Employment
	Employment Letters	If you are considering leaving State employment, please review the following material:
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	Family & Medical Leave Act	See the Benefits tab to find information about continuing benefits after State employment.
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Department of Human Resource Administration



Employee Gateway

Business Case

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1.0 Executive Summary

The Department of Human Resource Management (DHRM) has a goal to deliver human resource information, through a "gateway" to State employees in a more effective and efficient manner than is currently available. To examine alternatives for such a too, DHRM organized a team to investigate ways to understand the business needs, identify best practices and solutions, and analyze alternatives for achieving the goal. This team consisted of representatives from the State and State-affiliated organizations that provide human resource services to State employees.

The type of information that these organizations desire to share with employees includes information related to their jobs such as job benefits, retirement plans, job listings, payroll, and provisioning. While these are the primary needs from DHRM and affiliated organizations, the team recognizes that other areas of State government may have needs, for, and could benefit tremendously from, a gateway type of a tool; the team has focused only on requirements and needs from DHRM and the other related organizations.

1.1. The Problem with the Current Employee Information Distribution Environment

Currently, State of Utah employees have seven disparate web sites for finding information related to their medical benefits, retirement plan, and payroll, These websites each have a different set of requirements for user IDs and passwords. There is no automated mechanism in place for provisioning. The processes an employee has to go through to find information results in the following problems:

- Loss of productivity difficulty finding necessary information to utilize benefits means that the time employees take to find this information cuts into their productivity at work
- Decreased of job satisfaction employees become frustrated trying to find information and may not be able to fully realize and utilize their state benefits, resulting in a decrease in their satisfaction with being a state employee

1.2. The Characteristics and Benefits of the Desired Employee Information Distribution Environment

The desired employee information distribution environment includes the following characteristics:

- Accommodation and support of the lifecycle of employment with the state, including items such as applying for a job with the state, being provisioned to perform a job, accessing benefit information, and exiting state employment.
- A mechanism that provides easy access to information so that productivity and job satisfaction are maximized.

Benefits include increased productivity as employees will spend less time hunting down information, and increased job satisfaction as they will find it easy to take advantage of benefits and opportunities available to them.



1.2.1. Business Goals and Requirements

The business goals and requirements of a gateway solution include:

- Providing a mechanism that reduces employee time spent searching for information throughout the lifecycle of their employment with the State
- Provide a higher quality of information that helps employees to make decisions without utilizing additional resource time to answer questions
- Provide current levels of system support without increasing additional funding.
- Enable provisioning of employee equipment through effective workflow processes.
- Be browser-based and scalable to adapt to various sizes of communities of interest
- Is secure and respects all security requirements

1.3. Alternatives Analysis

1.3.1. Commercial Off-the-shelf versus Open Source

The alternatives for a gateway solution include a commercial off-the-shelf (COTS) solution, or an open source solution. A "build" option was not even examined in the analysis because of the tremendous number of solutions available to leverage through the commercial and open source markets. The analysis between the two options demonstrates that there are greater benefits at a lesser cost to implementing an open source solution. An open source solution provides greater flexibility and more functionality for a lower cost (approximately \$230K), compared to a COTS solution (upwards of \$500K).

1.4. Recommendations

Based on the analysis conducted, the team recommends implementation of an open source gateway solution.

2.0 Introduction 2.1. Background

While the population of Utah is growing rapidly the Governor has focused on holding government growth, resulting in a decrease in the ratio of State employees to the population served. This demands that State employees be more productive and efficient in their work. This change in ratio and demand for productivity is a demonstration of the Governor's Governance priority.

Employees need consistent information to make routine decisions, information from different sources to make strategic decisions, the ability to complete work and employment activities online, and the ability to access information from multiple functional areas to complete their work activities.

In order to enable State employees to achieve the increased levels of productivity and efficiency, the State of Utah needs to provide processes and management tools to maximize and facilitate these goals. A "Gateway" is such a mechanism.



2.2. Methodology

To examine these needs and possible solutions, DHRM has organized a cross-functional team to assess the current needs and business value of an investment in the acquisition and implementation of a web-based gateway for employee access to cross-functional critical business information.

The methodology utilized by the team consists of:

- Examining and assessing the current environment
- Understanding business needs
- Researching best practices
- Defining a desired future environment
- Making recommendations

The remainder of this document will provide information gathered through each of the phases listed above.

3.0 What is a "Gateway"?

The team decided that it first needed to understand how a "gateway" benefits an organization. They did some examination of research on "gateways" and the benefits they provide. This information is provided in the remainder of this section.

A Gateway is a browser-based tool that allows business workers to gain access to, collaborate with, make decisions utilizing, and take action on, a wide variety of business-related information; regardless of the user's virtual location or departmental affiliations, the location of the information, or the format in which the information is stored. A gateway creates the central location where navigation services are available for users to find information, launch relevant tools, interact with business information, identify collaborators, share knowledge, and make decisions. A Gateway has several characteristics which can be leveraged to increase productivity and collaboration. These include:

- A consistent organizational view of information
- Information organization and search capabilities
- Direct access to knowledge and resources
- Direct links to reports, analysis, and queries
- Direct links to relevant data and business experts
- Individual identity and personalized access to content

4.0 What Can a Gateway do for the State of Utah? 4.1. Support Communities of Interest

The State of Utah has many communities of interest that provide or facilitate providing services to the citizens of Utah. These communities of interest may or may not have effective mechanisms to organize and share information within their communities. A community of interest can be as broad



as the entire population of employees of the State of Utah or as narrow as a small task force working on a short-term study. Examples of communities of interest in the state include:

- All State employees (e.g. Governor's Office notifications)
- Single agency employees (e.g. information relevant only to UDOT employees)
- Functional business areas within an agency (e.g. the business licensing function of Commerce)
- Functional business areas across agencies (e.g. eligibility function shared by DWS, DHS, DoH)
- Functional business areas among agencies and agency partners (e.g. employee benefits which involves DHRM, Finance, PEHP, URS)
- Any combination of business needs, including ad-hoc committees could utilize a "gateway" tool to organize, share, and access information more effectively. (e.g. a multi-agency/multidepartment team accessing emergency response plans)

4.2. Create More Efficient Information Access

There are dozens of situations where employees spend an enormous amount of time traversing disconnected information sources (applications, systems, etc.) to find an answer to a question, make a decision, or take action.

- Employees need consistent information to make routine decisions.
- Employees need information from many different systems to make strategic decisions.
- Employees must access State information from multiple data sources and applications to complete their assigned activities.
- Employees may not be able to locate or navigate efficiently through State information.
- Employees may not be aware of State information or resources available to more efficiently fulfill their responsibilities.

An example of this is the State Hospital, which has specific detailed needs for staffing management. These organizations need the ability to track critical information at a detailed level. They need to know which staff member will have access to which patient rooms, what time of the day they have access, and for how long. This information may or may not be readily available in one system. Some information may be in the core HR system while other elements will be in their own system. It is imperative that they can easily and effectively get information from unrelated systems and do so quickly. Currently the information needed to effectively manage this critical process is contained in systems owned and operated by different departments making it more difficult to bring together the needed information at the required time.

4.3. Increase Self Support

A gateway provides users with tools to solve problems for which they otherwise would need to call support. For example:

- The ability to reset or recover their own passwords.
- The ability to locate common support information on their own.
- The ability to log in to multiple information sources without ID or password issues.



4.4. Increase Productivity

Communities of interest can organize and share their information with the following characteristics:

- <u>A consistent organizational view</u>. Users must identify and interact with many different information sources (e.g., Payroll, HR, 401K, etc) on a regular basis. A gateway allows information to be organized efficiently, effectively, and in a way that directs employees to the right information. The type of information that can be accessed via a gateway may be structured (eg, Payroll), unstructured (e.g. email, word processing documents), transactional (e.g. enrolling in the 401K program), or collaborative (e.g. scheduling a meeting). A gateway is built on existing data repositories and applications. Through the gateway, users can immediately access information without needing to know the actual location of the information or which application is used. The result is a better forum for sharing and accessing relevant information from various sources, which enables improved decision making, and exploring new ideas.
- <u>Information Organization and Search Capabilities</u>. To facilitate employee access to information in a structured fashion, a gateway provides a hierarchy so that employees can understand and quickly navigate to needed information. The gateway creates a central location where information can be organized and presented in a streamlined manner that is intuitive for the user,
- <u>Direct Access to Knowledge and Resources</u>. To share knowledge users can publish and distribute information that can be referenced and accessed from a central location. This information can be easily shared .
- <u>Direct Links to Reports, Analysis, and Queries</u>. From within the gateway solution, users can view information and seamlessly run related reports and queries from an integrated reporting and business intelligence tool. In other words, a user does not have to leave the gateway to run relevant reports and queries from their reporting applications (Crystal, Cognos, etc.).
- <u>Direct Links to Relative Data and Knowledge Experts</u>. Employees can be given an awareness of relevant information that is outside the immediate domain. Such information is generally presented as links that can be easily located in the gateway.
- <u>Individual Identity and Personalized Access to Content</u>. A gateway facilitates the important role of presenting the correct information to the user based on the access and security defined in the user profile. Users are defined by their "digital identity," which includes their role, activities, skills, and positions in the organization or community of interest. The information presented to the gateway user can be context sensitive based on the user's identity and can also be personalized by each user. Additionally, users can arrange and organize information to their individual specifications through configuration.

5.0 Assessing the Need for an Employee Gateway (EG) to Support State Employees

After gaining an understanding of "gateway" capabilities and benefits on a broad level, the team resumed focus on a specific business need of the Department of Human Resources Management (DHRM).

While an employee gateway can provide broad and deep functionality for many business functions in the State, DHRM has identified a business need and desire to provide a self service gateway to State employees (an EG). Therefore, DHRM has begun the effort to define the needs and opportunities for



an employee gateway in the State. Opportunities for additional business uses of an employee gateway in the state will likely be identified, scoped, and added to the business case in the future.

DHRM recognizes that the business process and flow of human resource information within the State workforce is less than optimal. Given the need for greater employee productivity and a higher level of service for the burgeoning population of Utah, DHRM chartered a team to investigate ways to create efficiencies as related to HR relevant information. That team consisted of representatives from the following organizations:

Organization	Function
Department of Human Resource	DHRM maintains the core employee information i.e. new
Management (DHRM)	hires, salary, education, training, employee history, etc.
	DHRM also provides the recruitment system with all state
	job listings.
Department of Administrative Services:	Finance provides Employee Self Service functionality
Division of Finance (Finance)	relative to payroll services such as time entry, leave
	tracking, direct deposits of employee pay, tax withholding
	status changes, pay statements, and W-2 forms.
Public Employee Health Plan (PEHP)	PEHP is the service provider of health benefits and
	Flexible Spending in the State of Utah. They provide
	employees with online information about service
	providers participating in the plan, eligibility for services,
	and flexible spending eligibility and utilization
	information.
Utah Retirement Systems (URS)	URS provides employee retirement and financial
	planning benefits such as pension and 401k. URS
	provides online account information.
Department of Technology Services	DTS provides information technology services to State of
(DTS)	Utah employees. It provides online information about
	services provided and contacts. DTS also participates in
	the definition of business and technical requirements
	and the implementation and support of IT solutions such
	as an employee gateway.

These organizations provide information via a variety of technologies. Some are commercial off-theshelf systems, others are custom built in house. (See *Appendix 1* for a listing of technical solutions used by each organization.) These technologies are implemented as silos because they are separate organizations. This silo environment results in hurdles to be overcome in providing improved access to employee information. The use of an EG will allow the ability to break down the silo environment by providing consistent common access to all employee information no matter where the source of the information is.

Because of the diversity and disparity between these organizations, State of Utah employees are faced with the following challenges:

5.1. Loss of Productivity and Decreased Job Satisfaction

Like it or not, when an employee needs to take care of business related to benefits, insurance, retirement, job listings, etc. he/she will do so during the average workday. This results in a loss of



productivity. Additionally, the frustration an employee encounters when trying to track down this information detracts from job satisfaction.

Some of the challenges and frustrations employees face in trying to access their valuable benefits information include:

5.1.1. No "One Stop Access" for State of Utah Employees

There is no "one stop access" to which a State of Utah employee can go to find employee-related information. State employees wishing to check or make changes to personal information such as payroll, retirement, benefits, internal job postings, IT help information, etc. must do so by going to multiple web sites and/or submitting paper forms.

Not having "one stop access" means that employees have to be very aware of the various organizations and websites for each of their services and benefits, and know the points of contact for each. This results in the following issues:

- Frustration of employees as they try to understand who the providers are.
- Loss of productivity at work while employees track down contact information.
- Increased burden on HR professionals to answer employee questions.
- Increased burden on all provider organization employees as they answer questions and redirect to the appropriate source.
- Competitive disadvantage as employees may not be aware of, or fully utilize, benefits and services because of lack of ease of access.

5.1.2. Multiple Logins and Authentications

In addition to the necessity for an employee to go to multiple websites to find employee-related information, when an employee navigates from one website to another they are required to re-enter their authentication (login) information. For example, after an employee enters a user ID and password to find a medical provider in the PEHP system, a different login ID and password is required to check their flexible spending balance. Additionally, each provider has different rules for user IDs and passwords. Multiple logins result in the following issues:

- Frustration of employees who need to remember multiple IDs and passwords.
- Potential security risks as employees resort to writing down their user IDs and passwords.
- Burden on Help Desks as they receive calls to reset passwords.
- Loss of productivity as employees call help desks and organization staff to try to get into sites.
- Burden on HR professionals to answer user ID and password questions (direct them to the source who can resolve).
- Burden on all provider organization employees as they answer questions about user ID and passwords and redirect to the appropriate source.
- When an employee wants to access certain confidential or personal information (such as 401k balances), the employee is required to enter personal identifying information (such as employee ID or SSN) at each web site.



5.1.3. No Single Life Change Update Mechanism

Currently, if an employee has a life changing event such as moving, or getting married, the employee has to notify each organization separately of that change. This results in a loss of productivity, decreased job satisfaction, and an increased amount of out-of-date information as employees may forget to update with every provider.

5.1.4. Additional Issues

- Because employees cannot easily access and validate their personal information, sometimes that information is not accurate.
- The Statewide email distribution list is the only mechanism for State leadership to electronically disseminate information to all State employees. In an emergency situation this method of information distribution could be inadequate.
- Employees needing information related to their jobs do not have a uniform way to search for and access that information.

5.2. A Real World Example - Sad Sue

Meet Sue. She's an employee of the State of Utah. She's thrilled that by working for the state she has such an excellent, comprehensive package of benefits. Recently, Sue has been experiencing some pain where her wisdom teeth are beginning to shift. She realizes that it's finally time to have her wisdom teeth out. See her story below as she tries to find all of the information she needs to pursue her dental work.

	Sue's Steps				
	Step	Time			
1.	<u>Finding the Plan Information:</u> First, Sue isn't sure where her dental coverage comes from. She remembers filling out the paperwork indicating which dental plan she wanted to join, but she can't remember which dental plan she chose. Sue calls her HR Director but gets no answer. She goes to the DHRM web site to see if she can find information that will direct her to the right plan. After mining the DHRM site for a while, she finds the plan information and remembers which plan she chose.	20 minutes			
2.	<u>Finding Eligibility and Coverage Information:</u> Now that she has the dental plan name, she goes to the web site listed. She wants to find out what is covered with regards to wisdom tooth extraction, as well as getting a list of providers in her area. This site does not require a log-in and she's able to look up providers. Sue now has the coverage information as well as the list of providers.	10 minutes			
3.	<u>Finding Remaining Benefit Balance:</u> Sue had visited the dentist during the year and had some work done so she wasn't sure how much was left from her maximum allotment for dental. Sue needed to make sure that there was enough money left in the yearly allotment of coverage to cover the procedure. Sue could not find the information on the web site so she	5 minutes			



	Sue's Steps			
	Step	Time		
ha	ad to call the dental plan to find out that information.			
4. <u>Fi</u> es fle cc SI fle fle th vi: tw th tri ge ar th tri c ov Di nu po lo	inding Flexible Spending Information: Sue called some providers to get stimates on cost. Now she needs to find out how much she has in her ex spending account to see if she has enough to pay for what's not overed by her plan. Sue calls her HR Director again but still no answer. he goes back to the DHRM web site to mine for information about her ex spending account. She finds the information and then goes to the ex spending web site. Once she's there, she has to log in. She realizes hat she doesn't remember her user ID and password from when she first isited the site months ago. She tries logging in but is rejected. She tries wo more times trying different combinations of user IDs and passwords hat she thinks might be correct. Finally, she has to call the "contact us" umber on the screen to have them reset her password. After finally etting in and mining that site, she realizes that she has to go to yet nother web site to see her flex spending account balance. Sue goes to be flex spending account balance site and has to login yet again. She ries logging into this web site and is unable to do so, again calls the contact us" number to get help, and is told that she'll have to call her wn plan administrator to find out the User ID. Sue tries calling her HR irrector again and is told that the user ID is part of a membership umber located on her card. Sue locates her card, and using only a ortion of the membership number located on her card, is finally able to be flex spending account balance site.	20 minutes		

After much toil, Sue finally has all of the information she needs to move forward with scheduling her wisdom teeth extraction. Sue, though relieved to have it taken care of, is frustrated at the process she went through and the roughly 55 minutes it took. See the diagram below for a depiction of all of the transactions Sue had to make to get the information she needed about having her wisdom teeth extracted.

Sue's final comment: "I never thought it would be more painful to navigate the system than to get my wisdom teeth extracted."







Now imagine having to go through a similar process for every type of benefit or employment-related information.

Activity	Medical	Dental	Vision	Flexible Spending	Payroll (W2)	Retirement / 401k	HR Information (job postings, training, etc.)
Enroll	Х	Х	Х	Х	Х	Х	
Find Plan Information	Х	Х	Х	х			
Check Eligibility	Х	Х	Х	Х			
Check Coverage Amount	Х	Х	Х	Х			
Find Providers	Х	Х	Х				
Check Coverage Balance / Account Balance	Х	Х	Х	Х			
Update Medical Information	Х	Х	Х	Х			Х
Updade 401k plan						Х	x
Update Name							Х
Update Address							Х
Update Beneficiary Information						Х	
Update Emergency Contact							x
Access Personal Information							х
View All Current Benefits	Х	Х	Х	Х	Х	Х	Х
Access Payroll						Х	
View and Apply for Jobs							X
View Important Content	Х	Х	Х	Х	Х	Х	X

6.0 Benefits of a State of Utah Employee Gateway

The increasing complexity of doing State business requires that DHRM facilitate the achievement of new objectives such as providing real-time access to information, increasing employee productivity levels, reducing administrative and operating expenses, increasing collaboration between employees and providers of employee services, enhancing knowledge exchange, and improving communications. DHRM believes that an employee gateway can facilitate meeting these objectives through the following benefits:



- Increased State employee productivity during work hours as users are able to find information more easily.
- Increased capacity of providers to serve State employees.
- Increased employment satisfaction of State employees.
- More accurate employee data.
- A mechanism for State leadership to disseminate information.
- A mechanism to filter the information glut.
- Reduced burden on Support services as employees can self-service for certain tasks (eg. payroll deduction changes, password resets, etc)
- A single place where employees can be notified of upcoming holidays, events, deadlines, service outages, or any relevant information.
- A mechanism to provide information to employees which is specific to their department and/or personalized for them.
- Ability to allow employees a single point of entry into state services including business applications to which an employee has access.
- Unify and expedite communication regardless of geographical location.
- Reduced time, effort, and media resources (printing, paper, etc.) to introduce new policies and information (State-wide or Department-wide).
- Reduced travel expenses as more training can be made available online.

7.0 Current State Employee Information Distribution Environment

Currently there are six organizations that have legal responsibility for different types of information for State of Utah employees. These organizations include:

Organization	Information	Information Distribution Medium
DAS: Finance	Payroll information - breakdown of salary,	www.finance.utah.gov
	deductions, etc.	
DHRM	Core employee information (hire, salary,	www.dhrm.utah.gov
	education, State job listings, training, etc.)	
DTS	Login ID, email, provisioning information	www.dts.utah.gov
PEHP	Medical, dental, flex spending	www.pehp.org
MBI	Flexible Spending account balance	www.mbicard.com
Dental Select	Dental	www.dentalselect.com
URS	Retirement, 401k, etc.	www.urs.org

Note that all not all of employee information is available via these websites, sometimes additional phone calls, email, or personal contact is necessary to track down information.

These organizations provide information via a variety of technologies. Some are commercial off-theshelf systems, others are custom built in-house. (See *Appendix 1* for a listing of technical solutions used by each organization.) These technologies are implemented as silos because they are separate organizations. This silo environment results in hurdles to be overcome in providing improved access to employee information.

The total number of State employees, including full-time and part-time, is approximately to 25,000.



8.0 Employee Gateway Goals and Business Requirements

A primary goal for the EG is to support information gathering and sharing throughout the entire employment lifecycle. This lifecycle includes the following:

Employment Lifecycle Phase	Users	EG Potential			
Job Seeking	 Public Existing State Employees 	Access gateway to review job listings.			
Job Application / Acceptance	 Public Existing State Employees 	Access gateway to submit application (DHRM collects information that will be used in the HRE system to create an employee ID).			
Provisioning	New Hire or Transfer State Employees	Access the gateway to check provisioning status for any equipment or materials needed for the new or transferred employee.			
Ongoing Employment	All State Employees	 Access the gateway to: Find information about job listings, benefits, payroll, training, etc. Receive communications containing information about HR-related items such as policies, benefits, payroll, surveys, training, etc. Update life change information (new address, phone, marriage, etc.) 			
Exit	All Retiring or Terminating State Employees	Access gateway to find information about de-provisioning and status of termination actions.			
Retirement	All Retired State Employees	Access gateway to find information related to retirement benefits.			

In addition to the primary goal of accommodating information gathering and sharing throughout the employment life cycle, other EG goals include:

- Reduce search time for employee information.
- Enhance data quality across different departments through making information available.
- Provide information that will greatly assist in the decision-making process.
- Reduce administrative efforts through efficient employee self-service.
- Provide current levels of system support without increasing additional funding.
- Enable provisioning of employee equipment through effective workflow processes.
- Provide as much information as possible to users without them having to go to provider websites.
- Be scalable to adapt to various sizes of communities of interest



The team identified a number of business requirements that will be necessary for the stakeholders to conduct their business using an employee gateway. These requirements are summarized below (see Appendix 2 for detailed requirements)).

The solution must:

- 1. Provide a browser-based user interface.
- 2. Be scalable to an enterprise and not just meet the demands of a single agency.
- 3. Make information that is "owned" and maintained by different organizations (agencies) available in a way that is quick, easy, and seamless for employees to access. The "work" of finding and processing the information should be done by the gateway and not the employee.
- 4. Extend online functionality to allow greater employee self-service data entry and inquiry of their personal information.
- 5. Provide enough relevant information at the employee gateway to allow an employee to answer his or her own questions about coverage, balances, job postings, etc. without needing support.
- 6. Reduce the need to enter the same personal information in multiple places (address change, enrollment information, etc.).
- 7. Maintain security, crossover and statutory responsibilities of non-State organizations (PEHP, URS, MBI, Dental Select).
- 8. Maintain existing security and administrative domains.
- 9. Provide an authentication mechanism that maintains security levels for all involved organizations, and that is compatible with each organization's access controls.
- 10. Accommodate existing systems requirements for processes which are batch oriented, time delayed, or in any way not conducted in real time.
- 11. Interface with each organization's existing systems with minimal or no changes to existing infrastructure.
- 12. Seamlessly direct employees to vendor (PEHP/URS/Altius/Liberty/ etc...) web sites for detailed information.
- 13. Allow for automated notifications of certain types of actions. For example, when provisioning required work tools or materials to an employee the system should notify the appropriate staff responsible to get the needed work related material.
- 14. Provide notification of communications issuing from the State and agencies, including library and reference materials, policies and procedure and other important information.
- 15. Allow for single sign on capability to decrease the number of user ID's and passwords needed by the employee to access cross-agency information.
- 16. Support up to 25,000 employee users.
- 17. Support content contribution and management for, at a minimum, the following business functions:
 - Recruitment (new hire and existing State employees)
 - Employment application (new hire and existing State employees)
 - Candidate selection (new hire and existing State employees)
 - Enrollment, change, eligibility, and termination of Benefits
 - IT provisioning (new hire, role/job change, and de-provisioning for termination)
 - Payroll
 - Life change update (marriage, change in dependents, etc.)

18. Support the employment lifecycle and other EG goals



These business requirements provide direction and priorities for the future employee gateway in the State of Utah.

9.0 Gateway Best Practices

Best practices for best in class companies that implement successful portals include the following:12

- Implement an enterprise data privacy, security, and data sharing policy to facilitate consistency with access to critical content and a predictable path to best-in-class status.
- Turn content and operational data into business intelligence for employees and managers. Ensure single entry of key data as much as is practicable and implement dashboards and other data views for decision makers.
- Enable opportunities for employee over a wide range of activities.
- Enable meaningful opportunities for collaboration between employees.
- Use the portal to facilitate business process automation with improved workflows and integrated business process management. Enable horizontal workflows like travel authorization and expense reimbursement as high priority activities.
- Provide secure Web access to portal resources.
- Measure the impact of the portal in terms of cost reduction and improved efficiency.

10.0 The Future: A State of Utah Employee Gateway 10.1. A Gateway Solution - Satisfied Sue

Let's go back to our earlier story of Sad Sue and try it again in the context of an Employee Gateway solution. Sue works for the State and is proud to be the recipient of a healthy benefit package. Sue realizes that she needs to have her wisdom teeth out. She has questions about her plan, the plan's coverage allowance, and eligibility of services, providers, as well as flexible spending. See her experience in finding this information using an Employee Gateway

Step	Time
Sue logs into the EG. She immediately sees a display of her benefits	Less than 1 minute
information, including what dental plan she has enrolled in.	
Sue selects her plan information and reviews the eligibility and coverage for	3 minutes
wisdom teeth extraction.	
Sue selects the "Find a provider" option and searches through a list of	3 minutes
providers to find an oral surgeon.	
Sue selects her Flexible Spending Account link and reviews her account	1 minute
balance.	

¹ Brown, Matthew et al, *Companies Offer Employee Portals, Not Portal Best Practices*, Forrester Research Trends, January 12, 2007.

² Klein, Russ, Achieving Collaboration Excellence: Content Management, Data Integration, and the Enterprise *Portal*, Aberdeen Group, August 2006.



In approximately eight minutes Sue has all of the information she needs to schedule her procedure. She reminds herself how lucky she is to be working for the State and receive such great benefits. Satisfied and pleased, Sue gets right back to work.

11.0 Gateway Solutions Analysis

There are several alternatives for implementing an EG:

1. Purchasing a commercial off-the-shelf (COTS) portal product such as the IBM WebSphere, Microsoft SharePoint, Oracle, SAP, or BEA portal products.



- 2. Implementing an open source, DTS-hosted portal product such as eXo Platform, JBoss Portal Framework, Jahia (J-A-Y-A), JetSpeed 2 (Apache), and JA-SIG uPortal. All of these products support the integration of portlets and gadgets. Portlets and gadgets are pluggable user interface components that are managed and displayed in a portal. Examples are code segments that display weather, time, news, etc.
- 3. Implementing an open source, remotely-hosted portal product such as iGoogle.

These options each have a number of benefits as well as limitations. These are indicated in the table below:

Option	COTS	Open Source	Analysis
Functionality	 Largely compliant with portlet standards Good user functionality but more limited than open source alternatives 	 A wide variety of user functionality Most are portlet and WSRP compliant 	Open source alternatives offer more overall functionality
Flexibility	 Highly scalable depending on the type of hosting chosen Substantial custom coding is required to implement Gadget/Portlet development for specialized services 	 Highly scalable depending on the type of hosting chosen Some limited custom coding is required to implement Gadget/Portlet development for specialized services 	 COTS products generally require more custom coding COTS products are more or less the same as open source in terms of flexibility with a small edge to open source for adaptability
Ease of Implementation	 Varies with complexity, but generally requires some investment in vendor services 	 Can be easily developed and customized Development resources are available Development uses standard tool sets 	Open source and hosted are generally much easier to implement and integrate with existing infrastructure
Supportability	 Defined support services, at an initial and ongoing annual cost Quality varies with the vendor 	 Varies, but the support communities are very large, some paid support services are available Quality of support is generally very good 	 COTS support services are costly, and the quality varies with the vendor. Open source support services use large user communities and are generally very effective at providing fast support solutions in an online setting
Time to Benefit	Generally about a six month time period to implement, more custom coding is required	Varies depending upon design complexity but averages 90-120 days	COTS represents the longest time to benefit. Open source is generally much faster to implement.



Option	COTS	Open Source	Analysis		
Cost	 First year costs are \$640K - \$2.1M with additional maintenance and support cost Four year costs are \$800K - \$2.4M 	 First year costs are \$XX Four year costs are \$XX 	 Open source in general offers a lower multi year cost than any other choice. 		

*Detailed cost estimates are located in Appendix 3.

Open source solutions offer scalability, flexibility, ease of implementation, lower costs, and faster time to benefit over commercial solutions.

From a technical perspective open source solutions have a much stronger open standards emphasis than many COTS solutions, and less proprietary code.

Portlet, gadget, and widget development coding use methods that are well understood by many State IT employees. COTS solutions often require additional proprietary coding training for implementation and integration within the COTS portyal environment.

The support model uses user communities of interest as well as more traditional developer resources, so much more depth is available at the customer user level. The support environment is an online one that runs counter to some IT employee preferences for a "number to call."

There is no empirical evidence that calling a number is any more effective than querying a large user community, and in fact data would indicate that community response is actually more effective and timely.

12.0 Recommendations

As the team evaluated the business requirements and the possible solutions, they came to understand that there would be some supporting infrastructure necessary to meet the specific needs and business requirements of DHRM. Therefore, the team recommends implementation of an open source gateway solution:

12.1. Implement (in a Phased Approach) an Open Source Gateway Solution

Although a gateway solution could be scaled and used for multiple purposes throughout various communities of interest in the State of Utah, the team is making recommendations that are specific only to the business requirements of DHRM, which were listed in section 8. However, it is notable that among those requirements is the condition that the solution be scalable, therefore, the solution could easily be able to be adopted by other groups in the state if desired.

The alternatives for gateway implementation are far richer and more diverse than they were a few years ago when it was possible to name the major players in a very short list. The business requirements represent a unique opportunity for the State to meet the specific needs of DHRM and State employees, while at the same time creating an environment that can be highly customized by



agencies and employees based upon commonly distributed tools (typically known as "portlets"). The commercial vendor community often does an excellent job of packaging solutions that might otherwise be unduly complicated for customers to implement. Commercial vendors also have established mechanisms for providing support and maintenance for their products. All of these benefits come with initial investment and ongoing maintenance cost requirements that can be significant over the life of a software product.

However, the dramatic growth of open source solutions over the past decade necessitates consideration of open source as a viable approach. Open source solutions have matured and are viewed as having the following competitive advantages over COTS solutions³:

- Costs An open source solution costs less because there are no license costs. While there is still a cost to implementing and supporting an open source solution, this cost is no more than implementing and supporting a COTS solution.
- Simplicity An open source solutions is easier to implement, resulting in faster deployments, better ROI, lower failure rates.
- Integration Open source products integrate well with other open source and COTS products.
- Standards The Open source community relies heavily on open standards, whereas COTS products may rely on proprietary extensions.
- Flexibility Open source products offer a high level of flexibility in implementing only what is needed without a lot of underlying infrastructure.
- Services The Open source community is now providing packaged service offerings as well as a wide array of consulting services and on demand offerings to address the traditional concern with Open source software in the commercial environment

An example of an open source tool, though not a specific recommendation, is the Google StartPage portal. This is one of several effective examples of a portal product that can easily accommodate specialized gadgets and tools. In an open source tool such as Google StartPage, the State would focus on gadget development so that agencies could opt-in to a gateway environment by consuming gadgets and Web services in any user platform that aligns with their current user audience or use a more general gateway commonly available to all State employees.

Based on the advantages and opportunities provided by open source, the EG team recommends implementing an open source gateway solution to meet DHRM business requirements, and to potentially be adopted by other State organizations as their needs and requirements demand.

12.2. The Phased Approach

The EG will be designed as a Tomcat Web application using open source portal technology, such as the Struts II Portal, that will be linked to the Utah Master Directory (UMD) for Single-Sign-On (SSO) to State Web applications such as the DHRM Employee Profile and ESS for time reporting. Gadgets will be developed for Phase 1 and Phase 2, and a gadget library will be developed for Phase 2 using the existing Google Gadget library. The majority of the business value is delivered in phases 1 and 2.

³ Position Paper: Open Source Viability at the State of Utah, Robert Woolley, Chief Technologist and Strategic Planner, November 2006



Employee Self Service Gateway (ESSG)



13.0 Next Steps

To successfully implement an EG solution, DHRM and DTS must work together to finalize the strategy for a gateway implementation in DHRM. Recommended next steps include:

- Identify short and long term goals to meet business requirements and prioritizing functional requirements.
- Coordinate efforts with other State initiatives to identify opportunities for collaboration.
- Identify an executive business sponsor.
- Define the top priority business processes that will be included in the initial portal rollout and long term objectives for the portal.
- Define end-user and business process requirements and adopt standards that will ensure ease of use.
- Identify the collaboration objectives that the gateway is expected to facilitate.
- Identify the information delivery and communication objectives that the gateway is expected to deliver.
- Define metrics and objectives for evaluating results.
- Identify and catalog content sources, including documents, databases, and applications.
- Identify the key organizational resource people that will provide ongoing content.
- Identify privacy, content management, and data security policies and strategies that will be applied to the portal.



- Select a portal technology that will meet the top priority business objectives and will scale to meet future objectives.
- Implement a proof of concept and gain targeted user feedback and acceptance.



14.0 Appendix 1: Current Technical Solutions

URS	URS considers itself to be a vendor as opposed to the State agencies. They have managers for pension and direct contributions each with staff to handle issues. Enrollment forms start off almost all enrollments. Internal data entry occurs from the forms to place the information into their internal databases via proprietary internal systems. URS maintains interfaces (data files and/or reports) with Finance regarding
	amounts deducted for what from whom
PEHP	PEHP depends on in-house systems used by internal staff to transcribe employee information from paper forms into their internal information data stores.
	PEHP supports State & other municipal employees' health & life insurance, dental, optical and vision plans. PEHP has an internal Claims department for their own medical / dental plans.
	PEHP.org supports online address change and much static information including providers & claim status info.
	PEHP supports EDI transfer of documentation from Utah Department of Health (with problems and manual edits)
	URS members can change their address and view their balances at the URS website.
DTS	Addresses needs of new and existing employees
	HR and non-HR features (though versioning should address the funding issue – current and future)
DHRM	Addresses needs of new and existing employees HR and non-HR features (though versioning should address the funding issue – current and future)
	DTS currently does not have any automated way of, or standard processing for, addressing IT provisioning. Each agency's IT function currently has their own processes, but DTS will identify and implement standard processes in the future, and would like to automate those processes in an employee gateway function.
DAS - Finance	Finance has deployed an SAP portal which they use for time entry, W4 changes, W2, leave balance, check stub, direct deposit. See Appendix 3 for more details



15.0 Appendix 2: Detailed Requirements 15.1. Raw Requirements

			Requirement	Organization				Notes	
Req #	Priority	ТҮРЕ	•	DHRM	DTS		PEH P	URS	
	(M/S/C)	(Business, Infrastructure, Legal, Constraint)							
1	M	В	Requirement: Be process- oriented, rather than present agency orientation - e.g. Want to change your name, dependents, or address?	x	x	x		x	Employee view
2	Μ	В	Requirement: Extend online functionality beyond current Finance, DHRM, PEHP & URS URLs to allow greater employee self-service data entry and inquiry of their personal enrollment information including personal, payroll - W-4, HR, benefit, forms, statuses, employee appraisal, beneficiaries, and other plan changes including ability to switch plans online	x	x	x			
8	М	В	Requirement: Provide "enough" static info at portal such that an employee can answer their own questions without calling Support. Eg open enrollment	x	x		more State link help need ed		
16	М	В	Requirement: Reduce data entry need as much as possible	x			x	x	
19	M	C, L	Requirement: Respect security, crossover and statutory respsonsibilities between organizations (transfer of data to other organizations & 'view' versus 'update' privileges)				x	x	Constrain t and requireme nt

21	M	B, C	Organizational constraint: some organizations employ some batch data processing causing some facts entered by an employee to not settle into all databases for days (data latency issue)				x	x	
30	М	В	Requirement: Direct employees to vendor (PEHP/URS/Altius/Liberty/ etc) web sites for detailed inofrmation. If it tried to do more than that, it would have to incorporate much education and business rules today contained at vendor websites				x	x	Outside Vendors
39	М	C	Organizational constraint: current Finance levels of system support would not increase without additional funding			x			
41	М	В	Workflow feature – notificaqtion of an event at A needs to be sent to DHRM	x					
62	М	В	Communications issuing from the State and agencies including library and reference materials:		x				
64	М	В	access to job postings for current employees	x					
11	S	В	Requirement: Provide access to the employee's departmental (HR) link at the portal	x					
14	S	В	Requirement: Provide employee with feedback when changes will take effect.					x	
20	С	В	Requirement: Ability to quickly share data amongst the organizations	x	x	x	x	x	
52	C	В	Other Dept. of Administrative Services divisional services like fleet management and charitable contribution			×			



			election could be part of the portal			
66	С	В	incident reporting	х		
67	С	В	work-related accidents;	x		
68	С	В	input maintenance issues with personal workspace, rest rooms, etc.;	x		
70	С	В	inputting requests into procurement tools;	x		
71	С	В	Providing access to Education tools and schedules;	x		

15.2. Duplicates and Others

3	Requirement: Be the standard gateway to access information		x			same as #1
4	Requirement: Be central place for every State employee to inquire into his/her personal and plan information			x		same as #1
5	Requirement: Be central place on the Internet where a new State employee could start enrollment		x			same as #1
6	Requirement: Support making the portal "part of the culture"	x				same as #1
58	Requirement: Respect the differing data granularity & metadata needs of various organizations (if employee clicks "address change", he/she should have to indicate all accounts or benefits for which the new address				x	same as #1



			should be used)				
10			Requirement: Consolidate features currently spread all over; make it easier to know where to go and get there (organization, guidance & simplicity)	x			same as #1
9			Requirement: Ability for employee to review / change what they entered	x			same as #2
29			Display, and allow updating for, information including performance plans, org charts, State employee discount programs, State and agency policies and rules, career tips, email, weather, employee handbook		×		Same as #2
69	С	В	Access to On- line tools and task management like phone directories, fleet management, expense reimbursement, conference room scheduling, document access and management, and travel reservations:		×		same as #2



12	Requirement: Provide contact phone #s by subject matter (e.g. life insurance:					same as #8
	call this number)	Х				
13	Requirement: Provide dates when members can expect their plan cards from any enrollment process.			x		same as #8
17	Requirement: Allow the employee to enter a discrete item of data once and have the "system" distribute it as needed	Kickoff meeting				same as #16
18	Eliminate current data redundancy between Finance and DHRM		x			same as #16
23	Requirement: Place accountability and control over the information in the same hands, as dictated by statute.				×	Same as #19
24	Requirement: Prevent data mistakes occurring now / Provide good edits to prevent avoidable errors	x				More of a goal, not a requirement
31	Organizational constraint: Some organizations have outside vendors (e.g. Altius) embedded within their overall benefit solution / process			x		Same as #30
32	Requirement: Provide access to vendor (URS, PEHP, Altius, etc.) State employee personal	Kickoff meeting				Eliminate this, captured in other reqs



		information and their online services somehow				
33	М	Requirement: Since not all "customers" of all organizations (e.g. PEHP/URS) may be served by the portal, members of municipal organizations other than the State must be accounted for as a separate class or excluded entirely		x	x	Eliminate this
34		Requirement: Some kind of phone / form backup still required due to some employees without PC, web, and/or literacy thereof	x			Eliminate this
36		Requirement: accommodate differing data formats used by different organizations' systems	Kickoff meeting			Same as #16
37		Requirement: Respect for organizations' differing data (national) standards that have been adopted		ANSI X12		Same as #19
38		Requirement: Respect for organizations' different business rules pertaining to data and its manipulation (e.g. USPS address translation)			x	Same as #19
42		Requirement: Agency HR reps to not be able to view employee claims,		x		Eliminate this.



	only enrollment					
51	Requirement: Support electronic documents (address some organizations' continued need for signed forms for certain transactions)					Eliminate this
55	Requirement: Each agency would be responsible for their own portal content & what they make available there - e.g. after completion of new PEHP online enrollment process, PEHP would update the portal to direct to that new process		x	x		same as #19
56	Requirement: Respect for data ownership of the organizations as proscribed by statutory regulation (Utah law, Federal regulation including HIPAA, etc.)			x	x	same as #19
57	Requirement: Provide reports to State agency HR reps - e.g. new employees who have not selected any insurance and 60-day enrollment period is almost over	x		~	~	not part of portal
59	Requirement: Show not only an employee's payroll deductions (contributions) but also contributions made by the State specifically with		x			not part of portal



	regards to employee pension				
60	Requirement: Support Summary page of employee's benefits at a glance	x			same as #59
61	Requirement: Support for voluntary benefits (non-PEHP)	x			same as #30
63	employee balanced scorecard;		x		eliminate this
65	Job Listings;	х			eliminate this
54	Requirement: Once aware of a new employee, benefit providers (URS/PEHP/Altius) could respond with a welcoming email to the employee with further enrollment instructions.			x	<i>Management,</i> not part of portal



16.0 Appendix 3: Cost Estimations 16.1. Assumptions in Estimating Costs

The following assumptions were made in deriving the above costs:

- Costs reflect meeting DHRM needs only
- Hardware costs are based on a 4 year server depreciation
- Assume projects hardware requirements are 5 servers for development and deployment. Costs for these servers is estimated at \$300/month/server.
- Solution is able to run on Linux based servers for costs savings
- Fail over covered by network configuration
- Costs do not include Support FTE staff
- Content needs to created and updated
- Each entity will be responsible for providing its own content to portal
- Integration with existing applications is done by internal resources or temporary staff who are able to leverage a large body of existing portlets. Assume 1 FTE for 12 months with some minimum ongoing development.
- Open source support costs are approximately the same as for a proprietary solution. (This may not be a good assumption for a proprietary solution. See section 16.4 hardware costs)
- Hardware costs are approximately the same as for a proprietary solution

16.2. COTS Solutions

The State of Utah consulted with Forrester in order to obtain some guidelines for costs of acquiring a portal solution from one of the leading vendors. The recognized leaders in this space are IBM, BEA, and SAP, with Microsoft rapidly gaining a presence. Costs for acquiring the technology were given as \$200K - \$400K. This estimate is in line with Forrester's published report of \$500K⁴. However these costs do not include the following expenses:

- Integration with existing applications (according to Forrester 2x -4x original costs)
- Annual software maintenance for subsequent years (18-21% of original cost)
- Costs associated with internal support (estimated 1-1.5 FTE)

In order to get a fuller understanding of the potential costs for the State of Utah, we surveyed two of the leading vendors. The table below lists cost estimates of implementing an employee gateway utilizing a solution from a leading vendor. Total costs including support staff for three years range from \$1.2 M to \$2.7M. Solutions from other vendors are similar in overall three year costs.

⁴ Brown, Matthew et al, *Single Employee Portal Vision Escapes Many Companies*, Forrester Research Trends, April 2, 2007.



Cost Component	Year 1	Year 2	Year 3	Year 4
Server licenses:	\$200,000 -	N/A	N/A	N/A
	\$400,000			
Hardware Costs	\$40,000 -	\$10,000 -	\$10,000 -	\$10,000 -
	\$80,000	\$20,000	\$20,000	\$20,000
Integration, deployment,	\$400,000 -	0	0	0
configuration, technical and,	\$1,600,000			
ongoing support end user training				
Software maintenance:	Included in	\$40,000 -	\$40,000 -	\$40,000 -
	License (16% -	\$80,000	\$80,000	\$80,000
	20%)			
Approximate Totals:	\$640,000 -	\$50,000 -	\$50,000 -	\$50,000 -
	\$2.1M	\$100,000	\$100,000	\$100,000
Four Year Cost Estimate Total:	\$800K - \$2.4M			

16.3. Open Source Solutions

It is important to understand that while an open source presents the opportunity for significant cost savings, there are also some additional costs which would not be incurred in a proprietary solution.

Cost Component	Year 1	Year 2	Year 3	Year 4
Server licenses*:	0	0	0	0
Hardware Costs	0	0	0	0
Integration, deployment, configuration, technical and,	\$60K -	\$30K -	\$9K -	\$9K -
ongoing support end user training:	\$65K	\$35K	\$10K	\$10K
Software maintenance:	0	0	0	0
Approximate Totals:	\$60K-	\$30K -	\$9K -	\$9K -
	65K	\$35K	\$10K	\$10K
Four Year Cost Estimate Total:	\$108K - \$2	120K	<u> </u>	

*Most Open Source solutions do not have any associated license fees. However some solutions such as Google Startpage do have minimal annual maintenance fees.

16.4. Costs of a Previous Gateway Solution

The Division of Finance (DAS) has had a SAP portal solution since 2003. Initial functionality consisted only of payroll with subsequent capabilities for time entry, W4 changes, direct deposit, etc added in 2004. Currently about 11,000 users utilize this system for time entry. Actual costs have consisted of:

Cost Component	Year 1	Year 2	Year 3	Year 4
Initial Server Licenses:	\$663K			
Initial consulting for time entry (W4/W2,	\$240K			
vacation, check stub, etc.):				
Annual maintenance (17%):	\$113K	\$113K	\$113K	\$113K
Initial hardware:	\$220K			
Hardware upgrade:				\$360K
Ongoing support:	1/2 FTE	1/2 FTE	¹ / ₂ FTE	1/2 FTE



Cost Component	Year 1	Year 2	Year 3	Year 4
Approximate Four Year Cost:	\$1.8M			

16.5. Costs of Using Existing DAS Gateway Solution

The team also attempted to estimate the cost of leveraging the existing DAS SAP portal

Cost Component	Year 1	Year 2	Year 3	Year 4
Additional Server Licenses:				
Consulting				
Annual maintenance (17%):	\$113K	\$113K	\$113K	\$113K
Initial hardware:				
Hardware upgrade:				
Ongoing support:	1⁄2 FTE	1⁄2 FTE	1⁄2 FTE	1⁄2 FTE
Approximate Four Year Cost:	\$452K			
(Not including existing sunk expenses)				

Current license covers about 24K, however there are addition fees associated with retrieving data outside SAP Netweaver Portal. Consulting is available but not required if State resources are available.