



**palm** **PeopleSoft Expenses Traveler**

**Extend the reach of an ERP module**

- manage employee business expenses
- add mobility without losing module's functionality

**Line Item Entry**

Personal  No Receipt

Date: 1/5/00 Type: Dinner

Location: Naperville, IL

Merchant: House of Commons

Method: CSH

Action: Internal

Amount: 2.75

Currency: USD

Description: Soup

Done Cancel





**HOTEL**

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## Track Expenses

A Palm system to extend an ERP module that records business expenses.

PeopleSoft's ERP package allows employers to track business expenses. Mobile workers can enter their expenses directly into a laptop running PeopleSoft Expenses Traveler. While convenient, even a light laptop does not have the mobility of a Palm organizer. With a Palm device workers can add their expenses in as soon as they occur, where ever they occur.

The Palm system developed for PeopleSoft ties directly into Expenses Traveler. The user adds their expenses on a Palm application that follows the form of the laptop program. A standard synchronization using HotSync<sup>®</sup> technology places all the information from the Palm handheld directly into the Expenses Traveler program. From here the laptop is used to send the information back to the central server.

This Palm system extends the reach of the laptop application without losing any of the functionality and power of the ERP module.

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## The Business Problem

### Tracking expenses with a mobile workforce

- need to keep the functionality of the ERP module
- need mobility for flexible recording of expenses

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## Track Expenses - The Business Problem

PeopleSoft users want mobility and the benefits of ERP expense module.

PeopleSoft Expenses Traveler allows business travelers to record their expenses onto their own laptop. The laptop later is used to connect to an enterprise server where the business expenses are sent to the larger ERP package. Expenses Traveler is a valuable tool, yet it requires that the employee have access to a laptop. For many business events, such as a dinner meeting, it isn't practical to carry or use a laptop, and business travelers need to remember to enter the expenses later.

PeopleSoft wanted to give their customers more mobility in tracking expenses without losing any of the functionality they have come to expect with Expenses Traveler on their laptops. The new system should not be intrusive or cumbersome and should work easily with the existing ERP modules.

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## The Old Workflow

- 1 Attend business meeting or event
- 2 Later enter expenses into laptop
- 3 Data sent to server with full ERP package

1 2 3 4

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### Track Expenses - The Old Workflow

The original system required the user to enter expenses into a laptop.

The original system depended on the worker entering their expense information into a laptop.

- 1 The worker goes on a trip, to a meeting or any event where business expenses are needed.
- 2 The worker enters their expense information into the laptop ERP module This must be done when the worker has access to the computer and often is later, sometimes much later than the event itself.
- 3 Later the information on the laptop is sent back to the full ERP package on the companies enterprise servers.

*It isn't required that the Expenses Traveler module run on a laptop, any PC will do. In practice though since this is designed for mobile workers a laptop would be*

*the obvious choice.*

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## The New Workflow

- 1 Attend business meeting or event
- 2 Immediately enter expenses into Palm
- 3 Synchronize, then data goes to ERP package

1 2 3

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### Track Expenses - The New Workflow

The new system lets the worker record expenses as they occur.

The new system uses a Palm organizer to let the worker record the expenses practically anywhere.

- 1 The worker goes on a trip or to an event incurring some business expenses.
- 2 The worker updates their expense information on their Palm organizer. This can be at the restaurant, during a meeting, at the airport, or anywhere. The Palm device allows the worker to enter the information much more conveniently than the laptop.
- 3 The information on the Palm device is synchronized with the laptop, which later sends the expenses back to the enterprise server with the full ERP package.

*One can argue that this process adds a new step - the synchronization of the Palm*

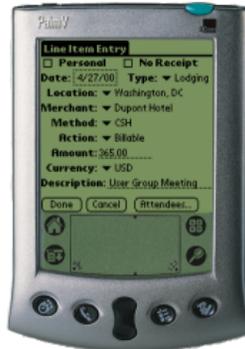
*to the laptop - but this is a very transparent and unobtrusive process as this application uses standard HotSync®.*



## The Business Benefits

### Increased mobility and flexibility

- mobile workers can update expenses anywhere
- Palm program fully integrated with ERP module



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## Track Expenses - The New Workflow

The new system gives the workers flexibility with no loss of benefits.

PeopleSoft wanted to allow their customers to be able to increase the utility of their Expenses Traveler module for recording business expenses. By adding a Palm extension workers can record expense information when it occurs making it more convenient for the worker, but without losing any of the information that ultimately ends up in the full ERP package.

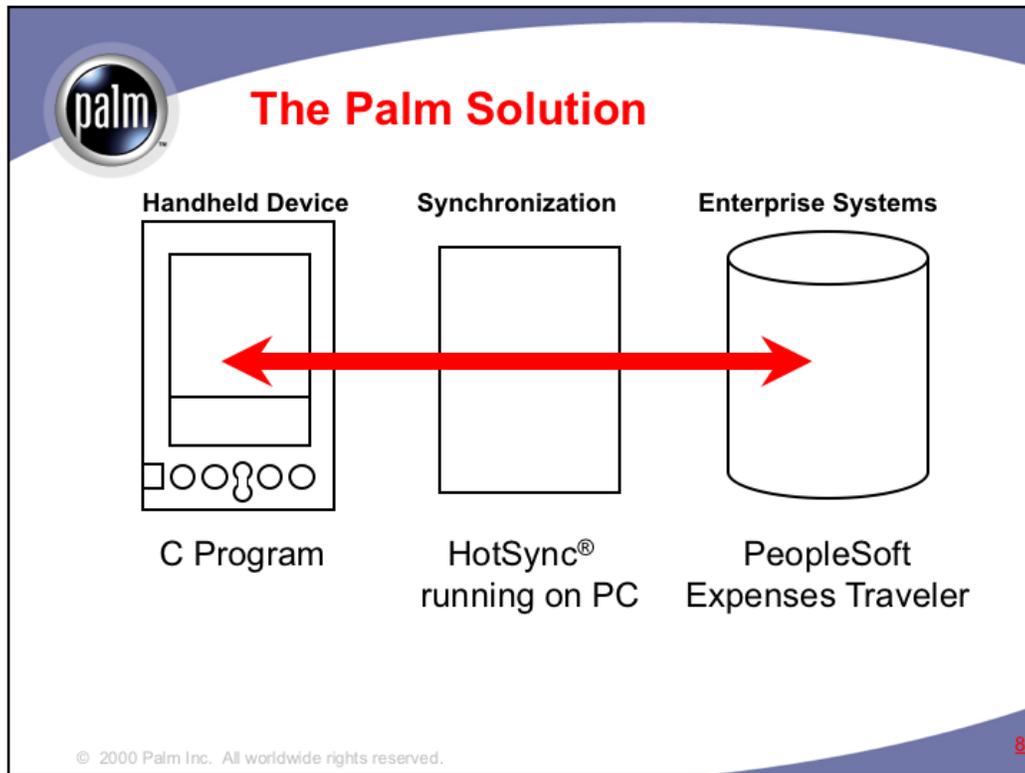
Flexibility is increased by:

- allowing workers to enter their data on their Palm devices, which are highly mobile, instead of waiting for a chance to use their laptop computers

Benefits remain high because:

- the program is easy to use, following the conventions of the larger Expenses Traveler, and so requires little additional training
- the information is sent directly into Expenses Traveler and then to the

enterprise servers so that everything tracked in the old system is recorded



## The Palm Solution

A complete enterprise Palm solution is more than just the handheld

The complete Palm system developed for PeopleSoft includes more than the handheld.

### 1 handheld device

- any Palm platform connected organizer running PalmOS 2.0 or higher
- a standard cradle to connect the handheld with the proxy (laptop)
- a Palm application written in C with CodeWarrior

### 2 synchronization

- HotSync® technology

### 3 enterprise systems

- PeopleSoft Expenses traveler running on a proxy (laptop)
- the full PeopleSoft ERP system on a central server



### **Handheld Device - the hardware**

Any Palm platform connected organizer running PalmOS 2.0 or higher.

The PeopleSoft expenses application runs on any Palm OS® handheld computer running PalmOS 2.0 or higher. This includes all of the latest models from Palm Computing as well as from other vendors such as IBM and Handspring. Only the very earliest Palm devices are excluded making the system accessible to almost all Palm users.

 **Handheld Device**

**Palm device connects to user's laptop**

- standard cradle synchronization
- HotSync® technology minimizes additional training



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## **Handheld Device - the hardware**

A cradle is used to connect the Palm device to the proxy.

The PeopleSoft expenses system uses the built-in HotSync® technology to synchronize expense information from the Palm device and the proxy computer. The user simply places the Palm device into the cradle and pushes the HotSync® button.

*The nature of this application doesn't warrant the use of a connection via wireless or a modem. These modes are best for data which must be sent back quickly. The expense information is not that time critical and a cradle is generally more reliable.*

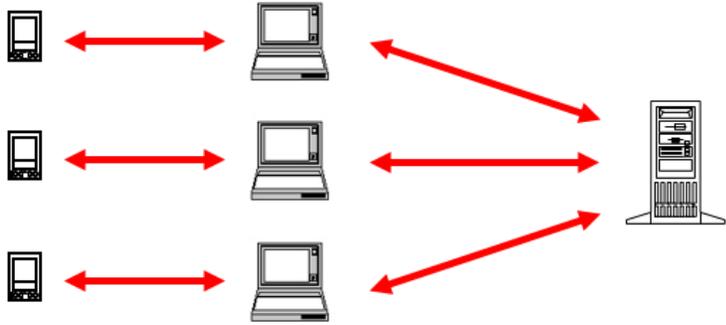
*For other applications, of course, one would prefer a more sophisticated connection method to insure rapid delivery of data.*



## Handheld Device

**Palm device connects to server via a proxy**

- laptop is a proxy between Palm and server
- laptop handles network connection to server
- ease of HotSync® with the benefits of a server sync



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### Handheld Device - the hardware

The proxy computer sends the information to the server.

The proxy computer running PeopleSoft Expenses Traveler handles the network connection to the central server. This system allows for many users, each with a Palm-Proxy setup, to coordinate their information into the full ERP system.

The advantage of server synchronization by proxy is that the benefits of server synchronization, such as centralized administration and sharing of data, are available but the Palm application and conduit does not have to handle the more complex aspects of server synchronization. The disadvantage is that the users need to have access to a laptop or other proxy device.

*This application uses HotSync® technology. This is not a requirement, and was used here to minimize the additional training needed for the users, and the additional cost for a third party synchronization solution.*



## Handheld Application

### Custom program on the Palm device

- record trips on expense sheet screens
- record events on line item screens

The image displays two screenshots of the Palm application interface. The left screenshot shows the 'Expense Sheets' screen with a list of expense sheets and a detailed view of a sheet for Heidi Newberg. The right screenshot shows the 'Expense Lines' screen with a list of expense lines and a detailed view of a line item.

Date	Description
11/23/99	Naperville Trip
12/6/99	Albany Trip
12/9/99	Pleasanton Meeting
12/14/99	NY eBusiness
1/5/00	Naperville P

Date	Description	Merchant
1/5/00	Airfare	American Airlines
1/5/00	Misc.	Batavia Taxi
1/5/00	Dinner	House of Pasta
1/5/00	Dinner	Chateau Susan

**Expense Sheet Details:**  
Name: Heidi Newberg Emp Id : 4530  
Name: Naperville Trip  
Date: 11/23/99  
Purpose: RQMTS  
Reference: ERG-127  
Comments: Visit Naperville site to evaluate new installation

**Line Item Entry Details:**  
Date: 1/5/00 Type: Dinner  
Location: Naperville, IL  
Merchant: Chateau Susan  
Method: VIS  
Action: Billable  
Amount: 145.00  
Currency: USD  
Description: Dinner Meeting

expense sheets

line items

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## Handheld Device - the application

The Palm application follows the conventions of the larger PC program.

The expense application on the Palm device follows the conventions of PeopleSoft Expenses Traveler on a laptop. Users can group expenses, such as those associated with a single business trip, as an “expense sheet.” A series of pick lists and text fields let users include the critical details about the expense sheet. Within each of these expense sheets individual items are recorded as “expense line items.” After incurring an expense the user can quickly add the information about the expense line item.

*If someone finds the nomenclature or program flow unusual they should bear in mind that this follows the conventions used by PeopleSoft Expenses Traveler on a laptop. The idea is to make it easy for a user to move from the laptop application to the Palm one with minimal extra training.*

**Handheld Application**

**Custom program on the Palm device**

- can assign attendees to events
- can edit list of merchants for line items

The image displays several overlapping screens from a handheld application:

- Attendees for line item:** A list of attendees with columns for name and company. M Tracey (ELF Invest) is highlighted.
- Attendees List:** A scrollable list of attendees. M Tracey (ELF Invest) is selected.
- Edit Attendees:** A dialog box for editing the attendees list, showing a list of names and companies.
- Edit Merchants:** A dialog box for editing the list of merchants, showing a list of merchant names.
- Enter a new merchant name:** A dialog box for adding a new merchant, with "Scarf World" entered in the text field.

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## Handheld Device - the application

Users can assign attendees to events, and edit the list of merchants.

The expense application on the Palm also allows users to assign attendees to different events. The users can also add or delete individuals from the overall list of attendees. Likewise users can edit the list of merchants, allowing them to be complete when filling out individual expense line items.

*“Attendees” are individuals that are present at an event. For example a business lunch with guests from different companies. These people would be listed as the event’s attendees.*

**palm** **Handheld Application**

**Palm program written in C**

- CodeWarrior IDE and the Palm OS® API
- maximizes program execution speed

**Attendees for line item:**

S Kollgaard	GP Systems
T Hamilton	Tania*Com
K Tumkur	Madras Tech
M Tracey	ELF Invest

**Attendees List:**

T Hamilton	Tania*Com
S Kollgaard	GP Systems
H Newberg	ERG
M Al-Tamimi	JRC Comm
M Tracey	ELF Invest

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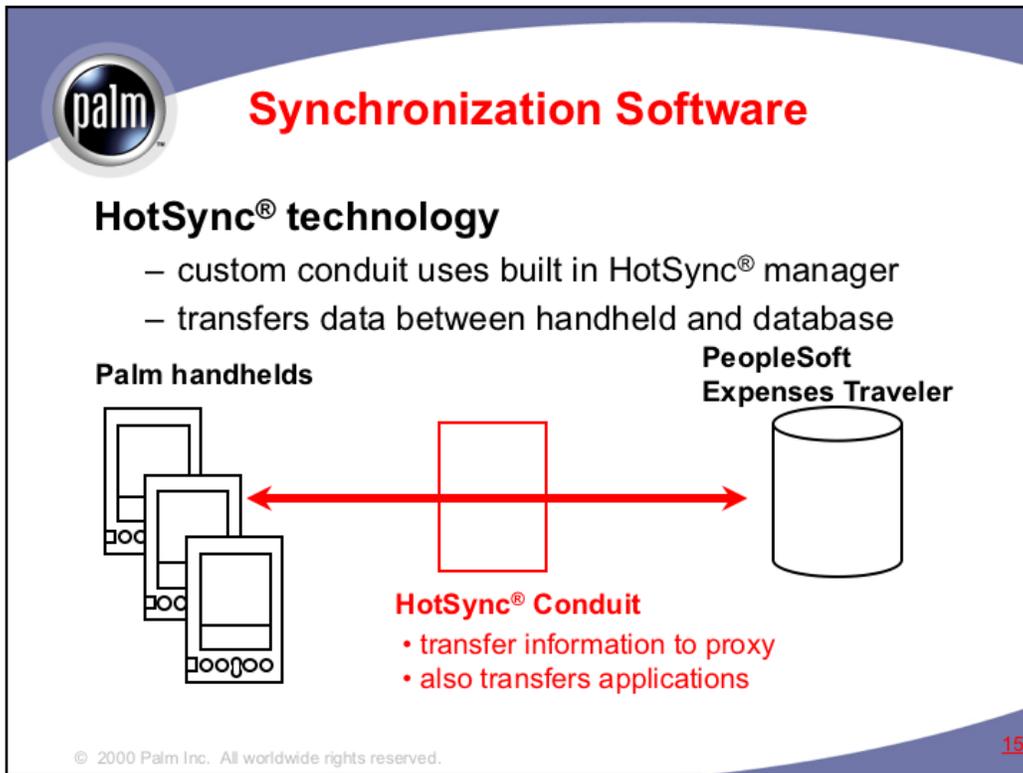
## Handheld Device - the application

The Palm application was written in C using CodeWarrior.

The Palm application was written in C using the CodeWarrior IDE, available from Palm Computing. Writing native programs requires knowledge of C and the PalmOS API, but gives the programmer almost total control over the program's behavior. The resulting code is generally much faster than that produced with a scripting tool (e.g., Satellite Forms or PenDragon Forms), although it can take considerably longer to develop a native C application.

*Programmers who are experienced with C/C++ but have not developed for the Palm Platform will still need to spend time learning the details of the Palm API before becoming proficient. Programmers who are less experienced, or are more familiar with tools such as Visual Basic may find a much steeper learning curve. Scripting tools, such as Satellite Forms, are easier to master although can be come*

*cumbersome with large or complex projects.*



## Synchronization Software

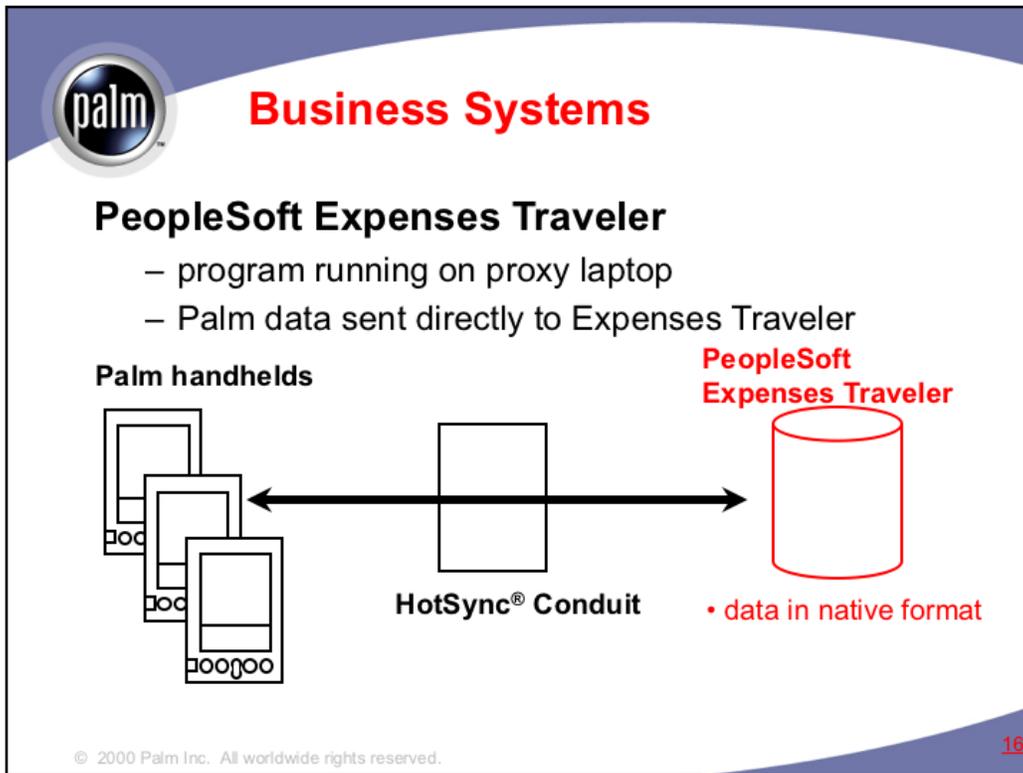
HotSync® technology is used for data synchronization.

There are a wide variety of server synchronization products and approaches. For the PeopleSoft system a HotSync® conduit was written. This conduit is controlled by the HotSync® manager which also calls the built-in PIM applications. Users do not even have to be aware of this new software. Simply by placing their Palm device in a cradle and pushing the HotSync® button will synchronize the expense information along with the PIM data.

This method was selected to keep the use of the application as simple as possible. Once a user understands how to do a standard HotSync® they do not very much additional instruction in order to synchronize their expenses.

*HotSync® is a single-user synchronization solution. It could be used in this example because the proxy computer is handling all of the network and multi-user*

*aspects of the synchronization back to the enterprise server.*

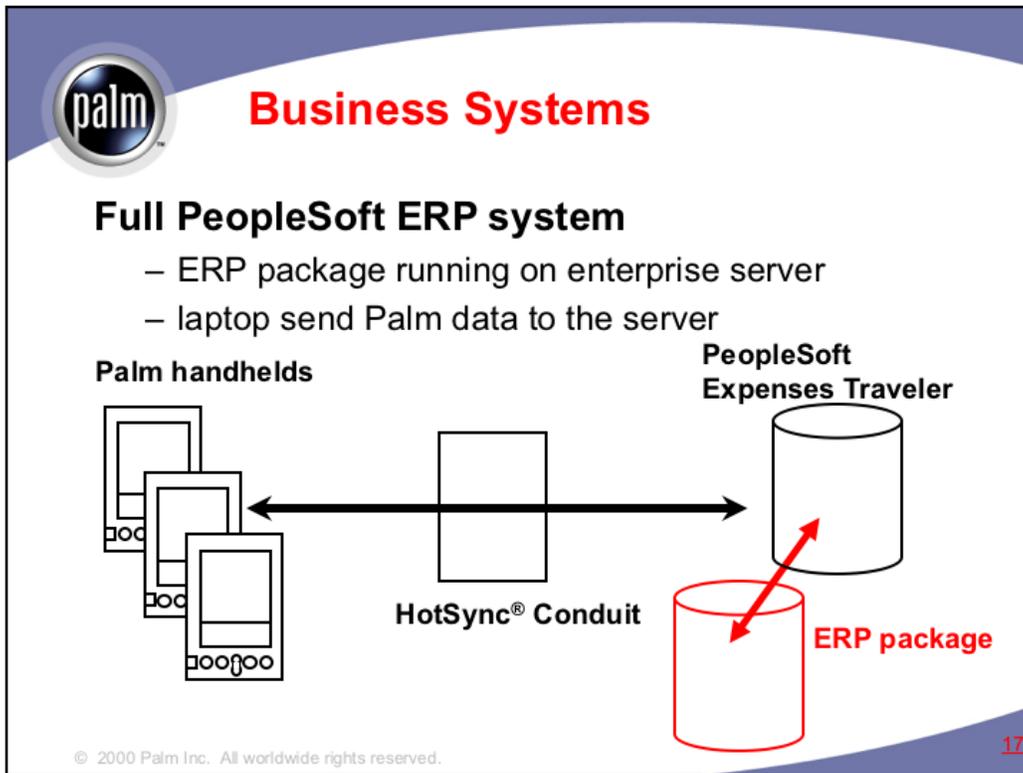


## Business Systems

The proxy computer must be running PeopleSoft Expenses Traveler.

The Palm system requires that PeopleSoft Expenses Traveler is installed and running on the proxy device. This is the same application that was used, and still can be used, to record expenses without a Palm handheld. The Palm system developed for PeopleSoft sends data directly to the laptop application without altering its normal behavior. This helps to minimize the extra IT support needed to get the Palm extension up and running.

*As of January 2000, the Palm application requires PeopleSoft Expenses Traveler version 7.5.3. During the spring of 2000 it is expected that a version compatible with PeopleSoft version 8 will be released.*



## Synchronization Software

The enterprise servers run the full PeopleSoft package.

The proxy laptop sends the expense information to the enterprise servers running the full ERP package. The Palm system here does not alter this at all, eliminating the need to make changes on the servers to accommodate the Palm system. This is no accident., the Palm application and conduit were developed to work with an existing PeopleSoft application with few if any changes.



**Thank you!**

**Any questions?**



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