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CON9055: Advanced Management of Oracle PeopleSoft with Oracle Enterprise Manager

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Hardware and Software
Engineered to Work Together

ORACLE
OPEN
WORLD

Safe Harbor Statement

The following is intended to outline our general product direction. It is intended for information purposes only, and may not be incorporated into any contract. It is not a commitment to deliver any material, code, or functionality, and should not be relied upon in making purchasing decisions. The development, release, and timing of any features or functionality described for Oracle's products remains at the sole discretion of Oracle.

Program Agenda

- **Introduction**
- **Strategy**
- **Application Management**
- **Value Proposition**
- **AMS for PeopleSoft Roadmap**
- **California State University**
- **Conclusion Discussion and Q&A**

Introduction



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Customer Challenges

Fragmented IT Management

- Management as an afterthought
- Many disparate/bolt-on tools
- Many skill sets
- Monitoring data overload
- Finger pointing
- No automated resolution
- No business visibility



Integrated Application-to-Disk Management

Customer Benefits



- Single source of truth
- Uniformity and standardization
- Shorter deployment times
- Easier to manage and upgrade
- Lower cost of ownership
- Reduced change management risk
- Improved support experience

Strategy



Application Management Strategy

EM Framework & Plug-ins + Application Content

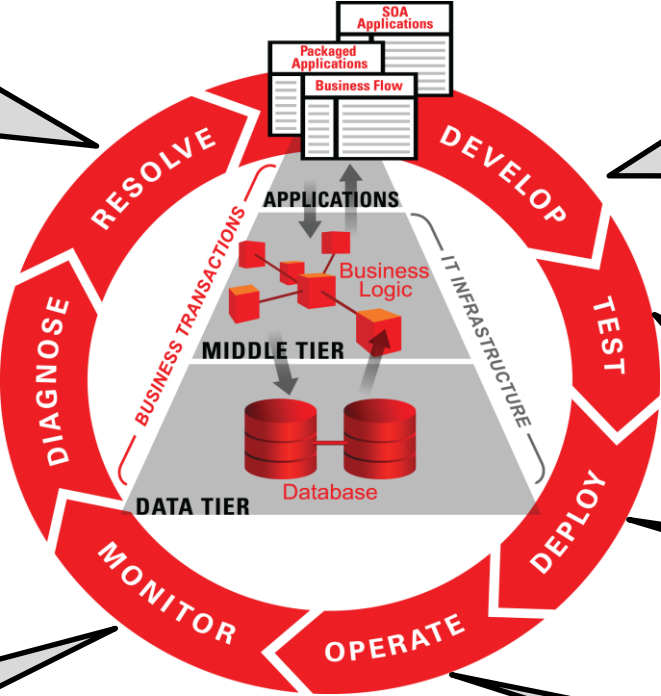
- Manage the Application as a single entity. “Applications Management” changes the conversation from horizontal to vertical solutions
- Provide complimentary, not competitive, functionality for individual Apps.
- Leverage, capitalize, and reuse native Apps functionality.
- Provide connectivity between the different technology components (e.g., end-to-end management story)

Application Management Strategy

EM Solution Areas

- My Oracle Support
- EM Support Workbench
- EM Healthchecks
- Oracle Solution Architects
- User Productivity Kit
- User Adoption Services
- Education

- Oracle Solution Architects
- Personalizations
- BI Publisher
- Oracle Development Stds.
- Oracle CEMLI



Application Management Suite (All)

- Real Application Testing
- Application Testing Suite
- Data Masking (PSFT Roadmap)
- Test Data Management

Application Management Suite (E-Business Suite Only)

Application Management Suite (All)

Application Management Suite (All)

Application Management Strategy

Common and Unique Capabilities

Unique to SEBL

Integration with HI/SI Framework

SARM Integration & Reporting

Workflow Process Monitoring

Centralized Log Access

Unique to PSFT

App Server Admin

Process Sched. Admin

Centralized Log Access

Common Features

Target Discovery & Organization

Performance/Component Drill Down

Monitoring/Metrics/Alerting

Centralized Console & Repository

Automation of Manual Steps

Historical Reporting

Role & Access Control

Integration with Other EM Products

Unique to EBS

Concurrent Processing Dashboard

End-to-End Monitoring

JVM Monitoring

Customization Management

Automated Patch Management

Configuration/Setup Data Management

Automated Cloning

Unique to JDE

Server Manager Integ.

Application Management Strategy

Common and Specific Capabilities

Common Features

Target Discovery &
Organization

Performance/Component
Drill Down

Monitoring/Metrics/Alerting

Centralized Console &
Repository

Automation of Manual Steps

Historical Reporting

Role & Access Control

Integration with Other EM
Products

PeopleSoft

App Server Admin

Process Sched. Admin

Centralized Log Access

Support for Platforms

Application Management Strategy

PeopleSoft Capabilities

User Experience Management

- Service Level Objective
- Real User Monitoring
- Synthetic User Monitoring
- Service Test
- Key Performance Indicator
- Performance Metrics
- Usage Metrics
- Service Dashboard
- Service Level Reports

Lifecycle Automation

- Domain Administration
- Job System
- My Oracle Support Integration

System Monitoring and Diagnostics

- Thresholds
- Alert Notifications
- Metric History
- Extensive Log Analysis
- Process Scheduler Management

Configuration Management

- Discovery
- System Modeling
- Service Modeling
- Configuration Snapshot
- Change Audit Trail
- Configuration Compare
- Configuration Policy

Additional Oracle Enterprise Manager products to augment Application Management

Suite for PeopleSoft:

- Application Testing Suite
- Real Application Testing
- Data Masking Pack
- Test Data Management
- Diagnostic Pack for Database
- Tuning Pack for Database
- Configuration Management Pack for Database
- System Monitoring Plug-in for Non-Oracle Databases
- System Monitoring Plug-in for Storage

Application Management Strategy

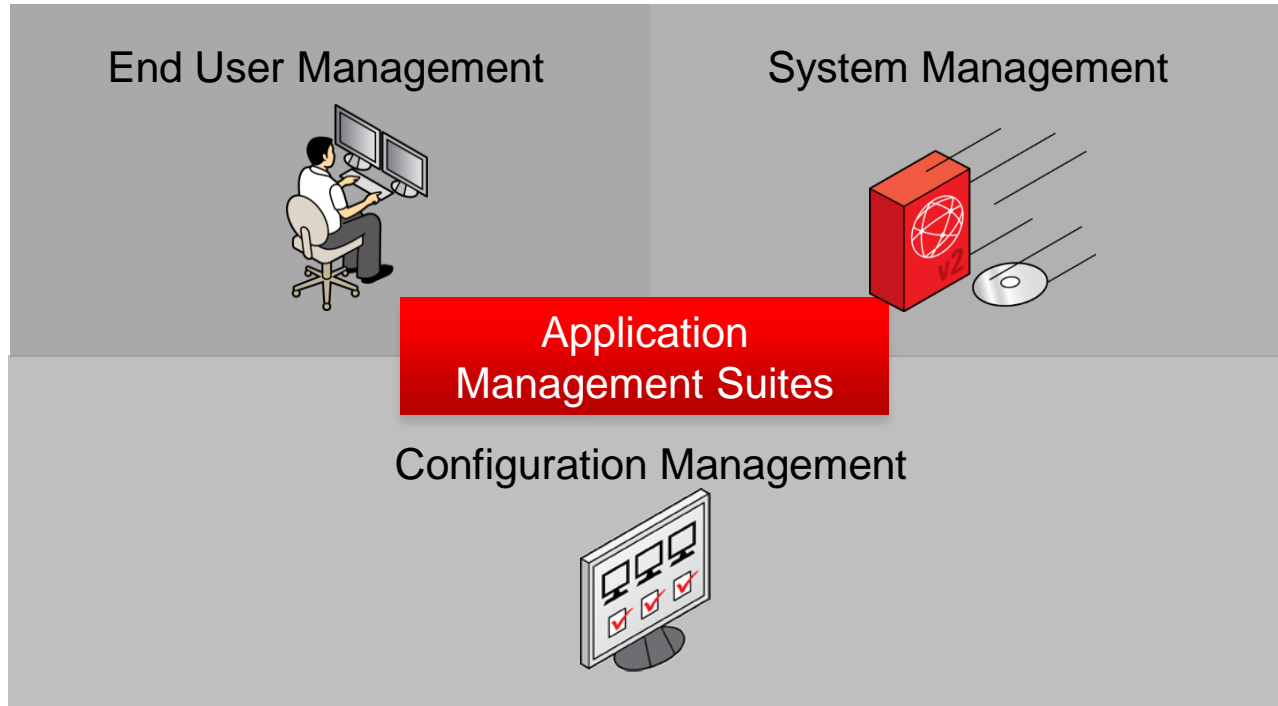
Tangible, Positive Return on Investment

- Establish consistency and uniformity
 - Replaces proprietary/manual tools and procedures
 - Standardized environment for enduring custom scripts
- Centralize on a common toolset, repository, and console
- Enable proactive management via Alerts, Notifications, and Automated Corrective Actions
- Better visibility and efficiency across all individual, yet related, components
- Dashboards – out-of-the-box and custom / ad-hoc and historical (BI Publisher)

Application Management



Complete Application Management



System Management

Goal: Recognition and Organization of Application Targets

<input type="checkbox"/>			HANRPRJ.pssystem.0563bf00-e56e-11e1-a5e7-c9303a997b20		PeopleSoft System
<input type="checkbox"/>			HANRPRJ.db.0563bf00-e56e-11e1-a5e7-c9303a997b20		PS Application Database
<input type="checkbox"/>			HANRPRJ.HRDEV-85108.site.CSSLN578.d_csupsoft_pt85108		PS Web Site
<input type="checkbox"/>			HANRPRJ.HRDEVRR-85108.site.CSSLN578.d_csupsoft_pt85108		PS Web Site
<input type="checkbox"/>			HRDEV-85108.pia.CSSLN578.d_csupsoft_pt85108		PS PIA
<input type="checkbox"/>			HRDEVRR-85108.pia.CSSLN578.d_csupsoft_pt85108		PS PIA
<input type="checkbox"/>			hanprjB.app.csslu611.hr_hanprj		PS Application Server Domain
<input type="checkbox"/>			HANRPRJ.HRDEV-85108.site.CSSLN583.d_csupsoft_pt85108		PS Web Site
<input type="checkbox"/>			hanprj.prcs.CSSLN656.d_hr_pt85108		PS Process Scheduler Domain
<input type="checkbox"/>			hanprj.prcs.csslu611.hr_hanprj		PS Process Scheduler Domain

- Numerous individual targets per Product per instance. More targets depending on complexity
- Leverage the system and services concepts in EM - a logical way to group related components
- Can be managed, monitored, or reported on like any other Target

System Management

Goal: Centralized Access and Management

ORACLE Enterprise Manager
Grid Control 11g

Home Targets Deployments Alerts Compliance Jobs Reports My Oracle Support
Setup Preferences Help Logout

Databases | PeopleSoft | Web Applications | Hosts | Middleware | Services | Systems | Groups | Virtual Servers | All Targets | NetApp Filers

PeopleSoft System: SADEV.PSSystem

Page Refreshed Sep 20, 2011 11:33:19 AM EDT Refresh Launch Dashboard

Home Charts Administration Components Topology

Search All [] Go Edit PeopleSoft System Customize Columns

Name	Type	Status	Alerts	Policy Violations
SADEV.app.lsa01d.u01.app_psoft_saddev	PS Application Server Domain	↑	2 1	0 0 0
SADEV.db.9ecbe2d8-6c22-11e0-b350-e3432acdf355	PS Application Database	↑	0 0	0 0 0
SADEV.pia.lorw01d.u01.app_psoft_sadmo	PS PIA	↓		0 1 0
SADEV.prcs.lsa01d.u01.app_psoft_saddev	PS Process Scheduler Domain	↑	0 0	0 0 0

Home Charts Administration Components Topology

Related Links

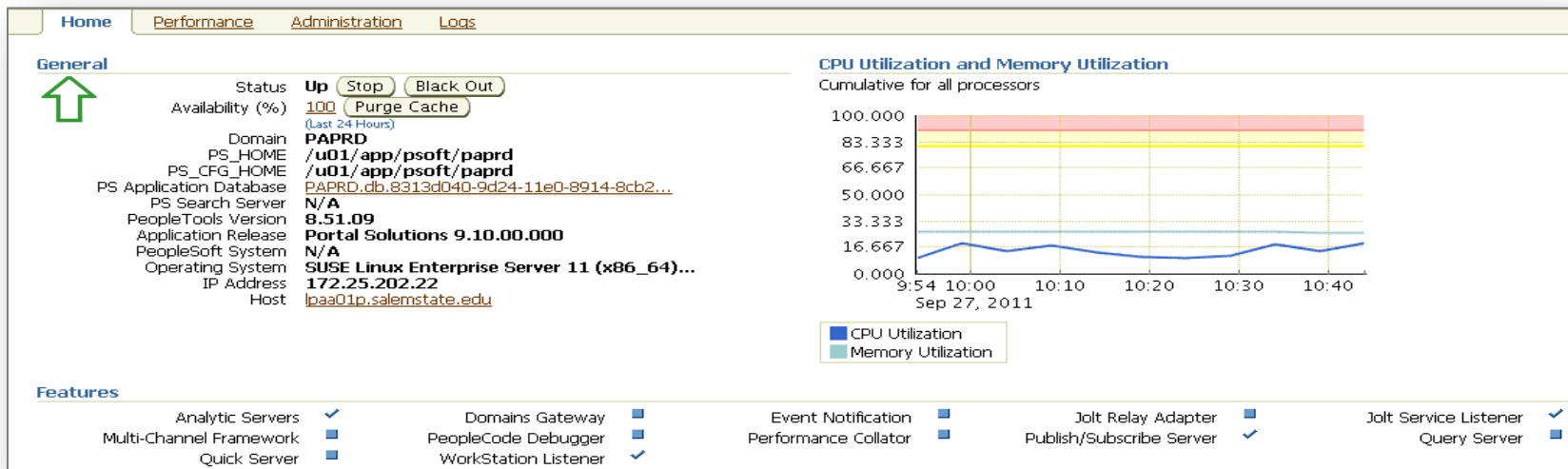
Access Edit PeopleSoft System PeopleSoft System URL Setup
Reports Target Properties

From single point

- Troubled component clearly identified
- Troubled component restarted

System Management

Goal: Proactive Target Monitoring

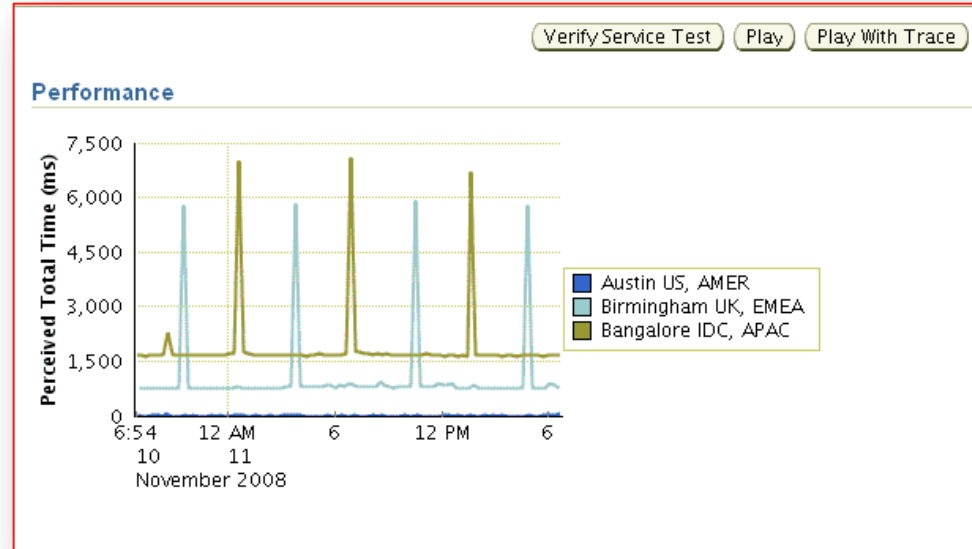


- Server details
- Memory and CPU utilization
- Enabled features

System Management

Create Synthetic Tests

- Monitor performance from an end-user perspective using:
 - Web Transactions
 - SOAP Tests
- Include Service Tests for:
 - Simple Login Tests
 - Transactions that resemble critical paths taken by end-user
 - SOAP Transactions for associate web services



System Management

Service Level Management

- Define operational level objectives
 - Gather business requirements
 - Agree to expected service levels
 - Model end-to-end services
- Centralize management of SLA's to gain enterprise-wide view of IT performance
- Dashboards and reports summarize KPI's and service levels achieved

Hosts | Databases | Application Servers | Web Applications | Services | Sys

[Generic Service: Oracle BI Demo Service >](#)

Edit Service Level Rule

Service Level is a measure of service quality. Service Level is calculated as percentage of time that the service is available. Service Level will be calculated for different time periods, but the same criteria will apply.

Expected Service Level

Specify the percentage of time during business hours that you expect your service to be available.

Expected Service Level

Actual Service Level

Business Hours

Days Monday Tuesday Wednesday
 Thursday Friday Saturday
 Sunday

Start Time : End Time :

Service Time Zone (UTC+00:00) (GMT)

ORACLE Enterprise Manager 10g
Grid Control

Services Dashboard

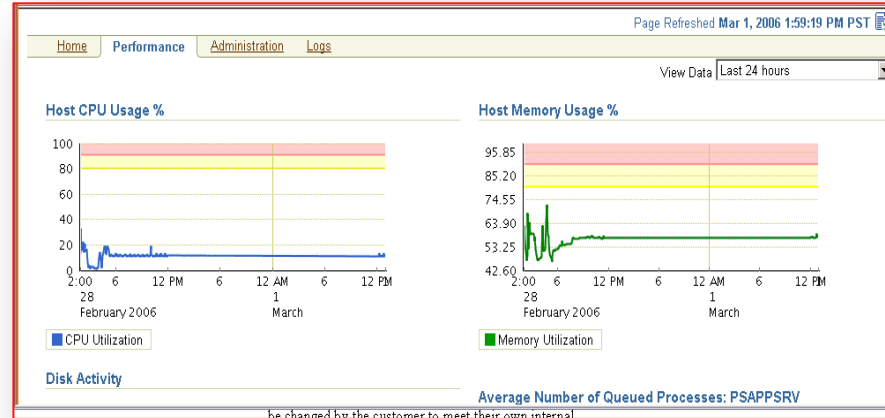
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Service	Status	Performance	Usage and Business Indicators	Components	Service Level		
					Last 24 Hours	Last 7 Days	Last 31 Days
PeopleSoft Login		798.00 Perceived Total Time...	No Metrics Available	1 Up	100.00%	99.72%	99.68%

System Management

Domain/Host Management

- Centralized system management
- Set up alerts when thresholds have been reached
- Leverage out of the box PSFT specific metrics and policies as well as host alerts (i.e. file system space)
- Review performance data to identify issues or anomalies
- Access Tuxedo Command Line
- Purge/Archive Cache
- Clean IPC Resources



The screenshot displays the Oracle Enterprise Manager Administration page for a PS Application Server Domain. The page is titled "ORACLE Enterprise Manager Grid Control 11g". The navigation tabs include Home, Performance, Administration, and Logs. The "View Data" dropdown is set to "Last 24 hours".

The page shows the following configuration management options:

- Configuration Management:**
 - [Configure Domain](#)
 - [Create Like Domain](#)
 - [Compare Domain Configurations](#)
 - [Compare To Multiple Configurations \(Jobs\)](#)
 - [Last Collected Configuration](#)
 - [View Saved Configurations](#)
 - [History](#)
 - [Copy Configuration](#)
- Domain Management:**
 - [Start Domain](#)
 - [Start Domain \(Parallel\)](#)
 - [Stop Domain](#)
 - [Stop Domain \(Forced\)](#)
 - [Purge/Archive Cache](#)
 - [Delete Domain](#)
 - [Preload File Cache](#)
 - [Clean IPC Resources](#)
- Tuxedo Management:**
 - [Access Tuxedo Command Line \(TMADMIN\)](#)
 - [Process Status](#)
 - [Client Status](#)
 - [Queue Status](#)
- Additional Utilities:**
 - [Execute Host Command](#)

System Management

Log File Management

- Let Enterprise Manager manage the archiving and purging of your log files
- Set up log file alerts
- Log files can be scanned for desired patterns or error codes
- Reduce on-disk footprint
- Log directories remain manageable
- Ability to Archive log files

Create 'PS Purge Archive Log' Job

General Parameters Credentials Schedule Access

Log Patterns for Purging

Log Paths and Patterns	Target	Purge Retention Period (in days)	Archive	Archive Directory
/dst/home/psoft/pt/PT8.51-901-11/appserv/Q8519011/ULOG.*	Q8519011.app.st-hpp03.dsi_home_psoft_pt_PT851-901-11	<input type="checkbox"/> 7	<input type="checkbox"/>	
/dst/home/psoft/pt/PT8.51-901-11/appserv/Q8519011/stderr	Q8519011.app.st-hpp03.dsi_home_psoft_pt_PT851-901-11	<input type="checkbox"/> 7	<input type="checkbox"/>	
/dst/home/psoft/pt/PT8.51-901-11/appserv/Q8519011/stdout	Q8519011.app.st-hpp03.dsi_home_psoft_pt_PT851-901-11	<input type="checkbox"/> 7	<input type="checkbox"/>	
/dst/home/psoft/pt/PT8.51-901-11/appserv/Q8519011/LOGS/*.LOG	Q8519011.app.st-hpp03.dsi_home_psoft_pt_PT851-901-11	<input type="checkbox"/> 7	<input type="checkbox"/>	
/dst/home/psoft/pt/PT8.51-901-11/appserv/Q8519011/LOGS/*.dmp	Q8519011.app.st-hpp03.dsi_home_psoft_pt_PT851-901-11	<input type="checkbox"/> 7	<input type="checkbox"/>	
/dst/home/psoft/pt/PT8.51-901-11/appserv/Q8519011/LOGS/*.log	Q8519011.app.st-hpp03.dsi_home_psoft_pt_PT851-901-11	<input type="checkbox"/> 7	<input type="checkbox"/>	
/dst/home/psoft/pt/PT8.51-901-11/appserv/Q8519011/LOGS/*.lp	Q8519011.app.st-hpp03.dsi_home_psoft_pt_PT851-901-11	<input type="checkbox"/> 7	<input type="checkbox"/>	
/dst/home/psoft/pt/PT8.51-901-11/appserv/Q8519011/LOGS/*.mps	Q8519011.app.st-hpp03.dsi_home_psoft_pt_PT851-901-11	<input type="checkbox"/> 7	<input type="checkbox"/>	
/dst/home/psoft/pt/PT8.51-901-11/appserv/Q8519011/LOGS/*.tracesql	Q8519011.app.st-hpp03.dsi_home_psoft_pt_PT851-901-11	<input type="checkbox"/> 7	<input type="checkbox"/>	
/dst/home/psoft/pt/PT8.51-901-11/appserv/Q8519011/LOGS/*.trc	Q8519011.app.st-hpp03.dsi_home_psoft_pt_PT851-901-11	<input type="checkbox"/> 7	<input type="checkbox"/>	
/dst/home/psoft/pt/PT8.51-901-11/appserv/Q8519011/LOGS/TUXLOG.*	Q8519011.app.st-hpp03.dsi_home_psoft_pt_PT851-901-11	<input type="checkbox"/> 7	<input type="checkbox"/>	
/dst/home/psoft/pt/PT8.51-901-11/appserv/Q8519011/LOGS/peopletools_state*	Q8519011.app.st-hpp03.dsi_home_psoft_pt_PT851-901-11	<input type="checkbox"/> 7	<input type="checkbox"/>	
/dst/home/psoft/pt/PT8.51-901-11/appserv/Q8519011/LOGS/process_state*	Q8519011.app.st-hpp03.dsi_home_psoft_pt_PT851-901-11	<input type="checkbox"/> 7	<input type="checkbox"/>	
/dst/home/psoft/pt/PT8.51-901-11/appserv/core	Q8519011.app.st-hpp03.dsi_home_psoft_pt_PT851-901-11	<input type="checkbox"/> 7	<input type="checkbox"/>	

Value Proposition for PeopleSoft Customers

- Resource Investment
- Disparate Administration
- Business Continuance
- Advanced Indication of Issues
 - Alerts
 - Log File Analysis

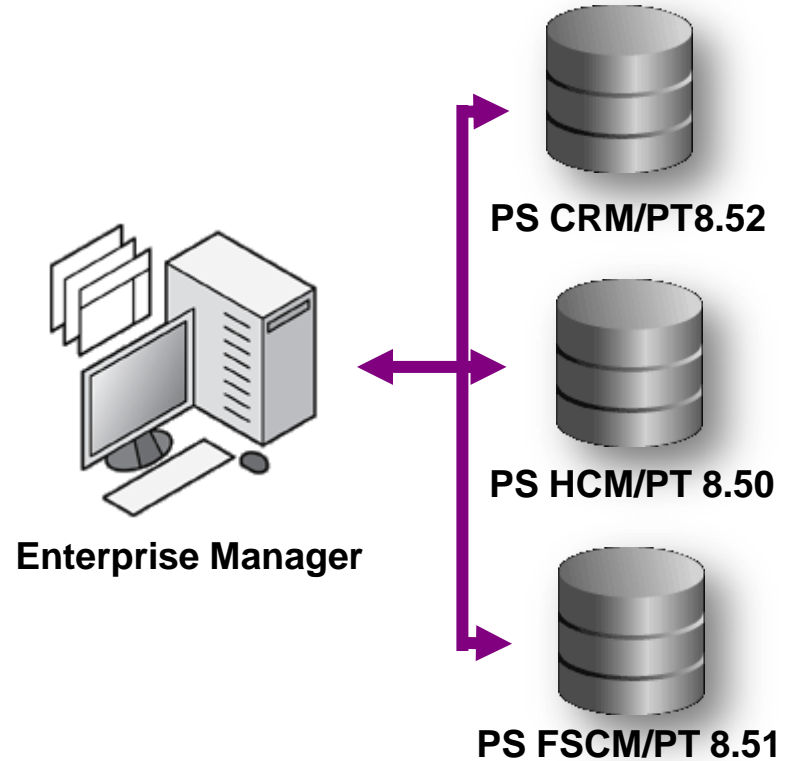
AMS for PeopleSoft Roadmap

Supported PeopleSoft Releases

- Supported releases

PSFT Release	Supported PeopleTools Versions	Certified EM Release
8.50	8.48– 8.50	EM 10g R5
8.51	8.48– 8.50	EM 11g R1
8.52	8.50 – 8.52	EM 11g R1
8.53*	8.51-8.53	EM 12c

* Planned CY12



AMS for PeopleSoft Roadmap

Investment Strategy

- Enhance current solutions
- Deepen integration with RUEI
- Continued adoption of base Enterprise Manager capabilities
(e.g. Supportability Workbench, MOS integration, Health Checks, Incident Manager, etc.)

California State University



ORACLE

California State University (CSU)



Milten Garia

- Milten has worked for California State University, Chancellor's office and California State University Northridge for 10 years providing system-wide Development and Infrastructure support for 23 campuses.

CSU Agenda

- Introduction
- Background
- Environment
- Requirements
- Project Status
- Challenges
- Discovery
- Lessons Learned

CSU Chancellor's Office

- Located seaside in sunny Long Beach
- Office of the Chancellor is the headquarters for the CSU 23-campus system.



California State University

- 427,000 students
- 44,000 faculty and staff
- 82,000 graduates a year
- 2 million alumni
- The largest, most diverse, and one of the most affordable university systems in the country
- 23 campuses, 7 off-campus centers and the Chancellor's Office
- CSU Long Beach and San Diego nationally in top 10 in Received Applications (>45,000 per campus)



Notable Alumni & Former Students

- **Steven Spielberg & Tom Hanks – Dynamic Duo**
- **Hilda Solis – Secretary of Labor**
- **Misty-May Treanor – Gold Medalist**
- **Kevin Costner – Actor and a decent Baseball Player**
- **Cheech – Better half of Chong**
- **Billie Jean King – Tennis Royalty**
- **Sol Price – Founder of Costco – “If you can’t find it in Costco, then you don’t need it”**
- **“Weird Al” Yankovic – “Eat It” and 150 more like it**
- **Robert Peterson – Founder of Jack In the Box (and Secret Sauce)**
- **Stephen Hillenberg – Executive Producer, SPONGEBOB**
- **Larry Twersky – President, 1-800-DENTIST**
- **Charles Noski – CFO of Bank of America**
- **Peter Oppenheimer – CFO of Apple**
- **Teri Garr, Debra Winger, Eva Mendes, Paula Abdul**
- **Greg Bouras and yours truly**



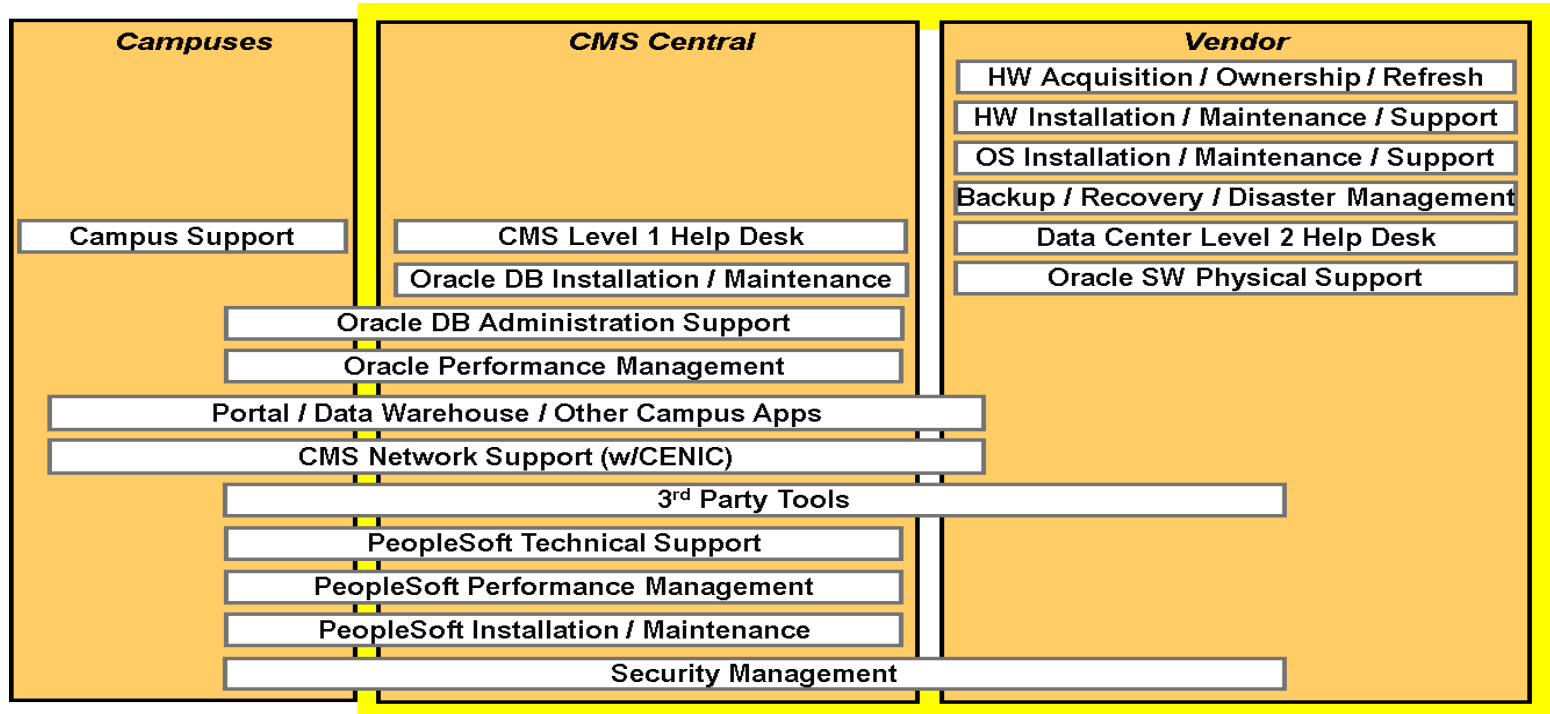
California State University

Background

CSU and Oracle

- **24 Campuses live with HR 9.0, PeopleTools 8.51.08**
 - **300+ individual production and development PeopleSoft instances**
- **1 single Common Financial System (CFS) for all 24 campuses, Finance 8.9, PeopleTools 8.48.16**
- **RDBMS – Oracle 10G. Plans to migrate to 11G in 2012-2013**
- **Unix Solaris 10 Environment**
- **OEM 11G**

CSU Service Model & Responsibilities



Enterprise Roles

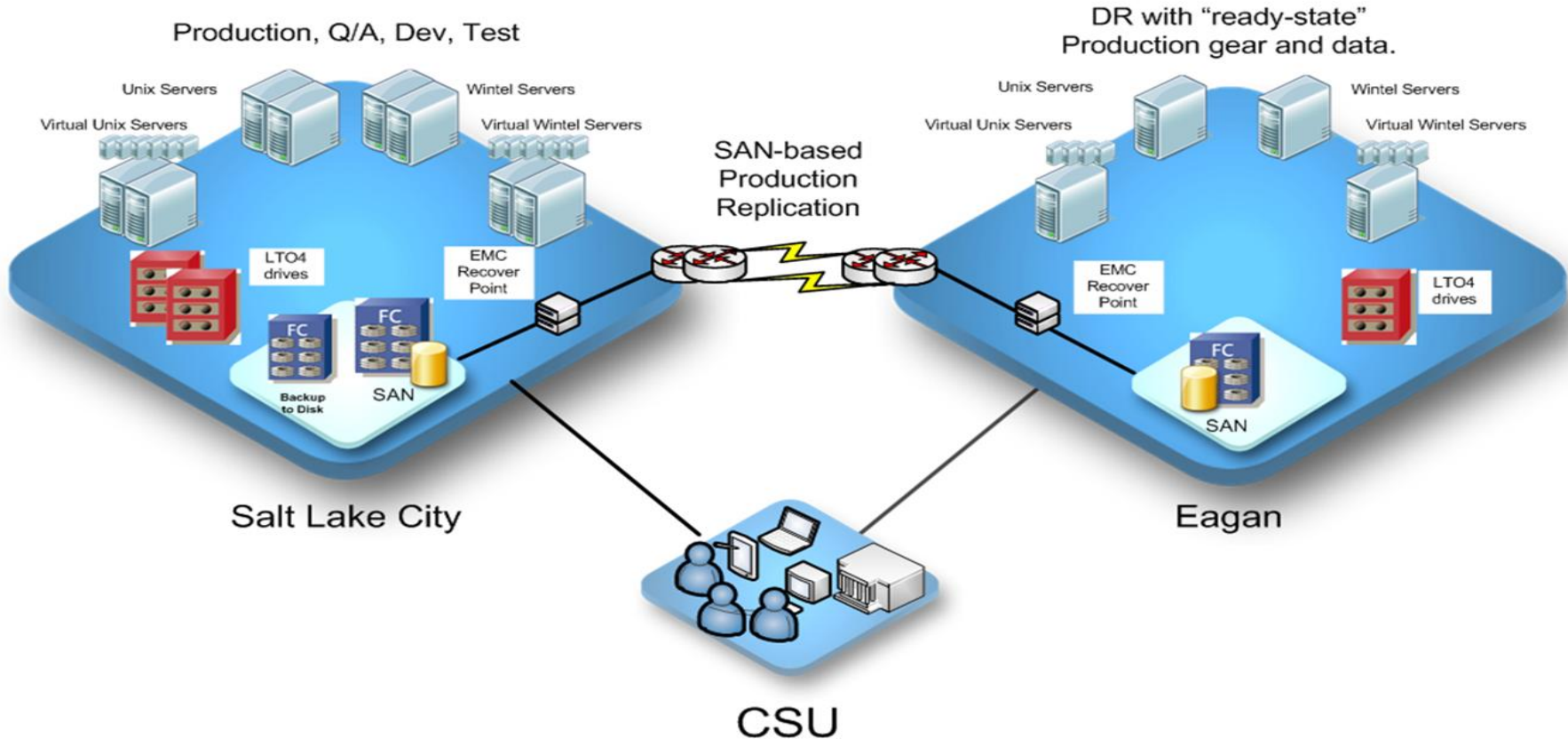
- **Unisys (Vendor)**
 - Installation
 - Administration
 - Developer
- **Common Management System (CMS)**
 - Administrator
 - Oversight
- **Individual Campus**
 - User



California State University

Environment

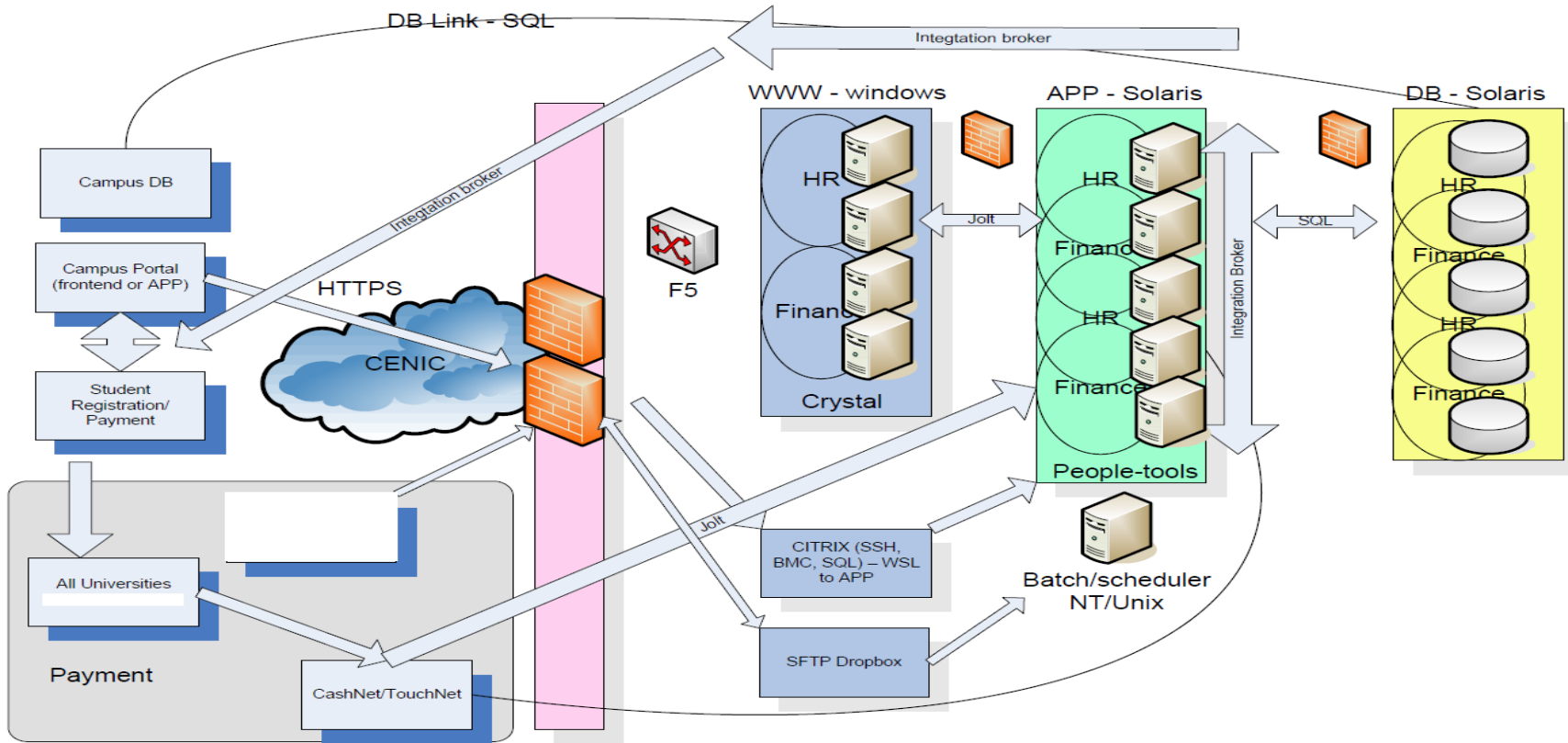
CSU/Unisys ERP Data Center Services



Environment

- **Database – SUN M5000s, 128G memory running 19 Virtual Containers in 10 Solaris Zones (ZFS)**
- **Application – SUN M5000s 256G memory running 27 Virtual Containers 10 Solaris Zones (ZFS)**
- **Web – 15 Windows 2008 servers, 94 production and over 200 development PIA instances**
- **Infrastructure – All servers are T4s 256G memory running Solaris 10 virtual containers**

CSU/Unisys Application Diagram



Application Domain Structure

- Application domains owned, managed and secured by dedicated application 'a' and process scheduler 'p' accounts

```
hlbprdp 25698 1648 Jul_19 ? 01:23 BBL -C dom=PSUNX_37397 -g 30002 -i 0 -u csslu650 -U /hr/hlbprd/appserv/prcs/hlb
hlbprda 3960 1648 Jul_19 ? 04:52 BBL -C dom=hlbprdA_47529 -g 30002 -i 0 -u csslu650 -U /hr/hlbprd/appserv/hlbprd
```

- Provides discernible distinction between user accounts to manage BBLs and server processes

```
hlbprdp@csslu650:hlbprd:/hr/hlbprd> ipcs|grep hlbprdp
q 1006633881 0 --rw-rw---- hlbprdp psa
q 117441432 0 --rw-rw---- hlbprdp psa
q 1493173143 0 --rw-rw---- hlbprdp psa
q 2097152918 0 --rw-rw---- hlbprdp psa
q 100664213 0 --rw-rw---- hlbprdp psa
```

- Performance Management (top/prstat)

PID	USERNAME	SIZE	RSS	STATE	PRI	NICE	TIME	CPU	PROCESS/NLWP
15252	hlbprdp	368M	256M	sleep	51	0	0:02:23	0.0%	PSDSTSRV/48
17660	hlbprdp	364M	248M	sleep	51	0	0:02:19	0.0%	PSDSTSRV/48
25757	hlbprdp	336M	165M	sleep	1	0	0:20:05	0.0%	PSMSTPRC/47
2737	hlbprdp	323M	154M	sleep	57	0	0:00:22	0.0%	PSMONITORSRV/47
26180	hlbprdp	134M	112M	sleep	59	0	0:22:13	0.0%	PSPRCSSRV/1
25698	hlbprdp	10M	7776K	sleep	59	0	0:01:23	0.0%	BBL/1

Security – User Access Control

- **Unix is an open source OS, vulnerable to security threats**
- **eTrust Access Control by Computer Associates**
- **eTrust Access Control for UNIX**
 - **Simplifies User Administration via Policy Model Database (PMDB)**
 - **Auditing – Logs every action and associates it with the user**
 - **Enables a finer granularity of permission control over directories and files**
- **Mechanism to allow campus users to manage their own defined set of processes**
- **“sesu” and “sesudo” are the eTrust replacement for the commonly used “su” and “sudo”**

ps_admin script and sesudo

- “sesudo” operates on a per-command basis and provides the following features:
 - The ability to restrict what commands a user may run on a per-host basis.
- CSU Wrapper script (ps_admin) to execute psadmin utility.
 - Provides campuses ability to manage development domains.
 - Provides CMS staff ability to manage development, production and pre-production environments
 - `sesudo ps_admin -d <sid> -o <stop/start/..>`



California State University

Requirements

CSU and Unisys Requirements

- **Manage the entire PeopleSoft Stack with one product**
- **Alerts**
- **Monitoring – Health and Performance**
 - **Application Servers**
 - **Web Servers**
 - **Unix and NT Process Schedulers**
- **Dashboards**
- **Sizing and Forecasting Reports and Requirements**
- **Unisys has additional extensibility responsibilities**

Metrics

- # of Process queued for App Server
- # of Process queued for Pub/Sub (handlers and dispatchers)
- # of non-idle PSAPPSRVs
- Total Tuxedo Connections
- PSAPPSRV handler processing time – Average time for each PSAPPSRV to complete a transaction
- PS Application Server Client/Queue Server/Status
- # Queued Processes for Process Scheduler
- # Queued Processes for Distribution Server
- PS Process Monitor
- # of Active Threads on the PIA
- Number of Active Users/Sessions
- Number of Unique Visitors during a selected period
- Average Visit per user session
- Amount of Physical memory allocated and in-use for a PIA
- PIA Throughput
- PS PIA Availability
- PS Web Site Availability

Campus Requirements

- **Monitoring Purposes Only**
 - **Physical Server Resources**
 - **Domain Performance**
 - **Log File Management**



California State University

Project Status

Project Overview

September 2012

Phase I (complete)

- Made Test System Available (ZZ)
 - Work Through Issues
 - Development Deployment Model
- Test out full system discovery (Campus PRJ and TRN)

Phase II (complete)

- Pre-Production System Discovery

Phase III (in progress)

- Extend Metric and Security Model
- Roll Out to Campuses



California State University

Challenges

Environmental OS

- **PS_HOME user .profile changes**
 - **umask (002)**
 - **Addition of new variable (ARG_PARAM)**
- **Modification of CSU Korn Shell script (psenv)**
 - **psenv: Consolidation of psconfig.sh, psdb.sh and pstuxenv.sh**
 - **Incorporate Bourne Shell**
- **OEM Plugin Agent Discovery Variable**
 - **/opt/oracle/psft/ps_login_vars.sh**

Bourne and Korn

- **psenv runs with Korn Shell**
- **OEM runs in context of Bourne Shell**
- **Most Korn is backward compatible with Bourne, but changes required to psenv:**
 - **Syntactical – “[[“ to “[“, “>= to -gt, Double Quotes around Variables**
 - **Export Commands**
 - **Korn (export PSTAB=`\$ECHO \$psenv_str|\$CUT -d: -f3`)**
 - **Bourne (PSTAB=`\$ECHO \$psenv_str|\$CUT -d: -f3`; export PSTAB)**

Bourne and Korn (cont'd)

- **OEM executes psenv within Bourne subshell /usr/bin/sh**
 - “dot invocation” does not pass in positional parameters to execute shell scripts – in this case psenv
 - Use argument variables e.g.
 - **ORACLE_SID="\$ARG_PARAM“ instead of ORACLE_SID="\$1"**
(shell scripts inherit environmental variables)



California State University

Discovery

Target Discovery

- **Discovery Goals**
 - **Application server domains**
 - **Pub/Sub servers**
 - **Unix and NT Process Schedulers**
 - **PIA Web server instance; Online and Report Repository**

Target Credentials

- **Target Discovery via tuxedo account ('a' or 'p')**
- **Required for Administration Utilities**
 - **Domain, Tuxedo, Configuration Management**
 - **Execute Host Commands**
 - **Requires additional Security changes**
 - **Allow Surrogate Access to the 'Oracle' account to switch to the OS user account**

Target Discovery

<input type="checkbox"/>		 HANRPRJ.pssystem.0563bf00-e56e-11e1-a5e7-c9303a997b20		PeopleSoft System
<input type="checkbox"/>		HANRPRJ.db.0563bf00-e56e-11e1-a5e7-c9303a997b20		PS Application Database
<input type="checkbox"/>		HANRPRJ.HRDEV-85108.site.CSSLN578.d csupsoft_pt85108		PS Web Site
<input type="checkbox"/>		HANRPRJ.HRDEVRR-85108.site.CSSLN578.d csupsoft_pt85108		PS Web Site
<input type="checkbox"/>		HRDEV-85108.pia.CSSLN578.d csupsoft_pt85108		PS PIA
<input type="checkbox"/>		HRDEVRR-85108.pia.CSSLN578.d csupsoft_pt85108		PS PIA
<input type="checkbox"/>		hanrprjB.app.csslu611.hr hanrprj		PS Application Server Domain
<input type="checkbox"/>		HANRPRJ.HRDEV-85108.site.CSSLN583.d csupsoft_pt85108		PS Web Site
<input type="checkbox"/>		hanrprj.prcs.CSSLN656.d hr_pt85108		PS Process Scheduler Domain
<input type="checkbox"/>		hanrprj.prcs.csslu611.hr hanrprj		PS Process Scheduler Domain



California State University

Lessons Learned

Lessons Learned

- **Required Expertise and Resources**
 - **Unix/Linux/Windows Administration**
 - **DBA**
 - **PeopleSoft administration**
 - **Security**
 - **OEM Implementation Guide**

Discovery Process Script

- **Use “Execute Host Command” as the application owner account (‘a’/‘p’) to ensure correct authentication/authorization**
- **Target discovery is conducted by:**
 - The account which installs and administers the OEM Plugin (i.e. ‘oracle’) → /opt/oracle/psft. This account will require application/process scheduler privileges to write to /data directory).
 - The discovery (‘oracle’) account performs a switch user command to the application domain account: ‘su <domain admin>’
 - **Example**
 - su hanrprja
 - su hanrprjp

Discovery Process Script (cont'd)

- The discovery process is conducted through a dynamically generated script.
- The content can be located in psemagent.trc when debug option is turned on.

```
LOGIN_SHELL = test -f $HOME/psft/ps_login_vars.sh &&  
. $HOME/psft/ps_login_vars.sh;  
PATH=/opt/oracle/product/gcagent/agent11g/sysman/admin/scripts/  
psem/loginshell:$PATH; export PATH; -sh -c ' cd  
/hr/hantrn/appserv; . ../toolsadmin.sh; echo XXX PS EM PLUGIN  
OUTPUT START XXX; PS_CFG_HOME=/hr/hantrn; export PS_CFG_HOME;  
/hr/hantrn/appserv/psadmin -v';
```

Discovery Process Script (cont'd)

- Validates the existence of the `ps_login_vars.sh` within `/opt/oracle/psft` directory (plug-in installer home directory)
 - Sets the `$HOME` path for the user account (domain owner) used for discovery
- Agent on target runs in context of plug-in installer account
- For discovery, agent does “su” to domain owner account note: without dash “-”
 - i.e. discovery account inherits context from agent account
- The custom “`ps_login_vars.sh`” here ensures discovery account has correct `$HOME` set

```
csslu611::/opt/oracle/psft> view ps_login_vars.sh
"ps_login_vars.sh" [Read only] 3 lines, 136 characters
LOCAL_LOGNAME=`whoami`; export LOCAL_LOGNAME
HOME="/hr/users/$LOCAL_LOGNAME"; export HOME
~
```

WHY?

Discovery Process Script (cont'd)

loginshell & Bourne Shell

- The plug-in instantiates a lesser known construct of calling “sh” by a “-”, as “-sh”. (*known as “loginshell”*)
 - The “-” invocation of “sh” forces the examination of .profile for HOME directory.

```
hanrtrn@cssl611:hanrtrn:/opt/oracle/product/gcagent/agent11g/sysman/admin/scripts/psem/loginshell> ls -ltar
```

```
lrwxrwxrwx  1 oracle  dba              7 Jun 28 05:05 -sh -> /bin/sh
```

▪ Bourne Shell Constructs

- Script requires the use of Bourne Shell like sh and bash
- Passing of parameter as literals instead of Bind Variables (i.e. ORACLE_SID="\$ARG_PARAM" instead of ORACLE_SID="\$1") in psend
(*Bourne shell in Solaris 10 conforms strictly to POSIX standard*)

Changes to .profile

```
#!/hr/hantrtn/.profile
#
unmask 002
LOGNAME=`whoami`; export LOGNAME
EDITOR=vi; export EDITOR
stty erase ^H
PS1="\${LOGNAME}@`uname -n`:\${ORACLE_SID}:\${PWD}> "; export PS1

if [ "$1" = "" ]
then
  APP_OSUSER=$LOGNAME; export APP_OSUSER
else
  APP_OSUSER=$1; export APP_OSUSER
fi

if [ "$APP_OSUSER" = "hantrtn" ] || [ "$APP_OSUSER" = "hantrtna" ] || [ "$APP_OSUSER" = "hantrtnp" ]
then
  ARG_PARAM=hantrtn; export ARG_PARAM
  ./hr/hantrtn/psenv.sh hantrtn
  #. /usr/local/bin/psenv hantrtn
```

WHY?

PSADMIN

- **Discovery Process makes use of psadmin**
 - Agent Initiates “psadmin -v”: Strictly a validation checkpoint
 - psadmin requires access to \$PS_CFG_HOME/data
 - Makes calls to tadmin
 - To gather metrics (pq, server status)
 - psadmin requires Unix permissions to PS_CFG_HOME, if not exists it will use PS_HOME (both variables will point to same directory)

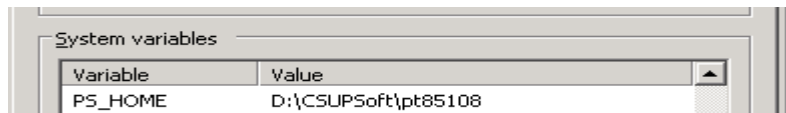
Other Variables

- **toolsadmin.sh** makes a call to **psconfig.sh**
- **psconfig.sh**
 - Sets **PS_SERVDIR** & **PS_SERVDIR_CFG** environment variables
 - If not being used, blank out the script
- **.../lib32** considerations in Solaris
 - **LD_LIBRARY_PATH** and **LD_LIBRARY_PATH_64**

WHY?

Considerations for Web Servers and PSNT

- **\$PS_HOME Environment Variable**



A screenshot of a Windows 'System variables' dialog box. It shows a table with two columns: 'Variable' and 'Value'. The first row contains the variable 'PS_HOME' and its value 'D:\CSUPSoft\pt85108'.

Variable	Value
PS_HOME	D:\CSUPSoft\pt85108

- **Config.xml – <server-private-key-alias> set to the PIA IP address; not server name**
- **setEnv.cmd – ADMIN_SERVER_HOSTNAME set to the PIA IP address; not server name**
- **singleserverStatus.cmd (use T3 protocol call)**

Considerations for Development Instances

Databases

The instance replication approach includes replicating the database

- Each instance must have unique GUID.
 - Shutdown domain
 - Blank out GUID i.e. `update PSOPTIONS set GUID = ' ' ;`
(this needs to take place for discovery in development),
 - Restart domain to repopulate the GUID

(NOTE: Application Server domain must be shutdown again for discovery, if the configuration parameters have to be edited)

Conclusion Discussion and Q&A



PeopleTools Sessions of Interest

Monday

Time	Title	Session	Location
10:45	Performance Tuning for the PeopleSoft Administrator	CON9210	MW - 3009
10:45	How the Power of PeopleSoft PeopleTools Can Empower Financial Operations	CON9097	Westin, Concordia
12:15	Art of the Possible: A Great User Experience via PSFT Applications Portal	CON9188	MW - 3009
	Putting the PeopleSoft Test Framework to Work for You	CON9190	MW - 3011
	Oracle Engineered Systems Success with PeopleSoft	CON9204	MW - 3008
4:45	PeopleSoft Technology Roadmap	CON9183	MW - 3002/4

PeopleTools Sessions of Interest

Tuesday

Time	Title	Session	Location
10:15	PeopleTools Roadmap: Mobile Applications	CON9196	MW - 3009
	Securing Your PeopleSoft Integration Infrastructure	CON9205	MW - 3011
11:45	Mastering the PeopleSoft Reporting Suite	CON9201	MW - 3011
	Securing Your PeopleSoft Environment Today & Preparing for Tomorrow	CON9202	MW - 3009
	Using Virtualization to Manage TCO	CON9206	MW - 3007
1:15	Implementing a PSFT Maintenance Strategy with PSFT Update Manager	CON9192	MW - 3009
5:00	PeopleTools Developer: PeopleTools 8.53 in Action	CON9187	MW - 3009
	New Functional PeopleTools Capabilities for the Line of Business User	CON8932	MW - 3007

PeopleTools Sessions of Interest

Wednesday

Time	Title	Session	Location
10:15	PeopleTools Roadmap: Integration Broker	CON9189	MW - 3009
	Understanding PeopleSoft Maintenance Tools & How They Fit Together	CON9193	MW - 3002/4
11:45	Taking Advantage of PeopleTools' New Search Features	CON9208	MW - 3009
1:15	PeopleTools Developer: Tips & Techniques	CON9185	MW - 3009
	PeopleTools Roadmap: Platforms	CON9203	MW - 3011
3:30	Case Study: Delivering a Ground-Breaking User Interface with PeopleTools	CON9186	MW - 3009
	PeopleTools 8.53 Experiences - Panel Discussion	CON9198	MW - 3007
	PSFT Update Manager – Hands on Lab #1 (2.5 hours)	HOL10460	Marriott - Nob Hill A/B
5:00	PeopleTools Product Team Panel Discussion	CON9200	MW - 3009

PeopleTools Sessions of Interest

Thursday

Time	Title	Session	Location
11:15	Using the Integration Network to Build, Test, & Debug Your Integrations	CON9194	MW - 3009
	PeopleTools Developer: A Guide to Properly Enhancing PSFT Applications	CON9197	MW - 3011
	PeopleSoft Update Manager – Hands on Lab #2 (2.5 hours)	HOL10460	Marriott – Nob Hill A/B
	Meet the PeopleSoft PeopleTools Experts	MTE9652	MW 2001A
12:45	Management of Oracle PeopleSoft with Oracle Enterprise Manager	CON9055	MW 3009



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