

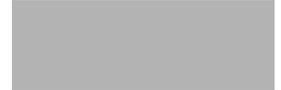
Oracle PeopleSoft on Cisco Unified Computing System and EMC VNX Storage

A Cisco Validated Design for Oracle PeopleSoft Enterprise HRMS 9.1 with Oracle 11g R2 Database on Cisco UCS B-Series Servers

Last Updated: April 9, 2012



Building Architectures to Solve Business Problems



Cisco Unified Computing System for Oracle PeopleSoft

Introduction

Enterprise Resource Planning (ERP) is a business-critical application that has a wide ranging, intra-company impact across business units, departments and functions. Organizations deploying ERP software such as Oracle PeopleSoft are under pressure to reduce cost, minimize risk, control change by accelerating deployments and increase the availability of their application.

Increasing complexity in the datacenter is driving companies to release products designed to help organizations standardize, simplify, and automate the management of these systems. Due to the nature and scope of an ERP application, it has organization-wide implications ranging from tactical cost cutting targets to long-term strategic initiatives.

Organizations are dramatically downsizing their average deployed server, while radically increasing the total number of servers; in some cases it includes a migration of the PeopleSoft database and the underlying database operating system. This provides organizations an even greater opportunity for cost savings and business value generation.

Apart from cost cutting, capacity planning helps organizations to better utilize and maximize memory, boost overall CPU resource utilization, and simplify deployments that take a large amount of time. Ultimately, the greatest advantage is to be able to predict IT costs more accurately.

Audience

The guide is intended for use by Project Managers, Infrastructure Managers, Storage Managers, System Administrators and PeopleSoft Application Database Administrators considering the sizing, deployment and migration of Oracle PeopleSoft Applications to Cisco UCS platform.



Corporate Headquarters:
Cisco Systems, Inc., 170 West Tasman Drive, San Jose, CA 95134-1706 USA

Copyright © 2012 Cisco Systems, Inc. All rights reserved.

Solution Overview

Cisco conducted a benchmark in their Cisco TME Labs with a PeopleSoft workload to measure the online performance of Oracle's PeopleSoft Enterprise Human Resources Management System (HRMS) 9.1 using Oracle Database 11g on RHEL 5.6. The Cisco USC system comprised of a standard PeopleSoft 3-Tier Technology Stack of Web, applications and Database servers. The Web server was on B200 (2CPUxQuad Core), the Application servers were on B200 (2CPUxQuad Cores) and the database servers were on B250 (2CPUxSix Cores). The entire setup was SAN bootable as per the Cisco Unified Computing System standards. The Web, Applications and Database storage was carved out of an EMC VNX 5500.

The goal of this Cisco Validated Design is to provide sufficient information to run an Oracle ERP Application like PeopleSoft. These ERP Applications are the backbone for many organizations to run their business functions with perceptible robust performance. This performance must be maintained at volumes that are representative of customer environments.

The benchmark measured client response times for 2500 concurrent users. The workload was for a standard database composition model that represented a small to medium-sized company profile. The testing was conducted in a controlled environment with no other applications running. All the parameter changes that were done across the Web, applications and database to fine tune the PeopleSoft setup on Cisco Unified Computing System have been documented in the Cisco CVD. The CVD is available on the Cisco site. The objective was to create a baseline benchmark result for PeopleSoft HRMS 9.1 self-service transactions running Oracle Database 11g on RHEL 5.6 on UCS servers and EMC VNX Storage.

Subsequently, the benchmark was scaled to test 5000 concurrent users, all of which were self-service users. For this benchmark activity, the workload database composition of a large company profile was built and the Cisco Unified Computing System benchmarked comprised of a redundant PeopleSoft 3-Tier Technology Stack of Web, Applications and Database servers. The Web server was on B200 (2CPUxSix Core), the application servers were on B200 (2CPUxSix Cores) and the database servers were setup as Real Application Cluster (RAC) on B230 (2CPUx10 Cores). The redundant setup was SAN bootable as per Cisco Unified Computing System standards. The Web, Apps and Database storage was carved out of an EMC VNX 5500.

From the benchmark activity, the Cisco Oracle Competency Center was also able to demonstrate the Solaris to RHEL Migration of PeopleSoft, build, test and validate a Cisco UCS Reference Architecture for PeopleSoft and provide the required collateral for sizing a PeopleSoft ecosystem with Cisco Unified Computing System Products.

Cisco Unified Computing System

Cisco Unified Computing System™ is the first converged data center platform that combines industry-standard, x86-architecture servers with networking and storage access into a single converged system. The system is entirely programmable using unified, model based management to simplify and speed deployment of enterprise-class applications and services running in bare-metal, virtualized, and cloud-computing environments. The system's unified I/O infrastructure uses a unified fabric to support both network and storage I/O, while Cisco® Fabric Extender technology extends the fabric directly to servers and virtual machines for increased performance, security, and manageability.

Unified Fabric

Cisco UCS Unified Fabric provides dramatic reduction in network adapters, blade-server switches, cabling, and management touch points by passing all network traffic to parent fabric interconnects where it can be prioritized, processed, and managed centrally. This improves performance, agility and efficiency, and dramatically reduces the number of devices powered, cooled, secured, and managed.

Embedded Multi-Role Management

Cisco UCS Manager is a centralized management application that is embedded on the fabric switch. Cisco UCS Manager controls all Cisco Unified Computing Systems within a single redundant management domain. These include all aspects of system configuration and operation, eliminating the need to use multiple, separate element managers for each system component. Massive reduction in management modules and consoles while eliminating the proliferation of agents resident on all the hardware (that must be separately managed and updated) are important deliverables of the Cisco system. Cisco UCS Manager, via role-based access and visibility, acts as an enabler of cross function communication efficiencies promoting collaboration between datacenter roles for maximum productivity.

Cisco Extended Memory Technology

Significantly enhancing the available memory capacity of Cisco UCS servers, this technology helps maximize performance for demanding virtualization and large-dataset workloads. Data centers can now deploy very high virtual machine densities on individual servers as well as provide resident memory capacity for databases that only need two processors, but can dramatically benefit from memory. The high memory DIMM slot count also lets users more cost-effectively scale this capacity using smaller, less costly DIMMs.

VM-FEX Virtualization Support-Virtualization Adapter

Virtual machines have virtual links that allow them to be managed in the same manner as physical links. Virtual links can be centrally configured and managed without the complexity of traditional systems that interpose multiple switching layers in virtualized environments. I/O configurations and network profiles move along with virtual machines, helping to increase security and efficiency while reducing complexity. Improves performance and reduces NIC infrastructure.

Cisco UCS Manager

Cisco UCS Manager is an embedded, unified manager that provides a single point of management for the Cisco UCS. UCS Manager can be accessed through an intuitive GUI, a command line interface, or the comprehensive open XML API. It manages not only the physical assets of the server and storage and LAN connectivity, but is also designed to simplify the management of virtual network connections through integration with several major hypervisor vendors. It provides IT organizations with the flexibility of allowing people to manage the system as a whole, or to assign specific management functions to individuals based on their role as a manager of server, storage, or network hardware assets. It simplifies operations by automatically discovering all the components available on the system, and enabling a stateless model for resource utilization.

Cisco UCS Manager delivers service profiles, which contain abstracted server state information, creating an environment where everything unique about a server is stored in the fabric, and the physical server is simply another resource to be assigned. Cisco UCS Manager implements role and policy-based management focused on service profiles and templates. These mechanisms fully provision one or many servers and their network connectivity in minutes, rather than hours or days.

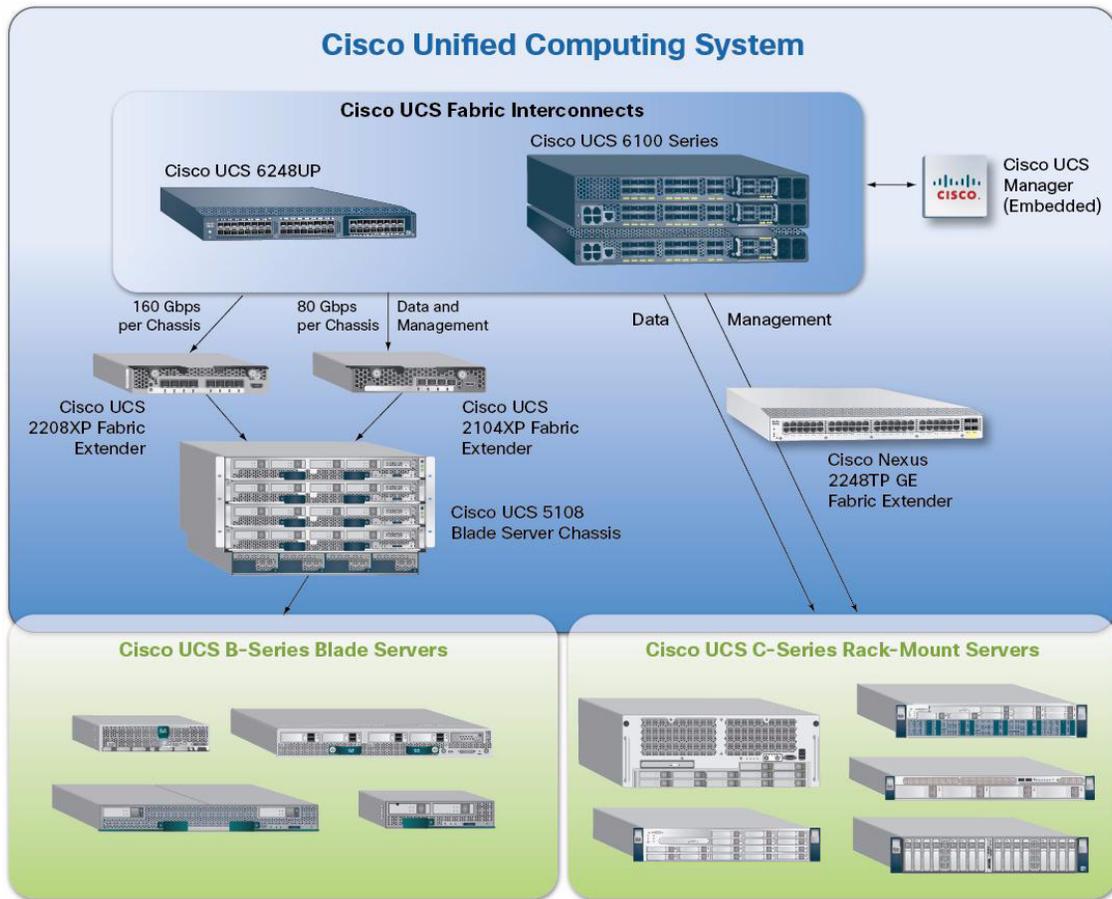
The elements managed by Cisco UCS Manager include:

- CIMC firmware
- RAID controller firmware and settings
- BIOS firmware and settings, including server UUID and boot order
- CNA firmware and settings, including MAC and WWN addresses and SAN boot settings
- Virtual port groups used by VMs, via VM-FEX technology
- Interconnect configuration, including uplink/downlink definitions, MAC and WWN address pinning, VLANs, VSANs, QoS, bandwidth allocations, VM-FEX settings, and Ether channels to upstream LAN switches.

Cisco Unified Computing System Components

Figure 1 shows the Cisco UCS Components.

Figure 1 Cisco UCS Components



Cisco Unified Computing System is designed from the ground up to be programmable and self-integrating. A server's entire hardware stack, ranging from server firmware and settings to network profiles, is configured through model-based management. With Cisco virtual interface cards, even the number and type of I/O interfaces is programmed dynamically, making every server ready to power any workload at any time.

With model-based management, administrators manipulate a model of a desired system configuration, associate a model's service profile with hardware resources, and the system configures itself to match the model. This automation speeds provisioning and workload migration with accurate and rapid scalability. The result is increased IT staff productivity, improved compliance, and reduced risk of failures due to inconsistent configurations.

Cisco Fabric Extender technology reduces the number of system components to purchase, configure, manage, and maintain by condensing three network layers into one. It eliminates both blade server and hypervisor-based switches by connecting fabric interconnect ports directly to individual blade servers and virtual machines. Virtual networks are now managed exactly as physical networks are, but with massive scalability. This represents a radical simplification over traditional systems, reducing capital and operating costs while increasing business agility, simplifying and speeding deployment, and improving performance.

Cisco UCS Fabric Interconnects

Cisco UCS Fabric Interconnects creates a unified network fabric throughout the Cisco Unified Computing System. They provide uniform access to both networks and storage, eliminating the barriers to deploying a fully virtualized environment based on a flexible, programmable pool of resources. Cisco Fabric Interconnects comprise a family of line-rate, low-latency, lossless 10-GE, Cisco Data Center Ethernet, and FCoE interconnect switches. Based on the same switching technology as the Cisco Nexus 5000 Series, Cisco UCS 6000 Series Fabric Interconnects provide the additional features and management capabilities that make them the central nervous system of the Cisco Unified Computing System.

The Cisco UCS Manager software runs inside the Cisco UCS Fabric Interconnects. The Cisco UCS 6000 Series Fabric Interconnects expand the UCS networking portfolio and offer higher capacity, higher port density, and lower power consumption. These interconnects provide the management and communication backbone for the Cisco UCS B-Series Blades and Cisco UCS Blade Server Chassis. All chassis and all blades that are attached to interconnects are part of a single, highly available management domain. By supporting unified fabric, the Cisco UCS 6000 Series provides the flexibility to support LAN and SAN connectivity for all blades within its domain right at configuration time. Typically deployed in redundant pairs, the Cisco UCS Fabric Interconnect provides uniform access to both networks and storage, facilitating a fully virtualized environment.

The Cisco UCS Fabric Interconnect family is currently comprised of the Cisco 6100 Series and Cisco 6200 Series of Fabric Interconnects.

Cisco UCS 6248UP 48-Port Fabric Interconnect

The Cisco UCS 6248UP 48-Port Fabric Interconnect is a 1 RU, 10-GE, Cisco Data Center Ethernet, FCoE interconnect providing more than 1Tbps throughput with low latency. It has 32 fixed ports of Fibre Channel, 10-GE, Cisco Data Center Ethernet, and FCoE SFP+ ports.

One expansion module slot can be up to sixteen additional ports of Fibre Channel, 10-GE, Cisco Data Center Ethernet, and FCoE SFP+.

Cisco UCS U6120XP 20-Port Fabric Interconnect

The Cisco UCS U6120XP 20-Port Fabric Interconnect is a 1 RU, 10-GE, Cisco Data Center Ethernet, FCoE interconnect providing more than 500-Gbps throughput with very low latency. It has 20 fixed 10-GE, Cisco Data Center Ethernet, and FCoE SFP+ ports.

One expansion module slot can be configured to support up to six additional 10-GE, Cisco Data Center Ethernet, and FCoE SFP+ ports.

Cisco UCS U6140XP 40-Port Fabric Interconnect

The Cisco UCS U6140XP 40-Port Fabric Interconnect is a 2 RU, 10-GE, Cisco Data Center Ethernet, and FCoE interconnect built to provide 1.04 Tbps throughput with very low latency. It has 40 fixed 10-GE, Cisco Data Center Ethernet, and FCoE SFP+ ports.

Two expansion module slots can be configured to support up to twelve additional 10-GE, Cisco Data Center Ethernet, and FCoE SFP+ ports.

Cisco UCS 2100 Series Fabric Extenders

The Cisco UCS 2100/2200 Series FEX multiplexes and forwards all traffic from blade servers in a chassis to a parent Cisco UCS Fabric Interconnect over from 10-Gbps unified fabric links. All traffic, even traffic between blades on the same chassis, or VMs on the same blade, is forwarded to the parent interconnect, where network profiles are managed efficiently and effectively by the Fabric Interconnect. At the core of the Cisco UCS Fabric Extender are ASIC processors developed by Cisco that multiplex all traffic.

**Note**

Up to two fabric extenders can be placed in a blade chassis.

Cisco UCS 2104 has eight 10GBASE-KR connections to the blade chassis midplane, with one connection per fabric ex-tender for each of the chassis' eight half slots. This gives each half-slot blade server access to each of two 10-Gbps unified fabric-based networks via SFP+ sockets for both throughput and redundancy. It has 4 ports connecting up the fabric interconnect.

Cisco UCS 2208 has thirty-two 10GBASE-KR connections to the blade chassis midplane, with one connection per fabric extender for each of the chassis' eight half slots. This gives each half-slot blade server access to each of two 4x10-Gbps unified fabric-based networks via SFP+ sockets for both throughput and redundancy. It has 8 ports connecting up the fabric interconnect.

Cisco UCS M81KR Virtual Interface Card

The Cisco UCS M81KR VIC is unique to the Cisco UCS Blade System. This mezzanine adapter is designed around a custom ASIC that is specifically intended for VMware-based virtualized systems. It uses custom drivers for the virtualized HBA and the 10-GE network interface card. As is the case with the other Cisco CNAs, the Cisco UCS VIC M81KR VIC encapsulates Fibre Channel traffic within the 10-GE packets for delivery to the fabric extender and the fabric interconnect.

Further, the Cisco UCS VIC is unique in its ability to present up to 128 virtual PCI devices to the operating system on a given blade. Eight of those devices are used for management, leaving 120 virtual devices available for either storage or network use. The configurations can be changed as needed using Cisco UCS Manager. To the guest operating system, each virtualized device appears to be (from the viewpoint of the operating software that's running within VMware or other virtualized environments) a directly attached device. The adapter supports VM-FEX, and this allows visibility all the way through to the VM. This adapter is exclusive to Cisco, and will not be offered outside of the Cisco UCS B-Series Blade Server product line.

Cisco UCS 5100 Series Blade Server Chassis

The Cisco UCS 5108 Series Blade Server Chassis is a 6 RU blade chassis that will accept up to eight half-width Cisco UCS B-Series Blade Servers or up to four full-width Cisco UCS B-Series Blade Servers, or a combination of the two. The UCS 5108 Series Blade Server Chassis can accept four redundant power supplies with automatic load-sharing and failover and two Cisco UCS (either 2100 or 2200 series) Fabric Extenders. The chassis is managed by Cisco UCS Chassis Management Controllers, which are mounted in the Cisco UCS Fabric Extenders and work in conjunction with the Cisco UCS Manager to control the chassis and its components.

A single Cisco UCS managed domain can theoretically scale to up to 40 individual chassis and 320 blade servers. At this time Cisco supports up to 20 individual chassis and 160 blade servers.

Basing the I/O infrastructure on a 10-Gbps unified network fabric allows the Cisco Unified Computing System to have a streamlined chassis with a simple yet comprehensive set of I/O options.

The result is a chassis that has only five basic components:

- The physical chassis with passive midplane and active environmental monitoring circuitry
- Four power supply bays with power entry in the rear, and hot-swappable power supply units accessible from the front panel
- Eight hot-swappable fan trays, each with two fans
- Two fabric extender slots accessible from the back panel
- Eight blade server slots accessible from the front panel

Cisco UCS B200 M2 Blade Servers

Cisco UCS B200 M2 2-Socket Blade Server is a half-slot, two-socket blade server. The system features two Intel Xeon Processor 5600 Series, up to 192 GB of DDR3 memory, two optional small-form-factor SAS/SSD disk drives, and a single converged network adapter mezzanine slot for up to 20 Gbps of I/O throughput. Cisco UCS B200 M2 2-Socket Blade Server balances simplicity, performance, and density for production-level virtualization and other mainstream data center workloads.

Cisco UCS B250 M2 Extended Memory Blade Servers

Cisco UCS B250 M2 2-Socket Extended-Memory Blade Server is a full-slot, two-socket blade server featuring Cisco Extended Memory Technology. The system supports two Intel Xeon Processor 5600 Series, up to 384 GB of DDR3 memory, two optional small-form-factor SAS/SSD disk drives, and two CNA mezzanine slots for up to 40 Gbps of I/O throughput. Cisco UCS B250 M2 2-Socket Extended-Memory Blade Server maximizes performance and capacity for demanding virtualization and large dataset workloads with greater memory capacity and throughput.

Cisco UCS B230 M2 Blade Servers

Cisco UCS B230 M2 Blade Server is a full-slot, two-socket blade server featuring the performance and reliability of Intel Xeon Processor E7-2800 product family and up to 32 DIMM slots which support up to 512 GB of memory. The Cisco UCS B230 M2 supports two SSD drives and one CNA mezzanine slots for up to 20 Gbps of I/O throughput. The Cisco UCS B230 M2 Blade Server platform delivers outstanding performance, memory and I/O capacity to meet the diverse needs of a virtualized environment with advanced reliability and exceptional scalability for the most demanding applications.

Cisco UCS B440 M2 Blade Servers

Cisco UCS B440 M2 Blade Server is a full-slot, two-socket blade server featuring the performance and reliability of Intel Xeon Processor E7-4800 product family and up to 512 GB of memory. The Cisco UCS B440 M2 supports four small-form-factor SAS/SSD drives and two CNA mezzanine slots for up to 40 Gbps of I/O throughput. The Cisco UCS B440 M2 High-Performance Blade Server extends the Cisco UCS by offering new levels of performance, scalability, and reliability for mission-critical workloads.

Cisco Unified Computing System and EMC Storage

EMC VNX Storage Platforms

The EMC® VNX™ family of storage systems (Figure 2) represents EMC's next generation of unified storage, optimized for virtualized environments. The massive virtualization and consolidation trend of servers demands a new storage technology that is dynamic and scalable. The EMC VNX series offers several software and hardware features for optimally deploying mission-critical enterprise applications.

The new generation of EMC unified storage offers a range of choices for meeting the diversified business requirements of the enterprise, including performance, capacity, and protection, at the best total cost of ownership.

Figure 2 EMC VNX Family of Storage Systems



A key distinction of this new generation of platforms is support for both block- and file-based external storage access over a variety of access protocols, including Fibre Channel (FC), iSCSI, FCoE, NFS, and CIFS network shared file access. Furthermore, data stored in one of these systems, whether accessed as block or file-based storage objects, is managed uniformly via Unisphere, a web-based interface window.

EMC's new VNX storage family now supports the 2.5" SAS drives in a 2U disk array enclosure (DAE) that can hold up to 25 drives, one of the densest offerings in the industry. For example, compared to the older-generation technology of storing 15 x 600 GB worth of data using the 3.5" FC drives in a 3U DAE, the new DAE using 25 x 600 GB drives in a 2U footprint translates to an increase of 2.5 times. The power efficiency of the new DAEs also makes it more cost-effective to store the increased data in this much more compact footprint without the need to increase power consumption and cooling. Additional information on the VNX Series is available at:

<http://www.emc.com/collateral/hardware/data-sheets/h8520-vnx-family-ds.pdf>. The data points discussed in this paper were generated on a VNX5500™ model.

FAST Cache Technology

In traditional storage arrays, the DRAM caches are too small to maintain the hot data for long periods of time. Very few storage arrays give an option to non-disruptively expand DRAM cache, even if they support DRAM cache expansion. FAST Cache (Figure 3) extends the cache available to customers by up to 2 TB using Flash drives. FAST Cache tracks the data activity temperature at a 64 KB chunk size and copies the chunks to the Flash drives once its temperature reaches a certain threshold. After a data chunk gets copied to FAST Cache, the subsequent accesses to that chunk of data will be served at Flash

latencies. Eventually, when the data temperature cools down, the data chunks get evicted from FAST Cache and are replaced by newer hot data. FAST Cache uses a simple Least Recently Used (LRU) mechanism to evict the data chunks.

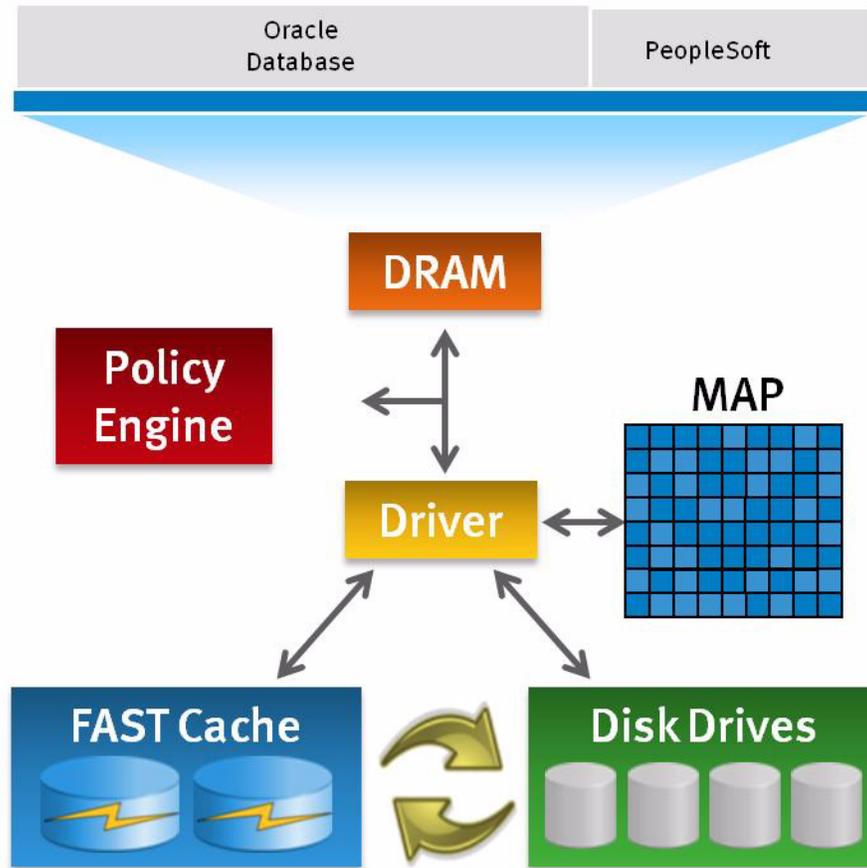
FAST Cache is built on the premise that the overall applications' latencies can improve when most frequently accessed data is maintained on a relatively smaller sized, but faster storage medium, like Flash drives. FAST Cache identifies the most frequently accessed data that is temporal in nature and copies it to flash drives automatically and non-disruptively. The data movement is completely transparent to applications, thereby making this technology application-agnostic and management-free. For example, FAST Cache can be enabled or disabled on any storage pool simply by selecting/clearing the "FAST Cache" storage pool property in advanced settings.

FAST Cache can be selectively enabled on a few or all storage pools within a storage array, depending on application performance requirements and SLAs.

There are several distinctions to EMC FAST Cache:

- It can be configured in read/write mode, which allows the data to be maintained on a faster medium for longer periods, irrespective of application read-to-write mix and data re-write rate.
- FAST Cache is created on a persistent medium like Flash drives, which can be accessed by both storage processors. In the event of a storage processor failure, the surviving storage processor can simply reload the cache rather than repopulating it from scratch by observing the data access patterns again, which is a key differentiating factor.
- Enabling FAST Cache is completely non-disruptive. It is as simple as selecting the Flash drives that are part of FAST Cache and does not require any array disruption or downtime.
- Since FAST Cache is created on external Flash drives, adding FAST Cache will not consume any extra PCI-E slots inside the storage processor.

Figure 3 FAST Cache Technology



Additional information about EMC Fast Cache is documented in the white paper titled “EMC FAST Cache, A Detailed Review,” and is available at: <http://www.emc.com/collateral/software/white-papers/h8046-clariion-celerra-unified-fast-cache-wp.pdf>.

VNX FAST VP

VNX FAST VP is a policy-based auto-tiering solution for enterprise applications. FAST VP operates at a granularity of 1 GB, referred to as a “slice.” The goal of FAST VP is to efficiently utilize storage tiers to lower customers' TCO by tiering colder slices of data to high-capacity drives, such as NL-SAS, and to increase performance by keeping hotter slices of data on performance drives, such as Flash drives. This occurs automatically and transparently to the host environment. High locality of data is important to realize the benefits of FAST VP. When FAST VP relocates data, it will move the entire slice to the new storage tier. In order to successfully identify and move the correct slices, FAST VP automatically collects and analyzes statistics prior to relocating data. Customers can initiate the relocation of slices manually or automatically by using a configurable, automated scheduler that can be accessed from the Unisphere management tool. The multi-tiered storage pool allows FAST VP to fully utilize all three storage tiers: Flash, SAS, and NL-SAS.

The creation of a storage pool allows for the aggregation of multiple RAID groups, using different storage tiers, into one object. The LUNs created out of the storage pool can be either thickly or thinly provisioned. These “pool LUNs” are no longer bound to a single storage tier. Instead, they can be spread

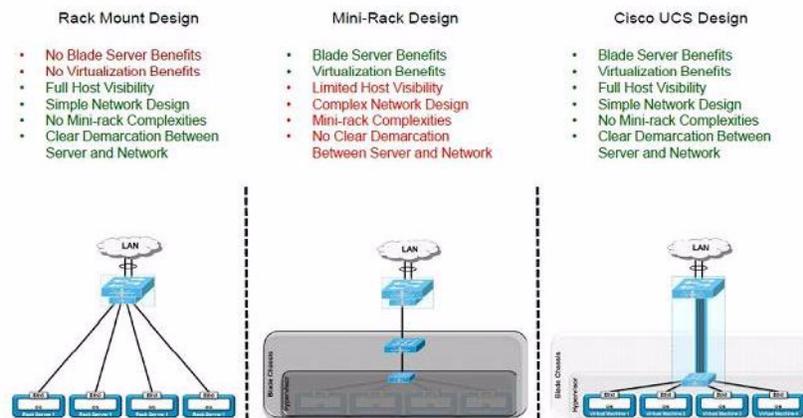
across different storage tiers within the same storage pool. If a storage pool with one tier (Flash, SAS, or NL-SAS) is created then FAST VP has no impact on the performance of the system. To operate FAST VP, at least two tiers are needed.

Additional information about EMC FAST VP for Unified Storage is documented in the white paper titled “EMC FAST VP for Unified Storage System - A Detailed Review,” and is available at: <http://www.emc.com/collateral/software/white-papers/h8058-fast-vp-unified-storage-wp.pdf>.

The Move to Cisco Unified Computing System

A massive shift is underway in the underlying computing architecture and platforms used to run enterprise applications. Traditional RISC/UNIX server platforms are not keeping pace with current demands for faster application deployments, flexible and simpler provisioning, cost-effective licensing, support, and management.

Figure 4 *Key Benefits of Cisco Unified Computing System*
UCS Design Provides Best of Both Worlds



The racking, power and installation of the chassis are described in the install guide (refer to http://www.cisco.com/en/US/docs/unified_computing/ucs/hw/chassis/install/ucs5108_install.html) and it is beyond the scope of this document. More details about each step can be found in the following documents:

- Cisco Unified Computing System CLI Configuration guide
http://www.cisco.com/en/US/docs/unified_computing/ucs/sw/cli/config/guide/1.4/b_UCSM_CLI_Configuration_Guide_1_4.html
- Cisco UCS Manager GUI configuration guide
http://www.cisco.com/en/US/docs/unified_computing/ucs/sw/gui/config/guide/1.4/b_UCSM_GUI_Configuration_Guide_1_4.html

The industry has moved on, as the diminished value of RISC/UNIX systems has been widely acknowledged. The Cisco Unified Computing System provides innovative architectural advantages that simplify and accelerate deployment of enterprise-class applications running in bare metal, virtualized, and cloud computing environments.

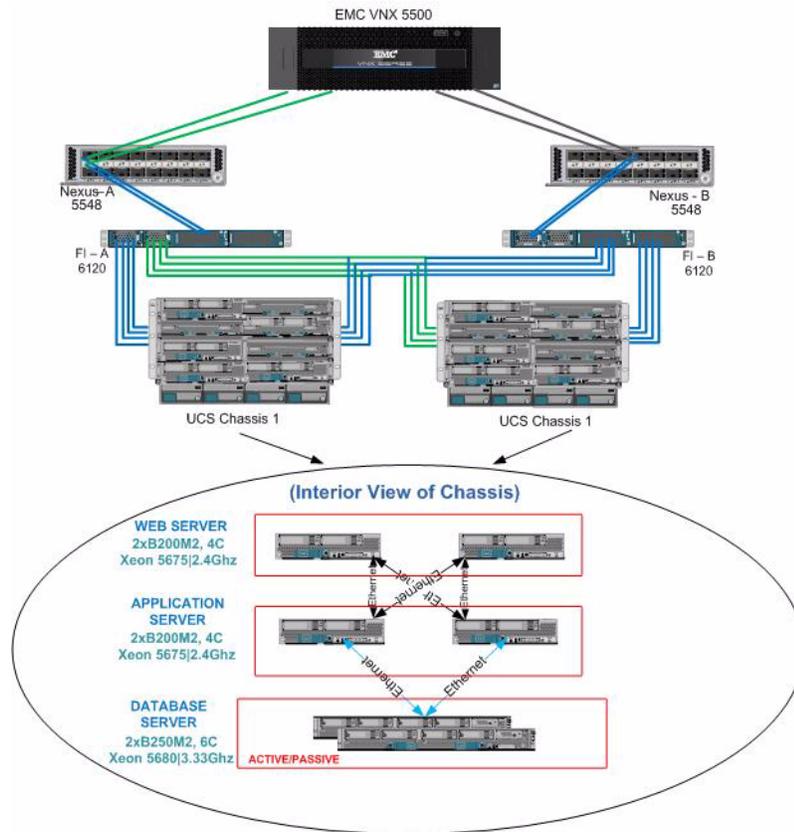
Cisco Unified Computing System offers an alternate server architecture to RISC/UNIX, based on the lower-cost, high-performance x86 processor.

- **Hot Spare Servers**—Cisco's UCS Sparing is another differentiated capability to improve resource utilization. In a typical data center customers are required to keep one hot spare per blade. With UCS, customers can swap a failed blade with a cold spare in as little as few minutes. This eliminates the cost of having multiple spares as well as the related software licenses required for hot spares.
- **Elimination of Active/Passive**—With Oracle RAC for PeopleSoft, all nodes are Active/Active. Therefore when a node fails in an Oracle RAC cluster, the other nodes continue processing and Oracle clients can be configured to seamlessly failover to surviving nodes. Since Oracle RAC is scalable horizontally, additional nodes can be provisioned with UCS sparing.
- **Reduced downtime**—Despite service level agreements (SLAs), downtime actually catches most organization by surprise when they measure the actual loss of unforeseen interruptions and hidden costs that cannot be measured. With the Active/Active setup combined with Cisco UCS cold spare capability across the tiers in a Cisco UCS environment, better uptime for PeopleSoft applications can be guaranteed and a much more predictable environment provided for system administrators.
- **Horizontal scalability**—Every tier in a Cisco UCS environment is horizontally scalable. Customers can buy only what they need today and add more nodes if they need faster processing in the future.
- **Reduced licensing cost** —Organizations are increasingly looking at not only their server sprawl but also at their software licensing sprawl. Reducing the cost of licensing across the tiers from the OS to the database has become a major goal, made possible by the Cisco UCS. Higher memory density in x86 systems such as Cisco UCS allows cheaper memory modules to fulfill application memory requirements for greater memory per core. This enables larger memory-resident workloads that translate to lower licensing costs.
- **Maturity of Linux**—For the past 5 years, with Linux being embraced by large IT organizations and the support that it has received from dedicated ISVs, it is no longer unknown, and is a very stable and matured operating system. This has increased the penetration of Linux as an alternative to traditional proprietary operating systems.
- **Optimized Footprint (Power-cooling-rack space)**—Power, Space, Cooling is another key lever to improve efficiency. Every data center customer has challenges with respect to power, cooling and space. Cisco's unique End-to-End FCoE (Fibre Channel over ethernet) solution extending from the server to the storage array and from access to the core eliminates the need for a duplicate storage-networking layer. It reduces cabling, the number of ports and switches, power consumption, cooling, space requirements, and NICs/HBAs. Another important feature Cisco offers is Unified Ports. It enables a single port to act as an Ethernet, Fiber Channel or FCoE port. Customers can leverage a single switch with this capability instead of separate Fiber Channel & Ethernet Switches.

Cisco UCS Reference Architecture-Oracle PeopleSoft (No Single Point of Failure)

Figure 5 shows the recommended Cisco architecture for running Oracle PeopleSoft on Cisco Unified Computing System in a production environment. This is a high level diagram showing how many Web, Apps and Database servers are typically used in a 3-Tier Technology Stack required to avoid SPOF (Single Point of Failure).

Figure 5 Reference Architecture



In Figure 5 the servers have been pulled out of the chassis to show which PeopleSoft Technology layer used what model of Cisco UCS servers.

Oracle PeopleSoft 2500 Concurrent User Scalability Test Results

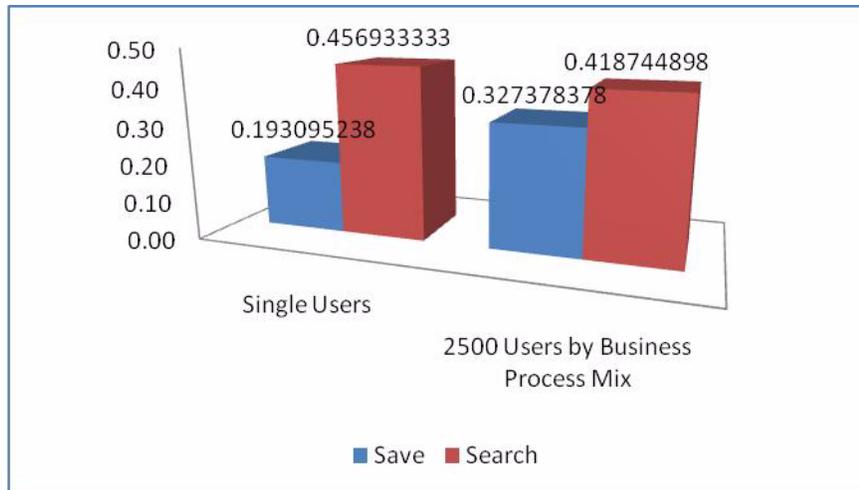
The testing was conducted in a controlled environment with no other applications running. All the parameter changes that were done across the Web, apps and database to fine tune the PeopleSoft setup on Cisco Unified Computing System has been documented in the Cisco Validated Design. The Cisco Validated Design is available at the Cisco site. The objective was to create a baseline benchmark result for PeopleSoft HRMS 9.1 self-service transactions running Oracle Database 11g on RHEL 5.6 on Cisco UCS servers and EMC VNX Storage.

Table 1 Benchmark Results

| Concurrent Users | Average Response Time | |
|------------------|-----------------------|------|
| 2500 | Search | 0.42 |
| | Save | 0.33 |

The graphical representation of the average response times for standard Self Service Save and Search operation has been captured and shown in Figure 6.

Figure 6 Average Response Times for Standard Self Service Save and Search



Benchmark Characteristics

The following high-level activities were performed to generate the workload for the PeopleSoft application, simulating a live application (production environment) in our Cisco TME lab using Cisco UCS hardware:

- Core HR setup done for further creation of the desired data for testing, control tables that are central to PeopleSoft HRMS and prompt tables
 - INSTALLATION TABLE
 - SETID
 - BUSINESS UNIT
 - LOCATION
 - COMPANY
 - DEPARTMENT
 - JOBCODE
 - BUSINESS OPTIONS DEFAULT
 - ORG DEFAULTS BY PERMISSION LIST
 - PAYGROUP
- Starting point of Data entry to the Application is via creation of a person
- Data flow to Various Modules of Application by below processes
 - Personal data to Job data (Data created by Workforce administrator)
 - Job Data to Benefits enrollment (data created by Workforce administrator and Benefits administrator)
 - JOB/Compensation data to Payroll data (data created by running NA payroll)

- Security Roles
 - Employee self service
 - Manager self service
 - HR Administrator
- All data generated is through PeopleSoft Component Interface and delivered PeopleSoft process
- Data loaded to the system shows the following variations
 - Employee ID - Sequential Number
 - Name - Sequential String & numbers
 - Address - State and City variations
 - Position and Department
 - Supervisors - in Group of 50
 - Compensation - vary with in a given range
- Tools
 - Application designer
 - Component Interface
 - Application Engine
 - SQL Developer

The method used involved invoking CI through the application engine and processing in loop till required Number of Employees are created which are controlled by respective run Control records.

HP Load Runner

HP LoadRunner was deployed as the load testing tool, simulating concurrent users. The LoadRunner agents acted as virtual users simulating a business process in the PeopleSoft HRMS Application. The simulation was done by means of recording the business process steps (scripts) in the application including the think time (user thinking time between the steps) and was iterated for the entire test duration to match the expected throughput on the system. The LoadRunner test bed is constantly monitored for any resource constraints during test execution. These virtual users were ramped up slowly and when they reached steady state, response time measurements were captured and documented.

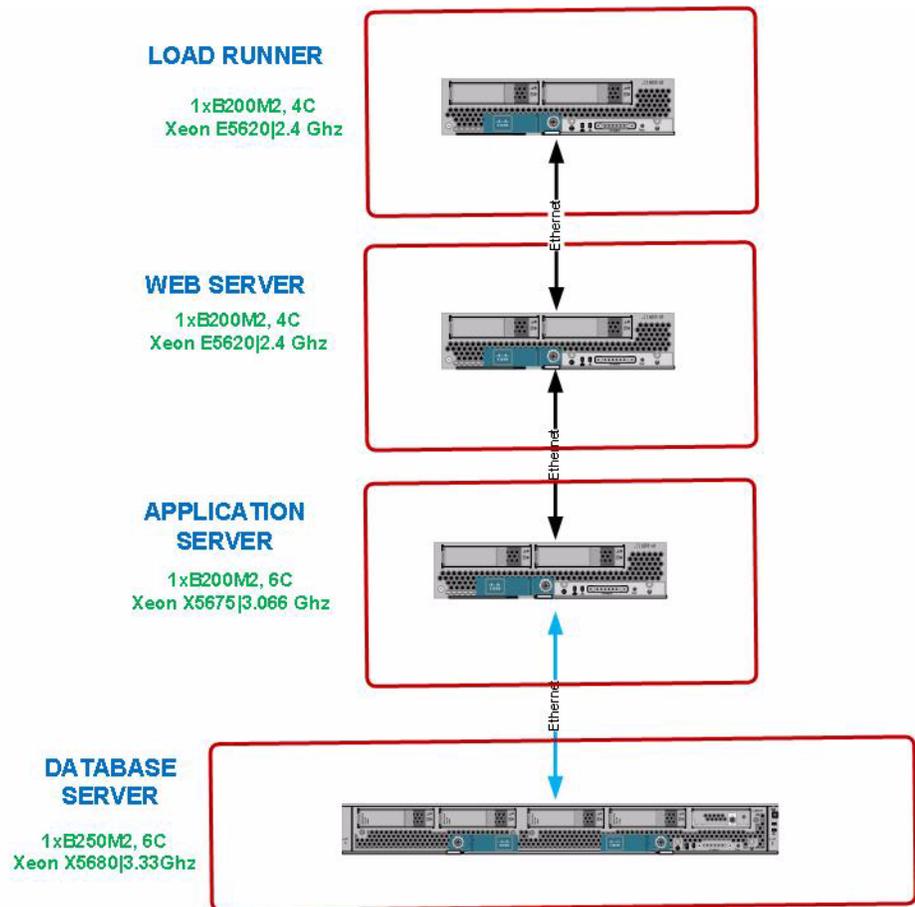
- Load Runner Settings:
 - Think time randomized between 30 - 60 Sec and Average of 45 Sec.
 - Each concurrent user submitted the business process at an average rate of 1 every 3 minutes.
- Load Profile:
 - Test was designed in Stepped mode with 2500 VUsers for Medium Enterprises.
 - Ramp up was executed 1 user every 5 seconds throughout the test.
 - At the start of the test 400 users were ramped up followed by a 15 minute stable run. Then 100 users were ramped up in each batch till 2500 user load is reached, with a 15 minute stable run after each batch ramp up.
- Test Duration:
 - 2500 Users: 16/11/2011 11:09:39 - 16/11/2011 21:04:47

- Observations:
 - During the test run, 99.9% of the transactions were successfully passed.
 - The Journey-wise response times and the individual response times were stable during the entire test run
 - The Web, Application and Database server’s CPU utilization remained under 10 percent throughout the test run.

No major issues were reported during the test run from either the front-end or back-end.

Figure 7 shows the Cisco UCS test environment for the PeopleSoft application in a 4-tier configuration.

Figure 7 Cisco UCS Test Environment 4-Tier Configuration



Each tier was run on a discrete server or servers. Load (search/retrieval) times were measured from the time the user clicks the OK button until all the data for the entire business transaction was retrieved. Update (save) times were measured from the time the user clicked the Save button until the system released the page.

Business Processes

The PeopleSoft software defines a business transaction as a series of HTML pages that navigate a user through a particular scenario, such as promoting an employee. The 12 PeopleSoft Enterprise 9.1 HRMS business processes tested in this benchmark are listed in Table 2.

Table 2 *Employee Self-Service*

| Business Process | Transaction | Comments |
|------------------|-----------------------|---|
| ePay | View PayCheck | View current paycheck information |
| eProfile | Update Home Address | Update address in Personal Data section |
| | Update Home Phone | Update phone number in Personal Data section |
| eBenefits | View Benefits Summary | View overall benefits enrollment data |
| | Benefits Change Life | View benefits and alter the beneficiaries' allocations in the Basic Life Plan |

Table 3 *Manager Self-Service*

| Business Process | Transaction | Comments |
|------------------|---------------------------------|--|
| eDevelopment | View Employee Info | View job and personal information |
| eProfile | Initiate Termination | Initiate a termination by recording an effective date and reason for termination |
| | Initiate Promotion | Initiate a promotion by entering a new job title and salary |
| eCompensation | Initiate Employee Salary change | Process a salary change for a single employee |

Table 4 *HR Administration*

| Business Process | Transaction | Comments |
|-------------------|---------------|--|
| HR Administration | Add a Person | Add a person and their biographical details |
| | Hire a Person | Enter the specified job data and work location, followed by the payroll and compensation details |
| | Add a Job | Add a job to an existing employee |

Business Process Mix

Table 5 shows the proportions of the business processes used in the measurements of this benchmark. The proportions are intended to simulate a typical user scenario.

Table 5 *HRMS Business Process*

| HRMS Process | % within Group | % Overall | Pacing in Min |
|-----------------------------------|----------------|-----------|---------------|
| Employee Self Service (60) | | | |
| Update Home Address | 4 | 2.5 | 3 |
| Update Phone Number | 4 | 2.5 | 3 |
| View Benefits Summary | 10 | 6 | 3 |
| Update Beneficiary | 2 | 1 | 3 |
| View Paycheck | 80 | 48 | 3 |
| Manager Self Service (20%) | | | |
| View Employee Info | 50 | 10 | 3 |
| Initiate Termination | 20 | 4 | 3 |
| Initiate Promotion | 10 | 2 | 3 |
| Initiate Employee Salary Change | 20 | 4 | 3 |
| HR Administrator (20%) | | | |
| Add a Peson | 100 | 20 | 3 |
| Hire a Person | | | |
| Add a Job Row | | | |
| | | 100 | |

Benchmark Results

Table 6 shows average retrieval (search) and update (save) times, in seconds, for each business process.

Table 6 *Average Retrieval and Update Time s Process Single User and 2500 Users*

| Process | TRANSACTION | Single User | 2500 Users |
|---------------------------------|-------------|-------------|------------|
| UPDATE HOME ADDRESS | Search | 0.272 | 0.309 |
| | Save | 0.304 | 0.306 |
| UPDATE PHONE NUMBERS | Search | 0.27 | 0.338 |
| | Save | 0.202 | 0.202 |
| VIEW BENEFITS SUMMARY | Search | 0.323 | 0.353 |
| UPDATE BENEFICIARY | Search | 0.349 | 0.362 |
| | Save 1 | 0.091 | 0.095 |
| | Save 2 | 0.133 | 0.149 |
| | Edit/Calc | 0.063 | 0.051 |
| VIEW PAYCHECK | Search | 0.487 | 0.469 |
| VIEW EMPLOYEE INFO | Search | 0.284 | 0.459 |
| INITIATE TERMINATION | Search | 0.288 | 0.449 |
| | Save | 0.1 | 0.146 |
| INITIATE PROMOTION | Search | 0.317 | 0.368 |
| | Save | 0.261 | 0.266 |
| INITIATE EMPLOYEE SALARY CHANGE | Search | 1.925 | 1.875 |
| | Save | 0.391 | 0.403 |
| | Edit/Calc | 0.035 | 0.049 |
| ADD A PERSON | Save | 0.021 | 0.032 |
| HIRE A PERSON | Save | 0.899 | 0.79 |
| ADD A JOB ROW | Search | 0.529 | 0.569 |
| | Save | 0.223 | 0.24 |
| Average Search | | 0.46 | 0.42 |
| Average Save | | 0.19 | 0.33 |
| Trans/min Est | | | 833 |

The database and application servers were processing a total of 833 business processes per minute at the peak load of 2500 concurrent users. The estimated transaction rate is calculated by dividing the total number of concurrent users by the average pacing rate. Individual performance may vary depending on the hardware components used and the software platforms and versions deployed for the tests.

Cisco Unified Computing System Performance

Figure 8 shows the average and maximum CPU utilization for each of the servers in a standard PeopleSoft three-tier tech stack that was under test. The Cisco UCS servers had two CPUs per server, but there were multiple cores as shown in the specification later in this paper. Figure 8 shows the utilization as an average across all the CPUs in each server.

Figure 8 Average and Maximum CPU Utilization

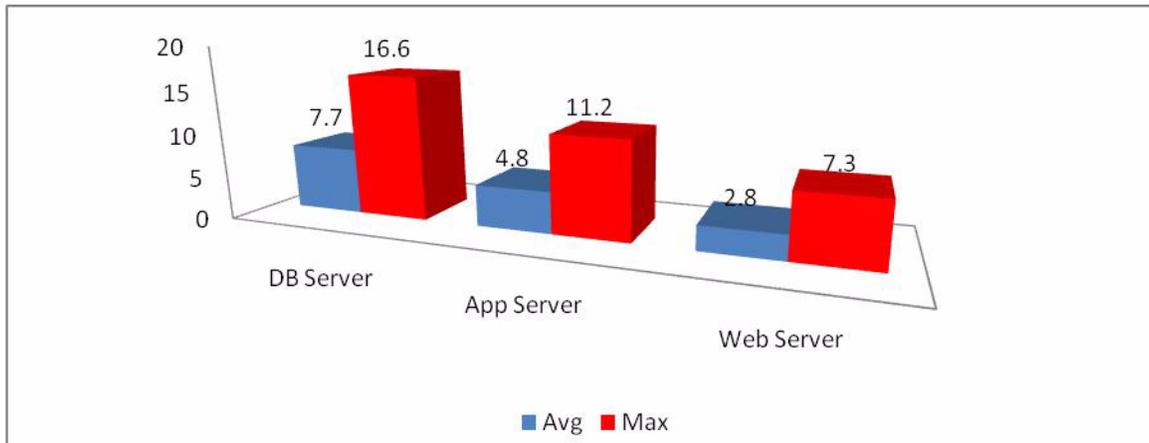


Table 7 Average Server CPU Utilization

| %CPU | Avg. | Max. |
|-------------------|------|-------|
| DB Server | | |
| User | 7.3 | 15.6 |
| System | 0.4 | 1.0 |
| Idle | 92.3 | 95.8 |
| App Server | | |
| User | 4.6 | 10.7 |
| System | 0.2 | 0.5 |
| Idle | 95.2 | 100.0 |
| Web Server | | |
| User | 2.5 | 6.5 |
| System | 0.3 | 0.8 |
| Idle | 97.2 | 99.9 |

Table 8 Average Memory Utilization (GB)

| | DB | App | Web |
|-------------|--------|--------|--------|
| Avg Memory | 67.723 | 17.861 | 19.04 |
| Peak Memory | 67.801 | 21.059 | 19.188 |

I/O Metrics

The latest EMC VNX 5500 SAN Storage was set up in different RAID levels to cater to different database components and SAN boot requirements. I/O performance is crucial for any benchmark, and therefore the storage was optimally carved to take advantage of the latest features of EMC VNX.

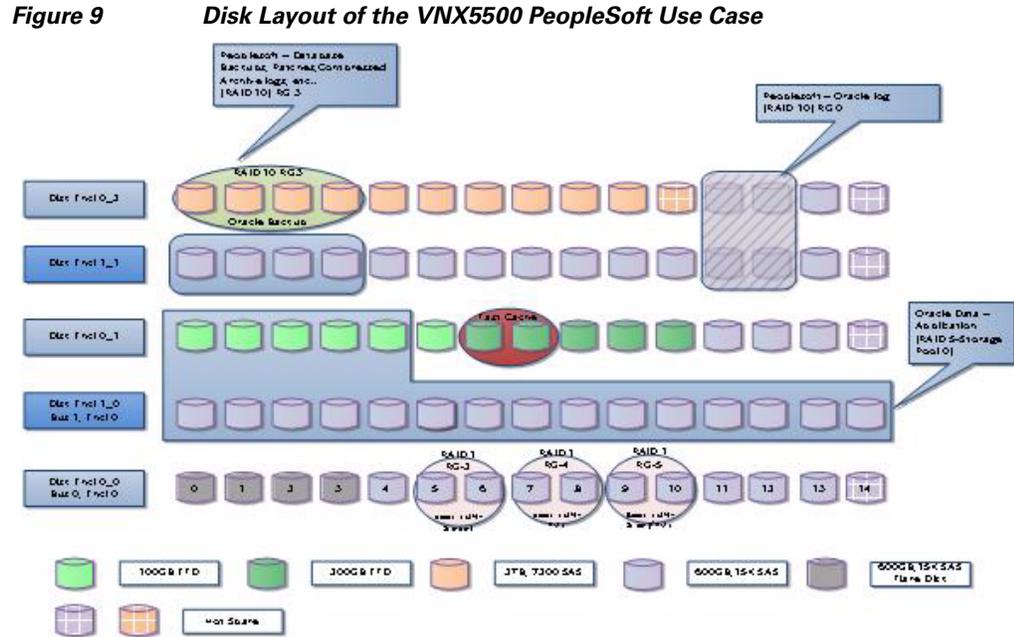


Table 9 Performance Summary

| | Reads KBytes Per Sec | Writes KBytes Per Sec |
|------------|----------------------|-----------------------|
| DB Server | 84.8 | 361.5 |
| App Server | 3.3 | 310.6 |
| Web Server | 0 | 80.9 |

Data Composition Description

The workload utilized for this test comprised of:

- Employees (Multiple Records - A Single employee can have multiple records such as for Hire, Promotion etc in the Job History) : 269277
- Employees (Distinct Employee records): 153090
- Active Employees Job Records (with Multiple records): 269088
- Inactive Employees Job Records (with Multiple records): 189
- Employees in personal Data: 161282

A series of tests, both standalone and mixed, have been conducted on the Cisco UCS platform in order to verify the sanity of the workflows being tested as well as the integrity of the entire testing platform. The testing on Cisco UCS ecosystem started with the sanity tests on the individual journeys on the Employee Self-Service (ESS), Manager Self-Service (MSS) and the HR journeys with 10 users for stable run duration of 30 minutes in order to fine-tune the test scripts and any potential performance bottlenecks for each workflow.

A series of mixed tests were carried out in order to evaluate the performance of the system for 2500 user load. Throughout the test run, the transaction response times and the server utilization of the web, application and database servers were consistent and there was no unexpected behavior or deviations noticed in either the transaction response times or the server utilizations.

Benchmark Environment

Table 10 and Table 11 lists the benchmark environment and software components used in this use case.

Table 10 *Benchmark Environment Components*

| Tech Layer | Cisco UCS Server | CPU Type | Memory | Interface |
|-------------------|------------------|-----------------------------|--------|--|
| Load Runner | B200 M2 | 2x Intel® Xeon® 4C 8T E5620 | 24 Gb | Cisco UCS M81KR Palo Adapter PCIe EMC PowerPath™ |
| Web server | B200 M2 | 2x Intel® Xeon® 4C 8T E5620 | 96 Gb | Palo Adapter PCIe EMC PowerPath™ |
| Apps Server | B200 M2 | 2x Intel® Xeon®6C12T X5675 | 96 Gb | Palo Adapter PCIe EMC PowerPath™ |
| Database Server | B250 M2 | 2x Intel® Xeon® 6C X5680 | 394 Gb | Palo Adapter PCIe EMC PowerPath™ |
| FI Switches | Cisco 6120 | | | |
| CNA Switches | Nexus 5548 | | | |
| UCS Blade Chassis | 6100 | | | - 2x IO Modules - 4x Power Supplies |

Table 11 **Benchmark Environment Software Components**

| Software Component | Version |
|-------------------------------------|---|
| Operating System | Linux X86-64 Red Hat enterprise Linux5 |
| Peopletools | 8.51.11 |
| HRMS9.1 | HRMS9.1 feature pack dec2010 |
| Database Server | Oracle 11.2.0.2.0 |
| Database Client | Oracle 11.2.0.2.0 |
| Weblogic | 10.3.4.0.0 |
| Tuxedo 10.3.0.0.0 | Tuxedo 10gR3 RP031 64-bit |
| Microfocus Cobol server express 5.1 | Micro Focus Server Express 5.1 64-bit Wrap Pack 4 |
| JRE | java version "1.6.0_20" Java(TM) SE Runtime Environment (build 1.6.0_20-b02) Java HotSpot(TM) 64-Bit Server VM (build 16.3-b01, mixed mode) |
| HP Loadrunner | 5.9 |

Oracle PeopleSoft 500-2500 Concurrent User Scalability Test Results

Another set of mixed tests were conducted in order to evaluate the performance of the system to scale from 500 Concurrent User load to 2500 user load. Throughout the test run, the transaction response times and the server utilization of the web, application and database servers were consistent and there was no unexpected behavior or deviations noticed in either the transaction response times or the server utilizations.

The summary of the results that were captured and documented. Table 12 show shows the average retrieval (search) and update (save) times, in seconds for each business process.

Table 12 **Summary of Results**

| Process | TRANSACTION | Single User | 500 Users | 1000 Users | 1500 Users | 2000 Users | 2500 Users |
|---------------------------------|-------------|-------------|-----------|------------|------------|------------|------------|
| UPDATE HOME ADDRESS | Search | 0.272 | 0.223 | 0.208 | 0.243 | 0.242 | 0.309 |
| | Save | 0.304 | 0.225 | 0.211 | 0.282 | 0.274 | 0.306 |
| UPDATE PHONE NUMBERS | Search | 0.27 | 0.267 | 0.269 | 0.289 | 0.29 | 0.338 |
| | Save | 0.202 | 0.143 | 0.142 | 0.174 | 0.16 | 0.202 |
| VIEW BENEFITS SUMMARY | Search | 0.323 | 0.253 | 0.243 | 0.283 | 0.279 | 0.353 |
| UPDATE BENEFICIARY | Search | 0.349 | 0.266 | 0.251 | 0.283 | 0.273 | 0.362 |
| | Save 1 | 0.091 | 0.062 | 0.061 | 0.07 | 0.071 | 0.095 |
| | Save 2 | 0.133 | 0.053 | 0.07 | 0.103 | 0.126 | 0.149 |
| | Edit/Calc | 0.063 | 0.019 | 0.027 | 0.035 | 0.041 | 0.051 |
| VIEW PAYCHECK | Search | 0.487 | 0.349 | 0.335 | 0.399 | 0.393 | 0.469 |
| VIEW EMPLOYEE INFO | Search | 0.284 | 0.306 | 0.31 | 0.328 | 0.326 | 0.459 |
| INITIATE TERMINATION | Search | 0.288 | 0.306 | 0.307 | 0.324 | 0.332 | 0.449 |
| | Save | 0.1 | 0.083 | 0.08 | 0.095 | 0.096 | 0.146 |
| INITIATE PROMOTION | Search | 0.317 | 0.299 | 0.308 | 0.325 | 0.327 | 0.368 |
| | Save | 0.261 | 0.211 | 0.207 | 0.255 | 0.238 | 0.266 |
| INITIATE EMPLOYEE SALARY CHANGE | Search | 1.925 | 1.718 | 1.75 | 1.807 | 1.847 | 1.875 |
| | Save | 0.391 | 0.315 | 0.298 | 0.387 | 0.381 | 0.403 |
| | Edit/Calc | 0.035 | 0.032 | 0.029 | 0.033 | 0.03 | 0.049 |
| ADD A PERSON | Save | 0.021 | 0.016 | 0.015 | 0.02 | 0.018 | 0.032 |
| HIRE A PERSON | Save | 0.899 | 0.701 | 0.72 | 0.778 | 0.77 | 0.79 |
| ADD A JOB ROW | Search | 0.529 | 0.501 | 0.506 | 0.538 | 0.531 | 0.569 |
| | Save | 0.223 | 0.196 | 0.192 | 0.226 | 0.22 | 0.24 |

During the testing process there were many parameters that were changed to get optimal performance from the PeopleSoft version under test. Some of the important parameters that were set at the web, application and database layers are documented in this Cisco Validated Design.

Table 13 Web Server Parameters

| Parameters | Value |
|--|---|
| Thread Count (Thread Management is auto in weblogic 9 and 10 versions) | 200 |
| JVM heap size | Xms5120m -Xmx5120m |
| -xgc | Throughput |
| Jolt Pooling | True |
| Web Server Profile | PROD |
| Tuxedo Settings in Web Server | tuxedo_network_disconnect_timeout=0 tuxedo_send_timeout=500 tuxedo_receive_timeout=6000 |
| Listen Address | 10.104.111.65 |
| Listen Port | 8700 |
| -noclassgc | |
| SSL Listen Port Enabled | Unchecked |

Table 14 Application Server Parameters

| Parameters | Value |
|----------------|---|
| JOLT Listener | Min Handlers=30 Max Handlers=50 Max Clients per Handler=40 Client Cleanup Timeout=10 Init Timeout=5 Client Connection Mode=ANY Jolt Compression Threshold=1000000 |
| Cache Settings | EnableServerCaching - 0 Server file caching disabled 1 Server file caching limited to most used classes 2 Server file caching for all types EnableServerCaching=2 |
| PSAPPSRV | Min Instances=25 Max Instances=25 Service Timeout=1200 Recycle Count=5000 |
| JVM setting | -server -Xms 1024m -Xmx2048m |
| PSSAMSRV | Min Instances=1 Max Instances=1 Service Timeout=300 Recycle Count=100000 |

During the peak load of 2500 Concurrent Users, the following characteristics of the Cisco UCS server at different technology layers of the PeopleSoft tech stack were captured.

Figure 10 shows the number of Vusers running at a given time.

Figure 10 *Number of Vusers*

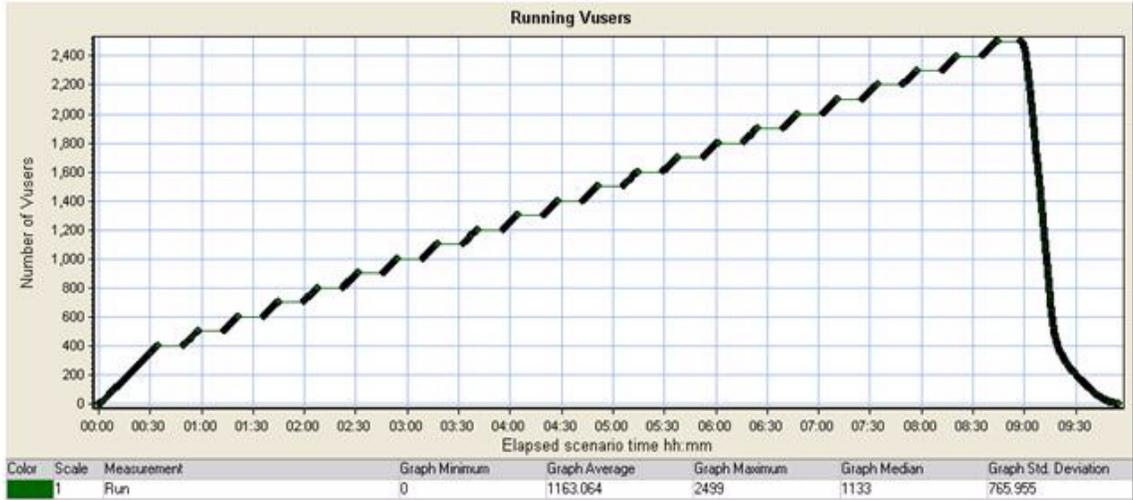


Figure 11 shows the number of hits made to the web server by Vusers during each second of the scenario run.

Figure 11 *Number of Hits to the Web Server by Vusers*

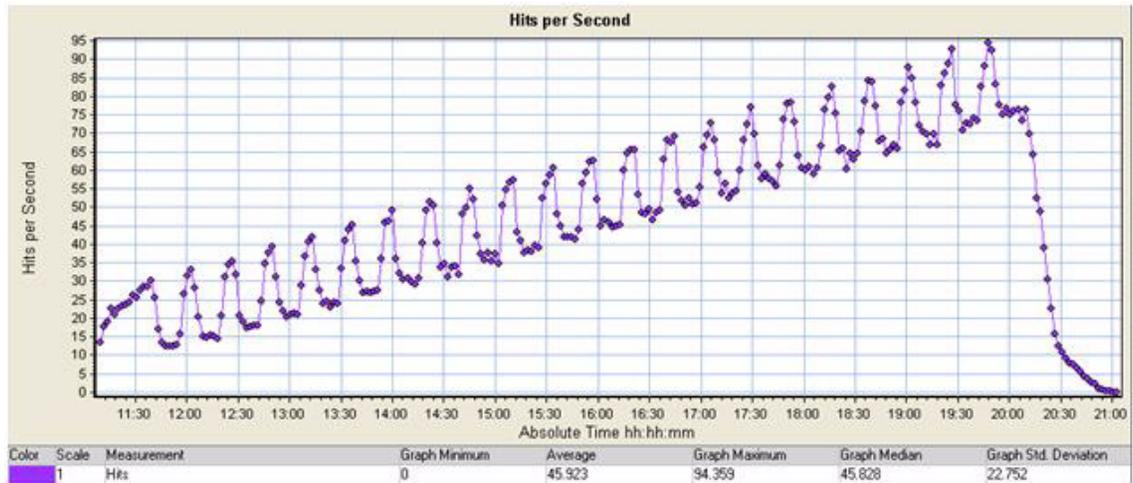


Figure 12 shows the amount of data the Vuser receives from the server at any given second.

Figure 12 Data Received by User

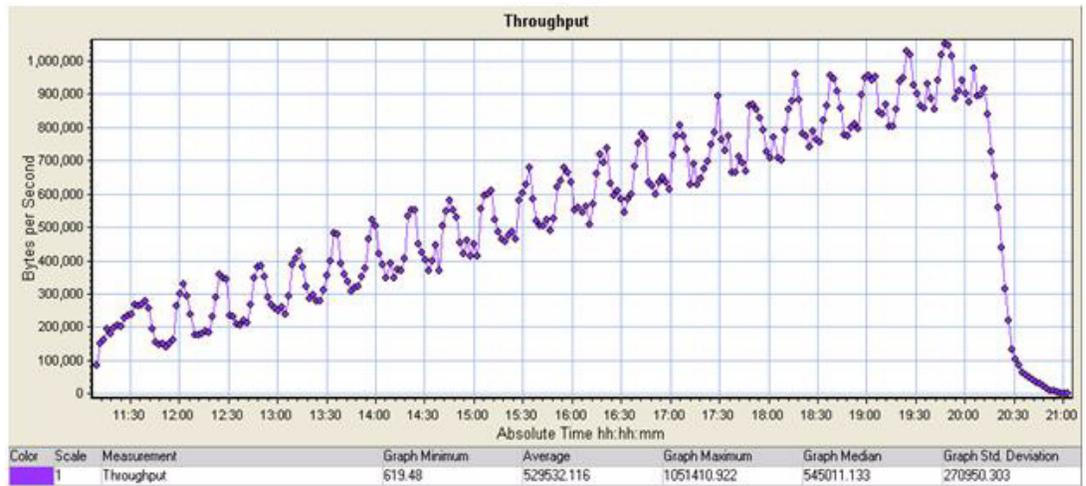


Figure 13 shows the number of connections made to the web server by Users during each second of the scenario run. This graph displays how to evaluate the amount of load Users generate, in terms of the number of connections.

Figure 13 Connections Per Second

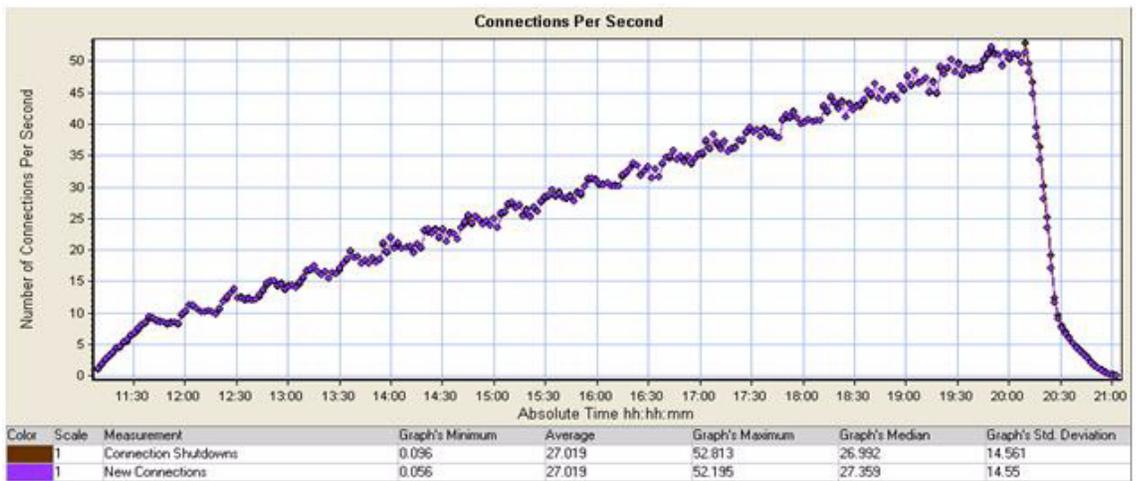


Table 15 CPU and Memory Utilization

| Tech Layer | CPU Utilization % | Memory Utilization % |
|--------------------|---|--|
| Web Server | <p>System Summary psft-web1 11/16/2011</p> <p>Legend: CPU%</p> <p>The chart shows CPU utilization for the web server. The y-axis is labeled 'usr%+sys%' and ranges from 0 to 100. The x-axis shows time from 11:02 to 20:58. The utilization is consistently low, staying below 10% throughout the test period.</p> | <p>Memory MB psft-web1 11/16/2011</p> <p>Legend: memfree</p> <p>The chart shows memory utilization for the web server. The y-axis is labeled 'Thousands' and ranges from 0 to 90. The x-axis shows time from 11:02 to 20:58. The 'memfree' value is consistently high, around 80-85 thousand, indicating low memory usage.</p> |
| Application Server | <p>System Summary psft-app1 11/16/2011</p> <p>Legend: CPU%</p> <p>The chart shows CPU utilization for the application server. The y-axis is labeled 'usr%+sys%' and ranges from 0 to 100. The x-axis shows time from 11:00 to 20:56. The utilization is low, generally below 10%, with a slight increase towards the end of the test.</p> | <p>Memory MB psft-app1 11/16/2011</p> <p>Legend: memfree</p> <p>The chart shows memory utilization for the application server. The y-axis is labeled 'Thousands' and ranges from 0 to 90. The x-axis shows time from 11:00 to 21:00. The 'memfree' value fluctuates between approximately 75 and 85 thousand.</p> |
| Database server | <p>System Summary psft-db1 11/16/2011</p> <p>Legend: CPU%</p> <p>The chart shows CPU utilization for the database server. The y-axis is labeled 'usr%+sys%' and ranges from 0 to 100. The x-axis shows time from 11:01 to 20:57. The utilization is low, generally below 10%, with some minor spikes.</p> | <p>Memory MB psft-db1 11/16/2011</p> <p>Legend: memfree</p> <p>The chart shows memory utilization for the database server. The y-axis is labeled 'Thousands' and ranges from 0 to 140. The x-axis shows time from 11:01 to 20:57. The 'memfree' value is consistently high, around 125-130 thousand.</p> |

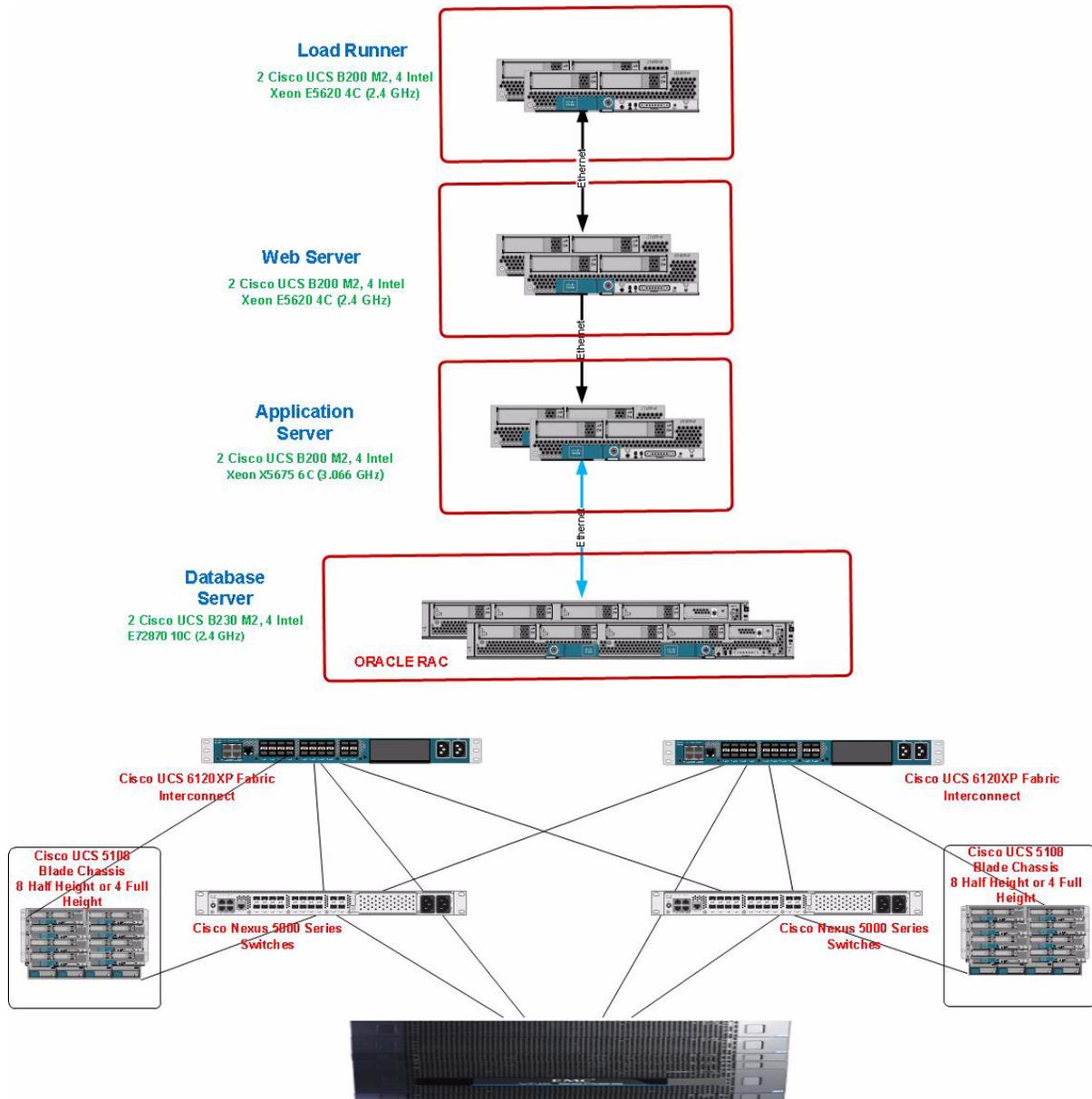
Table 16 Disk and Network Packet Summary

| Tech Layer | Disk Read/Write/IO (Disk Summ) | Network Packets Read/Write |
|--------------------|---|---|
| Web Server | <p>Disk total KB/s psft-web1 - 11/16/2011</p> | <p>Network Packets psft-web1 11/16/2011</p> |
| Application Server | <p>Disk total KB/s psft-app1 - 11/16/2011</p> | <p>Network Packets psft-app1 11/16/2011</p> |
| Database server | <p>Disk total KB/s psft-db1 - 11/16/2011</p> | <p>Network Packets psft-db1 11/16/2011</p> |

Oracle PeopleSoft 5000 Concurrent Users Scalability Test Results on Oracle Real Application Clusters

To simulate a large customer base hosting more than 5000 concurrent users, another test bed was built to run a set of mixed tests in order to evaluate the performance of the system. The test bed was built to use Oracle Real Application Clusters at the database end and a pair of web and application servers were used (Figure 15).

Figure 15 Oracle PeopleSoft 5000 Concurrent Users Configuration



Throughout the test run, the transaction response times and the server utilization of the web, application and database servers were consistent and there was no unexpected behavior or deviations noticed in either the transaction response times or the server utilizations.

Table 17 shows average retrieval (search) and update (save) times, in seconds, for each business process

Table 17 **Average Retrieval and Update Time Process - Single User and 5000 Users**

| Process | TRANSACTION | Single User | 5000 Users |
|---------------------------------|-------------|-------------|------------|
| UPDATE HOME ADDRESS | Search | 0.273 | 0.241 |
| | Save | 0.413 | 0.314 |
| UPDATE PHONE NUMBERS | Search | 0.531 | 0.615 |
| | Save | 0.215 | 0.197 |
| VIEW BENEFITS SUMMARY | Search | 0.305 | 0.271 |
| UPDATE BENEFICIARY | Search | 0.476 | 0.278 |
| | Save 1 | 0.079 | 0.084 |
| | Save 2 | 0.078 | 0.203 |
| | Edit/Calc | 0.02 | 0.052 |
| VIEW PAYCHECK | Search | 0.395 | 0.467 |
| VIEW EMPLOYEE INFO | Search | 0.433 | 0.439 |
| INITIATE TERMINATION | Search | 0.41 | 0.462 |
| | Save | 0.088 | 0.071 |
| INITIATE PROMOTION | Search | 0.409 | 0.47 |
| | Save | 0.251 | 0.293 |
| INITIATE EMPLOYEE SALARY CHANGE | Search | 0.879 | 0.734 |
| | Save | 0.458 | 0.419 |
| | Edit/Calc | 0.037 | 0.03 |
| ADD A PERSON | Save | 0.021 | 0.018 |
| HIRE A PERSON | Save | 0.975 | 1.445 |
| ADD A JOB ROW | Search | 0.794 | 0.795 |
| | Save | 0.547 | 0.279 |
| Average Search | | 0.46 | 0.43 |
| Average Save | | 0.79 | 0.42 |
| Trans/min Est | | | 1666 |

Table 18 Workload Spread for User Journeys

| USER JOURNEY | USER LOAD % | USER LOAD (5000 users) |
|---------------------------------|-------------|------------------------|
| UPDATE HOME ADDRESS | 2.5 | 125 |
| UPDATE PHONE NUMBERS | 2.5 | 125 |
| VIEW BENEFITS SUMMARY | 6 | 300 |
| UPDATE BENEFICIARY | 1 | 50 |
| VIEW PAYCHECK | 48 | 2400 |
| VIEW EMPLOYEE INFO | 10 | 500 |
| INITIATE TERMINATION | 4 | 200 |
| INITIATE PROMOTION | 2 | 100 |
| INITIATE EMPLOYEE SALARY CHANGE | 4 | 200 |
| ADD A PERSON | 20 | |
| HIRE A PERSON | | 1000 |
| ADD A JOB ROW | | |
| Total | 100 | 5000 |

Load Profile

- Test was designed in Stepped mode with 5000 VUser for Large Enterprises.
- At the start of the test 800 users were ramped up with 2 user for every 5 seconds followed by a 15 minute stable run.
- 200 users were ramped up in each batch till 5000 user load is reached with a 15 minute stable run after each batch ramp up.
- Ramp up was 2 user for every 5 seconds throughout the test.

Load Runner Settings

- Think time randomized between 30-60 seconds.
- Each concurrent users submitted the business process at a average rate of one every three minutes.

Test Duration

13/01/2012 13:58:55 - 13/01/2012 23:54:00.

Observations

- During the test run, 99.9 percent of the transactions were successfully passed.
- The Journey wise response times and the individual response times were stable during the entire test run
- The web, application and database servers CPU utilization remained fairly under 10 percent throughout the test run.
- No major issues were reported during the test run.

Table 19 *Web Server Parameters*

| Web Server 1(10.104.111.65) and Web Server 2 (10.104.111.66) | |
|--|---|
| Thread Count (Thread Management is auto in weblogic 9 and 10 versions) | 150 |
| JVM heap size | Xms3072m -Xmx3072m |
| -xgc | Throughput |
| Jolt Pooling | TRUE |
| Web Server Profile | PROD |
| Tuxedo Settings in Web Server | tuxedo_network_disconnect_timeout=0 tuxedo_send_timeout=500 tuxedo_receive_timeout=6000 |
| Listen Address | 10.104.111.65 |
| Listen Port | 8000 |
| -Xnoclassgc | |
| SSL Listen Port Enabled | Unchecked |

Table 20 *Application Server Parameters*

| App Server 1(10.104.111.67) and Apps Server 2 (10.104.111.68) | |
|--|------------------------------------|
| JOLT Listener | Min Handlers=15 |
| | Max Handlers=25 |
| | Max Clients per Handler=40 |
| | Client Cleanup Timeout=10 |
| | Init Timeout=5 |
| | Client Connection Mode=ANY |
| | Jolt Compression Threshold=1000000 |
| PSAPPSRV | Min Instances=13 |
| | Max Instances=13 |
| | Service Timeout=1200 |
| | Recycle Count=5000 |
| JVM setting | -server -Xms2048m -Xmx2048m |
| PSSAMSRV | Min Instances=1 |
| | Max Instances=1 |
| | Service Timeout=300 |
| | Recycle Count=100000 |

Table 21 Database Parameters

| Parameter Name | Begin value |
|----------------------------------|--|
| __db_cache_size | 12884901888 |
| __java_pool_size | 536870912 |
| __large_pool_size | 2147483648 |
| __oracle_base | /u01/app/oracle |
| __pga_aggregate_target | 56908316672 |
| __sga_target | 38654705664 |
| __shared_io_pool_size | 0 |
| __shared_pool_size | 22548578304 |
| __streams_pool_size | 0 |
| _gc_defer_time | 0 |
| _memory_imm_mode_without_autosga | TRUE |
| audit_file_dest | /u01/app/oracle/admin/PSLARGE/adump |
| audit_trail | DB |
| cluster_database | TRUE |
| compatible | 11.2.0.0.0 |
| control_files | +DATA/pslarge/control01a.ctl, +DATA/pslarge/control02a.ctl |
| cursor_sharing | EXACT |
| db_block_size | 8192 |
| db_domain | |
| db_file_multiblock_read_count | 96 |
| db_flashback_retention_target | 10080 |
| db_name | PSLARGE |
| db_recovery_file_dest | +REDO |
| db_recovery_file_dest_size | 61677240320 |
| diagnostic_dest | /u01/app/oracle |
| dispatchers | (PROTOCOL=TCP) (SERVICE=PSLARGEEXDB) |
| filesystemio_options | SETALL |
| gcs_server_processes | 4 |
| instance_number | 1 |
| large_pool_size | 2147483648 |
| local_listener | (DESCRIPTION=(ADDRESS_LIST=(ADDRESS=(PROTOCOL=TCP)(HOST=10.104.111.75)(PORT=1521)))) |
| log_archive_format | %t_%s_%r.dbf |
| max_dispatchers | 120 |

Figure 16 Resource Utilization

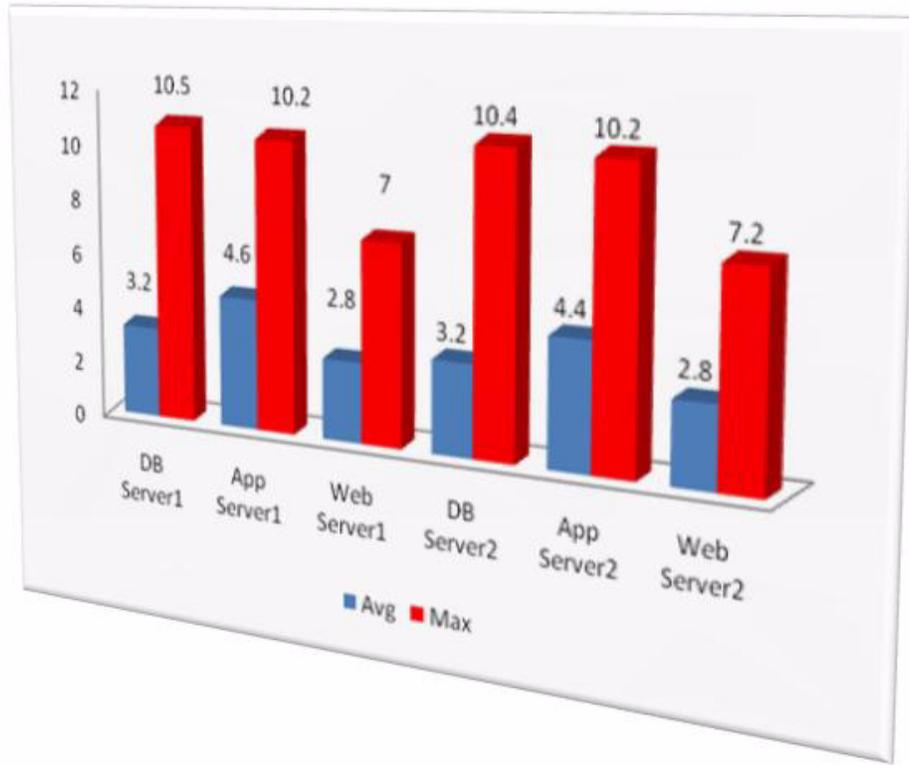


Table 22 CPU Utilization

| %CPU | Avg. | Max. |
|---------------------|------|------|
| DB Server 1 | | |
| User | 2.9 | 9.3 |
| System | 0.3 | 1.2 |
| Idle | 96.8 | 99.8 |
| DB Server 2 | | |
| User | 2.9 | 9.7 |
| System | 0.3 | 0.7 |
| Idle | 96.7 | 99.8 |
| App Server 1 | | |
| User | 4.4 | 9.8 |
| System | 0.2 | 0.4 |
| Idle | 95.4 | 100 |
| App Server 2 | | |
| User | 4.2 | 9.8 |
| System | 0.2 | 0.4 |
| Idle | 95.5 | 100 |
| Web Server 1 | | |
| User | 2.5 | 6.2 |
| System | 0.3 | 0.8 |
| Idle | 97.2 | 99.9 |
| Web Server 2 | | |
| User | 2.5 | 6.4 |
| System | 0.3 | 0.8 |
| Idle | 97.2 | 99.9 |

Table 23 *Memory Utilization*

| | DB1 | DB2 | App1 | App2 | Web1 | Web2 |
|--------------------|-------|-------|------|------|------|------|
| Avg Memory | 33.5 | 37.06 | 6.97 | 6.74 | 6.83 | 6.57 |
| Peak Memory | 33.86 | 37.41 | 7.75 | 7.47 | 6.87 | 6.61 |

Table 24 *I/O Metrics*

| | Reads KBytes Per Sec | Writes KBytes Per Sec |
|--------------------|----------------------|-----------------------|
| DB Server1 | 171 | 596.3 |
| DB Server2 | 166.9 | 630 |
| App Server1 | 0.1 | 374 |
| App Server2 | 0.1 | 205.2 |
| Web Server1 | 0.1 | 84.1 |
| Web Server2 | 0.1 | 72.1 |

Table 25 CPU and Memory Utilization

| Tech Layer | CPU Utilization % | Memory Utilization % |
|---------------|-------------------|----------------------|
| Web Server1 | | |
| Web Server 2 | | |
| Apps Server 1 | | |
| Apps Server 2 | | |

Data Composition Description

The workload utilized for this test comprised of the following:

- Employees (Multiple Records - A Single employee can have multiple records such as for Hire, Promotion etc in the Job History) : 404189
- Employees (Distinct Employee records): 273719
- Active Employees Job Records (with multiple records): 404000
- Inactive Employees Job Records (with multiple records): 189
- Employees in personal Data: 288278

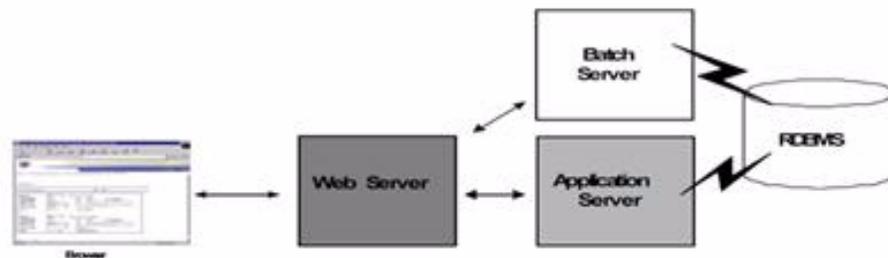
A series of tests, both standalone and mixed, have been conducted on the Cisco UCS platform in order to verify the sanity of the workflows being tested as well as the integrity of the entire testing platform. The testing on Cisco UCS ecosystem started with the sanity tests on the individual journeys on the Employee Self-Service (ESS), Manager Self-Service (MSS) and the HR journeys with 10 users for stable run duration of 30 minutes in order to fine-tune the test scripts and any potential performance bottlenecks for each workflow.

A series of mixed tests were carried out in order to evaluate the performance of the system for 5000 user load. Throughout the test run, the transaction response times and the server utilization of the web, application and database servers were consistent and there was no unexpected behavior or deviations noticed in either the transaction response times or the server utilizations.

Oracle PeopleSoft Human Resource Management System 9.0

Figure 17 shows the Oracle PeopleSoft Internet Architecture (PIA) which is a server-centric architecture.

Figure 17 High-Level Oracle PeopleSoft Architecture



Oracle PIA is a standard three-tier architecture technology stack, with a web server, application server, and a database server. Although all three layers of Oracle PIA can be installed on a single server, this is usually done in a small production environment. Ideally, each Oracle PeopleSoft application module should be placed in its own three-tier technology stack. If you plan to implement Oracle PeopleSoft Human Resources Management System (HRMS) and Financial and Supply Chain Management (SCM), then you should have separate three-tier technology stacks: one for Oracle PeopleSoft HRMS and one Oracle PeopleSoft Financials and SCM.

For more information, see PeopleTools 8.51: PeopleSoft Internet Architecture Administration http://docs.oracle.com/cd/E18377_01/psft/acrobat/pt851tsvt-b0810.pdf.

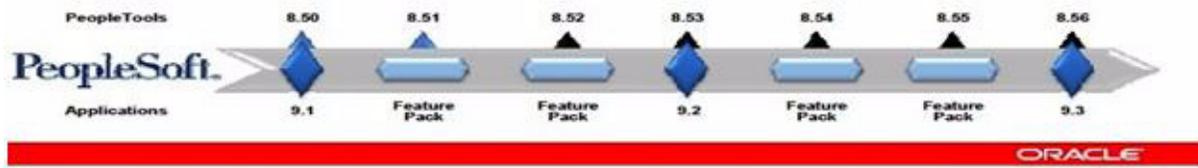
Oracle PIA introduces an entirely new architecture; hence, you should also consult the PIA Answer Book [https://support.oracle.com/CSP/ui/flash.html#tab=KBHome\(page=KBHome&id=\(\)\),\(page=KBNavigator&id=\(viewingMode=1143&bmDocTitle=PeopleTools%208.4%20PIA%20Answer%20Book&bmDo](https://support.oracle.com/CSP/ui/flash.html#tab=KBHome(page=KBHome&id=()),(page=KBNavigator&id=(viewingMode=1143&bmDocTitle=PeopleTools%208.4%20PIA%20Answer%20Book&bmDo)

[cDsrc=KB&bmDocType=REFERENCE&bmDocID=702961.1&from=BOOKMARK](#)) from Oracle to learn about late-breaking information from the production shops, tips from the field, and answers to customer questions about how to implement Oracle PIA.

PeopleTools 8.5.1

Oracle PeopleTools is the foundation on which PeopleSoft software is built and run (Figure 18). To function smoothly, Oracle PeopleTools should be compatible with the operating system version for the Oracle PeopleSoft application.

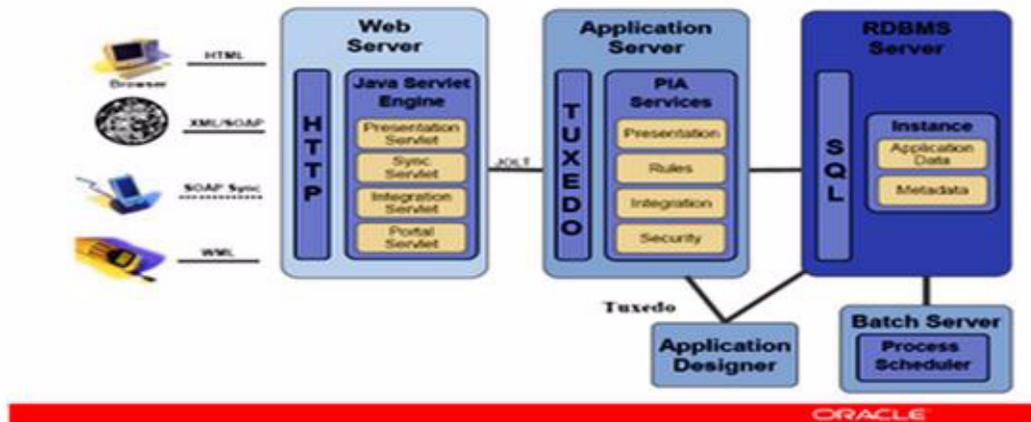
Figure 18 Versions of Oracle PeopleTools



Oracle PeopleTools is a collection of development tools. The application engine is used as the runtime engine to run Oracle PeopleSoft applications on the application server. The Designer tool is used to build and customize Oracle PeopleSoft applications. The Data Mover moves or loads data, and PeopleCode is the C++ code used in the business logic.

Figure 19 shows the individual components of Oracle PIA at a higher level.

Figure 19 Oracle PeopleSoft Architecture Overview



To build the right configuration for the implementation of Oracle PeopleSoft discussed in this document, you need to understand the role of each component in the three-tier technology stack.

External Web Server and Proxy Server

The external web server and proxy server are used when there are external users logging into the Oracle PeopleSoft application through the Internet and there is no enterprise portal.

SSL encryption is a critical resource-intensive activity that can be handled either by the firewall or by the reverse proxy server (RPS). It is always better to offload the SSL encryption activity. For SSL encryption and authentication, you must download digital certificates. Some vendors that provide these digital certificates are VeriSign, Baltimore Technologies, and Entrust. Oracle has also certified the use of the following HTTP servers as RPSs:

- With Oracle WebLogic, the certified HTTP servers are:
 - Microsoft Internet Information Services (IIS)
 - Sun Java System web server
 - Apache HTTP server
 - Oracle HTTP Server
- With IBM WebSphere, the certified HTTP server is IBM HTTP Server (IHS).

Internal Web Server

The Oracle PeopleSoft web application server is generally a Java 2 Platform, Enterprise Edition (J2EE) server. Previously, Oracle used its own Oracle Application Server, but with the integration of BEA WebLogic Oracle now recommends and certifies only the following two web application servers for use in the web layer:

- Oracle WebLogic
- IBM WebSphere

The J2EE web server is the connection to the external world (browsers) to service all its transaction requests. The J2EE server in turn connects to the application server for messaging using the application server Oracle Tuxedo and Oracle Jolt. The J2EE server is basically a collection of Oracle PeopleSoft Java servlets (Java programs that are run by the servlet engine) designed to handle a wide range of Oracle PeopleSoft transactions (Figure 20).

Figure 20 *Web Server Java Servlets*



Table 26 *Definitions of Web Server Java Servlets*

| | |
|----------------------------|--|
| Portal servlet | This servlet handles all HTTP inbound and outbound traffic from users and clients. It also manages all aspects of the Oracle PeopleSoft portal such as search, content management, and homepage personalization. |
| Presentation relay servlet | This servlet relays the communication received from the inbound traffic to the query and component processors to run the transaction in Oracle Tuxedo. |
| Integration relay servlet | This servlet is for third-party integration activities. It basically receives and transacts XML requests for integration services. |

Application Server Tier

The application server is the core of Oracle PIA. The application server consists of numerous Oracle PeopleSoft services and server processes that handle transaction requests. After a request is received from the web server through Oracle Jolt, the application server runs the business logic required and generates appropriate SQL queries, which are sent across the data base server using Oracle Tuxedo. The application server connects to the Oracle PeopleSoft database and handles almost all SQL-intensive interactions with the database server that are required to process a transaction request from a user (Figure 21).

Figure 21 *Oracle PeopleSoft Application Server Services*

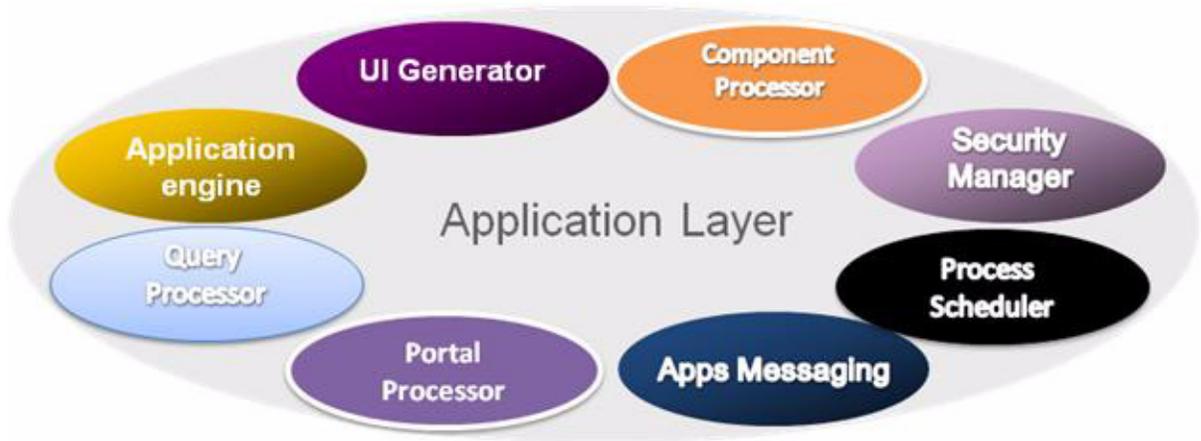


Table 27 Oracle PeopleSoft Application Layer Service

| | |
|---------------------------------|---|
| Application engine | The engine runs application engine processes. In Oracle PeopleSoft, this is a runtime engine. |
| Portal processor | The portal processor services all requests received from the portal servlet. |
| User interface generator | The UI generator generates the required outbound markup language format and the appropriate scripting based on the activated client action. |
| Application messaging processor | This processing engine manages the publication, subscription, and delivery of application messages. |
| Business interlink processor | This processor integrates the business interlink plug-ins required for third-party systems. |
| Component processor | This query execution engine runs core application business logic functions. |
| Process scheduler | The process scheduler is one of the most important components of the application layer. It is used to schedule batch processes and any reports scheduled by the user. |
| Query processor | The query processor runs the queries. |
| Security manager | The security manager authenticates inbound users either through the identity manager or using Lightweight Directory Access Protocol (LDAP) services. |

Oracle Jolt is another companion product that coexists with the application services. It is Oracle Jolt that communicates with the web server, and without it the application layer cannot function. Oracle Tuxedo runs in a C++ environment, and Oracle Jolt extends Oracle Tuxedo's capabilities to the Internet. All servlets are configured to direct requests from the web server to a predefined Oracle Jolt port on the application server. These requests are HTTP requests to the page servlet running on the web server that translates the HTTP request into an Oracle Jolt request that is sent to a specified Oracle Jolt port. The application server runs the business logic requested by using Oracle Tuxedo, which in turn runs the appropriate SQL queries against the database.

Database Server Tier

The database server is the repository that hosts Oracle PeopleSoft metadata and user tables and indexes. The database also has temporary tablespaces for query processing such as sorting, merging, and hashing activities. It also hosts the redo and undo spaces. The servers that host Oracle PeopleSoft databases need sufficient processing, storage, and networking resources to handle the database requests, store the data and transaction logs, and communicate freely with the clients of this data.

Batch Server

The batch server hosts the Oracle PeopleSoft process schedulers. Batch servers are dedicated to the processing of batch jobs. Usually the batch server is included in the application server, but large production shops separate batch processes from the database tier to spread out the workload and reduce the computing pressure on the application layer.

Oracle PeopleSoft HRMS 9.0 Components

Before beginning an implementation of Oracle PeopleSoft on Cisco UCS servers, you must compile and document all relevant data that would reduce time and cost. You must verify that you have all the latest patches available, certified combinations of Oracle PeopleSoft and OS versions, and OS patch and kernel levels required and identify the maintenance schedule for upcoming Oracle PeopleTools and application releases of Oracle PeopleSoft HRMS. Maintenance schedules are posted on My Oracle Support.

The Enterprise PeopleTools 8.51 Hardware and Software Requirements guide http://docs.oracle.com/cd/E18373_01/psft/acrobat/PeopleTools_8.51_HardwareSoftwareGuide.pdf provides an overview of Oracle PeopleSoft architecture as well as general information about the hardware and software required for a successful installation.

Hardware Components

Table 28 lists the hardware components used to deploy Oracle PeopleSoft for benchmarking on the Cisco UCS platform.

Table 28 *Hardware Components*

| Technical Layer | Cisco UCS Server | CPU Type | Memory | Interface |
|-------------------------|-------------------------------|---------------------------|---|---|
| External web server | Cisco UCS B200 M2 | 2 Intel Xeon E5620 4C/8T | 12 Gb [[OK, OR SHOULD THESE ALL SAY "GB"?]] | <ul style="list-style-type: none"> • Cisco UCS M81KR • Palo Adapter PCIe • EMC PowerPath |
| Web server | Cisco UCS B200 M2 | 2 Intel Xeon E5620 4C/8T | 96 Gb | <ul style="list-style-type: none"> • Palo Adapter PCIe • EMC PowerPath |
| Application server | Cisco UCS B200 M2 | 2 Intel Xeon X56756C/12T | 96 Gb | <ul style="list-style-type: none"> • Palo Adapter PCIe • EMC PowerPath |
| Database server | Cisco UCS B250 M2 and B440 M2 | 2 Intel Xeon X5680 6C/12T | 394 Gb | <ul style="list-style-type: none"> • Palo Adapter PCIe • EMC PowerPath |
| Fabric interconnects | Cisco UCS 6120XP | | | |
| CNA switches | Cisco Nexus 5548P Switch | | | |
| Cisco UCS blade chassis | Cisco UCS 5100] Series | | | <ul style="list-style-type: none"> • 2 I/O modules • 4 power supplies |

Before choosing the Cisco UCS servers, you should check the interoperability matrices for Cisco UCS components and configurations that have been tested and validated by Cisco, by Cisco partners, or both.

Cisco provides the document Hardware and Software Interoperability Matrix, http://www.cisco.com/en/US/products/ps10477/prod_technical_reference_list.htm, which is updated on a regular basis. The current version of this document applies to the Cisco UCS B-Series Blade Servers in Cisco UCS Release 1.4(3).

Hardware and Software Interoperability Matrix for Cisco Unified Computing System

Tables 29 through 33 show the interoperability matrixes used to check the configurations used for this document.

Table 29 ***Operating System Interoperability Matrix***

| Cisco UCS Blade Server | Vendor | Operating System Version |
|---|---------|-----------------------------|
| M1 and M2 for B200, B250, B230, and B440 | Red Hat | Enterprise Linux 5.6 64-bit |
| M1 and M2 for B200, B250, B230, and B440 | Red Hat | Enterprise Linux 6.0 64-bit |
| M1 and M2 for B200, B250, B230, and B440 | Red Hat | Enterprise Linux 6.1 64-bit |

Table 30 *Converged Network Adapter Interoperability Matrix*

| Cisco UCS Blade Server | Vendor | Adapter Model | Operating System | Adapter Driver | Adapter Firmware | Adapter Boot Code or BIOS |
|--|--------|----------------------------------|-----------------------------|-----------------------------|------------------|---------------------------|
| M1 and M2 for B200, B250, B230, and B440 | Cisco | UCS M81KR Virtual Interface Card | Enterprise Linux 5.6 64-bit | 1.4.0.145 or 1.4.1.5a (NIC) | 1.4(3) | 1.4(3) |
| M1 and M2 for B200, B250, B230, and B440 | Cisco | UCS M81KR Virtual Interface Card | Enterprise Linux 6.0 64-bit | 1.4.0.145 or 1.4.1.5a (NIC) | 1.4(3) | 1.4(3) |
| M1 and M2 for B200, B250, B230, and B440 | Cisco | UCS M81KR Virtual Interface Card | Enterprise Linux 6.1 64-bit | 1.5.0.1 or 2.1.1.13 (NIC) | 1.4(3) | 1.4(3) |

Table 31 Network Interface Card Interoperability Matrix

| Cisco UCS Blade Server | Vendor | Adapter Model | Operating System | Adapter Driver | Adapter Firmware | Adapter Boot Code or BIOS |
|---|--------------|-----------------------------|------------------|----------------|------------------|---------------------------|
| M1 and M2 for B200, B250, B230, and B440 | Cisco | UCS | Enterprise | 1.52.53-4 | 5.2.7.12.1 | 5.2.12 |
| | | M51KR-B | Linux 5.6 | | | |
| | | 10 Gigabit Ethernet Adapter | 64-bit | | | |
| | | | | | | |
| M1 and M2 for B200, B250, B230, and B440 | Cisco | UCS | Enterprise | 1.60.51 | 5.2.7.12.1 | 5.2.12 |
| | | M51KR-B | Linux 6.0 | | | |
| | | 10 Gigabit Ethernet Adapter | 64-bit | | | |
| | | | | | | |
| M1 and M2 for B200, B250, B230, and B440 | Cisco | UCS | Enterprise | 1.62.00-6 | 5.2.7.12.1 | 5.2.12 |
| | | M51KR-B | Linux 6.1 | | | |
| | | 10 Gigabit Ethernet Adapter | 64-bit | | | |
| | | | | | | |

Table 32 RAID Controller on Motherboard or PCIe Adapter Interoperability Matrix

| Cisco UCS Blade Server | Vendor | Adapter Model | Operating System | Adapter Driver | Adapter Firmware | Adapter Boot Code or BIOS |
|--------------------------------|--------------|------------------------|------------------|----------------|------------------|---------------------------|
| B200 and B250 M1 and M2 | Cisco | LSI Logic | Enterprise | 3.0.4.15rh | 01.28.03.00 | 06.28.00.00 |
| | | SAS1064E | Linux 5.6 | | | |
| | | PCI-Express Fusion-MPT | 64-bit | | | |

Table 33 *Fibre Connectivity Switch Interoperability Matrix*

| Cisco UCS Fabric | Vendor | Fibre Connectivity | Switch Firmware |
|---------------------------|--------------|--------------------|------------------------------|
| Interconnect | | Switch Model | |
| UCS 6120XP | Cisco | Nexus 5000 | 4.1(3)N2(1), 4.1(3)N2(1a) |
| 20-Port and 6140XP | | | |
| 40-Port Fabric | | | |
| Interconnect | | | |

Software Components

All the required software was downloaded from the Oracle e-Delivery site: <http://edelivery.oracle.com>. Two important documents that need to be kept handy are Operating System, RDBMS and Additional Component Patches Required for Installation

[https://support.oracle.com/CSP/ui/flash.html#tab=KBHome\(page=KBHome&id=\(\)\),\(page=KBNavigator&id=\(viewingMode=1143&bmDocTitle=PeopleTools%20Certifications%20-%20Suggested%20Fixes%20for%20PT%208.51&bmDocDsrc=KB&bmDocType=REFERENCE&bmDocID=749196.1&from=BOOKMARK\)\)](https://support.oracle.com/CSP/ui/flash.html#tab=KBHome(page=KBHome&id=()),(page=KBNavigator&id=(viewingMode=1143&bmDocTitle=PeopleTools%20Certifications%20-%20Suggested%20Fixes%20for%20PT%208.51&bmDocDsrc=KB&bmDocType=REFERENCE&bmDocID=749196.1&from=BOOKMARK)))

and PeopleTools Certification FAQs-Database Platforms-Oracle

[https://support.oracle.com/CSP/ui/flash.html#tab=KBHome\(page=KBHome&id=\(\)\),\(page=KBNavigator&id=\(viewingMode=1143&bmDocTitle=PeopleTools%20Certification%20FAQs%20-%20Database%20Platforms%20-%20Oracle&bmDocDsrc=KB&bmDocType=REFERENCE&bmDocID=756280.1&from=BOOKMARK\)\)](https://support.oracle.com/CSP/ui/flash.html#tab=KBHome(page=KBHome&id=()),(page=KBNavigator&id=(viewingMode=1143&bmDocTitle=PeopleTools%20Certification%20FAQs%20-%20Database%20Platforms%20-%20Oracle&bmDocDsrc=KB&bmDocType=REFERENCE&bmDocID=756280.1&from=BOOKMARK)))

Both reference documents can be found in My Oracle Support

<https://support.oracle.com/CSP/ui/flash.html>.

Table 34 lists the software components that were downloaded from the Oracle e-Delivery site to deploy Oracle PeopleSoft on the Cisco UCS platform.

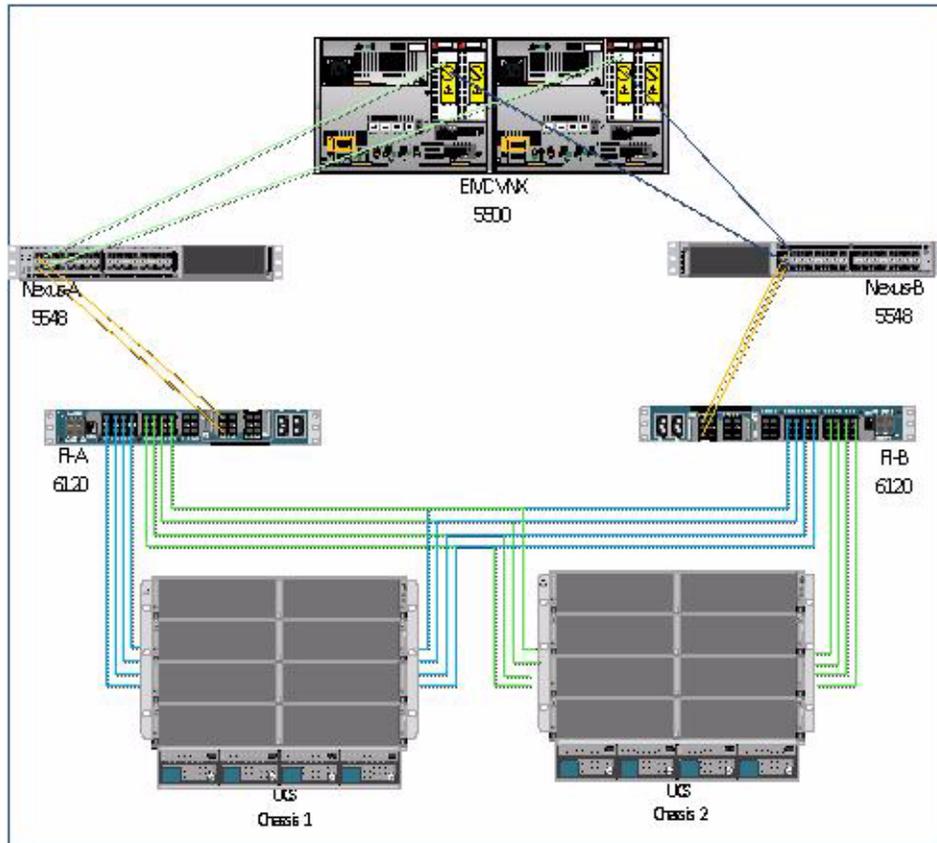
Table 34 **Software Components**

| Software Component | Version |
|--|--|
| Operating system | Linux X86-64 Red Hat Enterprise Linux 5 |
| Oracle PeopleTools | Oracle PeopleTools 8.51.11 |
| Oracle PeopleSoft HRMS9.1 | Oracle PeopleSoft HRMS 9.1 with Feature Pack December 2010 |
| Database server | Oracle 11.2.0.2.0 |
| Database client | Oracle 11.2.0.2.0 |
| Oracle WebLogic | Oracle WebLogic 10.3.4.0.0 |
| Oracle Tuxedo 10.3.0.0.0 | Oracle Tuxedo 10gR3 RP031 64-bit |
| Micro Focus Server Express 5.1 for COBOL | Micro Focus Server Express 5.1 64-Bit with Wrap Pack 4 |
| Java Runtime Environment (JRE) | Java Version 1.6.0_20 Java SE Runtime Environment (Build 1.6.0_20-b02) Java HotSpot 64-Bit Server Virtual Machine (Build 16.3-b01, mixed mode) |

Cisco Unified Computing System and Oracle PeopleSoft Deployment Layout

Figure 22 shows the Cisco UCS layout used in the Oracle PeopleSoft benchmark activity. It shows the eight I/O modules pulled out of the chassis and plugged into the Cisco UCS 6120XP Fabric Interconnect. The connections of the Cisco Nexus 5000 Series Switches to the fabric interconnects and to the EMC VNX 5500 are also shown.

Figure 22 Cisco UCS and Oracle PeopleSoft Deployment Layout



Cisco UCS Configuration

This section details the Cisco UCS configuration that was performed as part of the infrastructure buildout for deployment of Oracle PeopleSoft HRMS 9.0 on RHEL 5.6 and EMC VNX SAN storage. The racking, power, and installation of the chassis are beyond the scope of this document and are described in the installation guide:

http://www.cisco.com/en/US/docs/unified_computing/ucs/hw/chassis/install/ucs5108_install.html.

More details about each step can be found in the following documents:

Cisco Unified Computing System CLI configuration guide:

http://www.cisco.com/en/US/docs/unified_computing/ucs/sw/cli/config/guide/1.4/b_UCSM_CLI_Configuration_Guide_1_4.html

Cisco UCS Manager GUI configuration guide:

http://www.cisco.com/en/US/docs/unified_computing/ucs/sw/gui/config/guide/1.4/b_UCSM_GUI_Configuration_Guide_1_4.html

Configuring Cisco UCS Servers

The following screen shots step you through the configuration process. You will configure the Cisco UCS Servers using Cisco UCS Manager - 2.0(0.239).

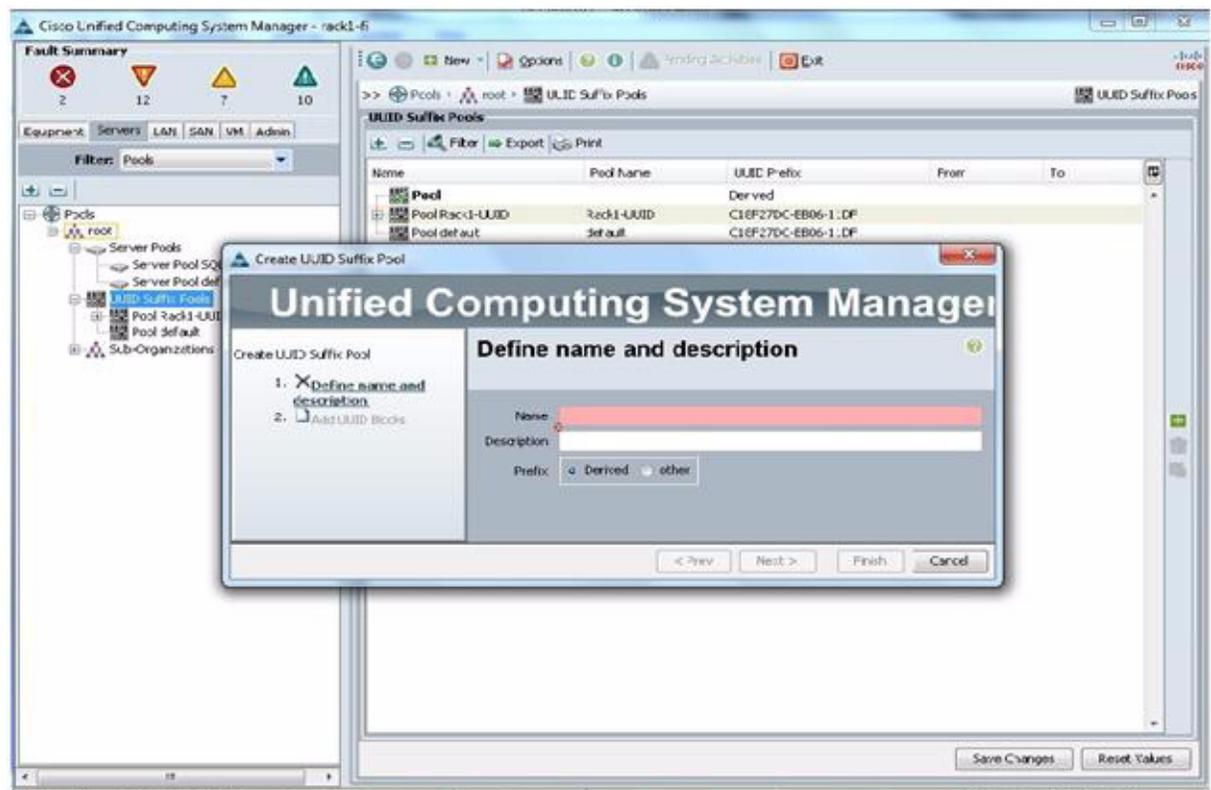
Create Pools

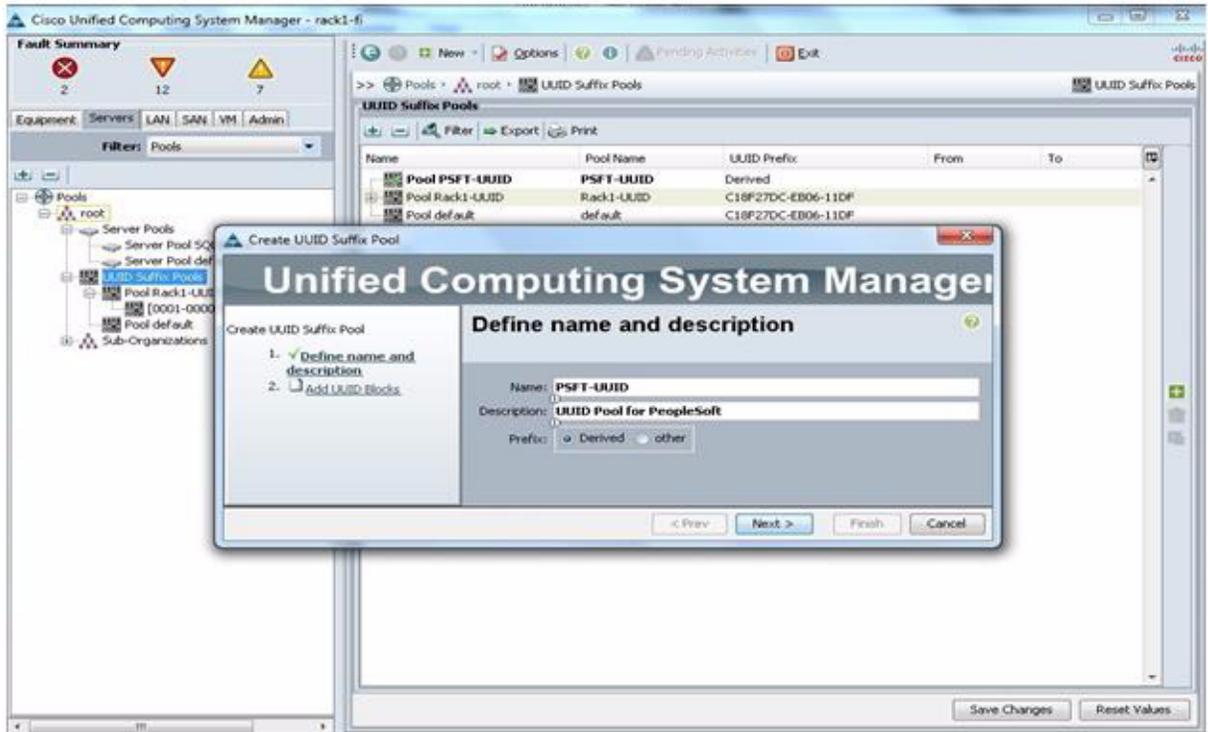
Pools are the building blocks for providing unique identification of hardware resources. As the basis for the utility computing model, they allow service profiles to be associated with any blade, while providing the exact same ID and presentation to the upstream LAN and SAN. Three sets of pools are used as part of Cisco UCS best practices:

- UUID pools: Provide IDs, similar to a serial number or service tag
- Worldwide node name (WWNN) and worldwide port name (WWPN) pools: Provide unique IDs for Fibre Channel resources on servers (Fibre Channel nodes and ports)
- MAC address pools: Provide unique IDs for virtual network interface ports

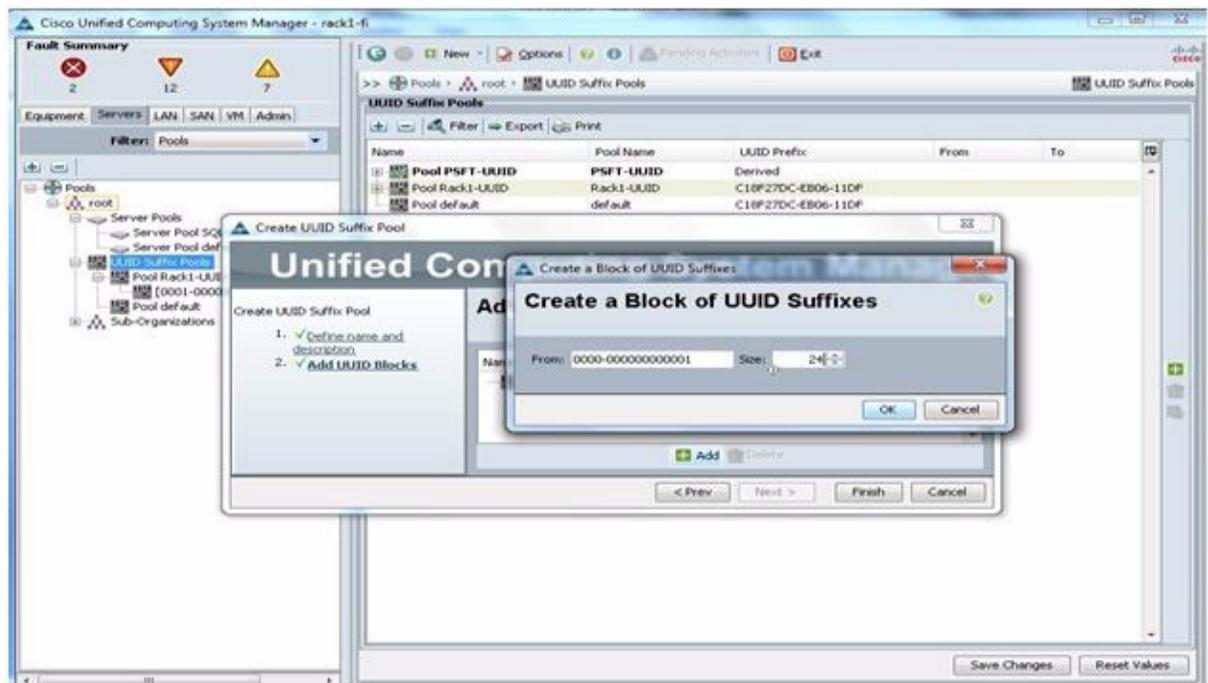
Cisco UCS assigns MAC addresses, management IP addresses, and WWN addresses using a pool mechanism. These pools are all functionally organized, with UUID pools maintained from the Server tab, WWNN and WWPN pools maintained from the SAN tab, and MAC address pools maintained from the LAN tab. Cisco UCS Manager disperses the pools using service profiles. All pools need to be set up before you create any of the profiles to be assigned.

Create UUID Pool from the Server Tab

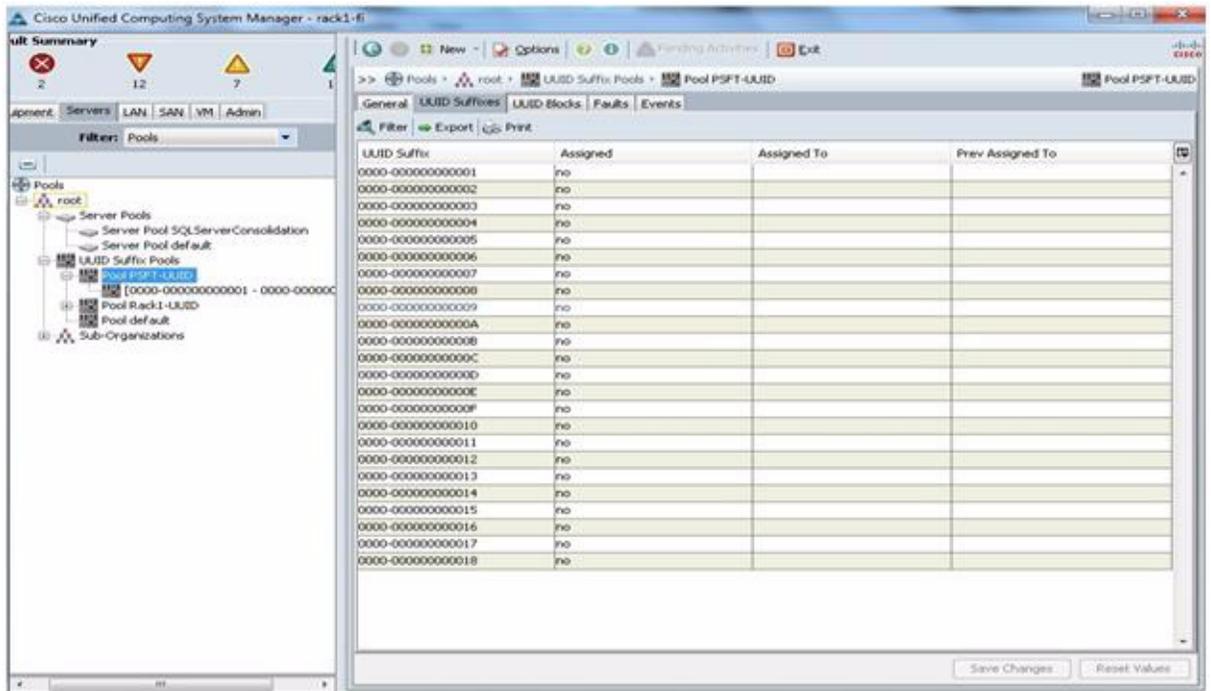




The first string of digits constitutes the prefix of the UUID and is fixed. The remaining digits, the UUID suffix, are variable.



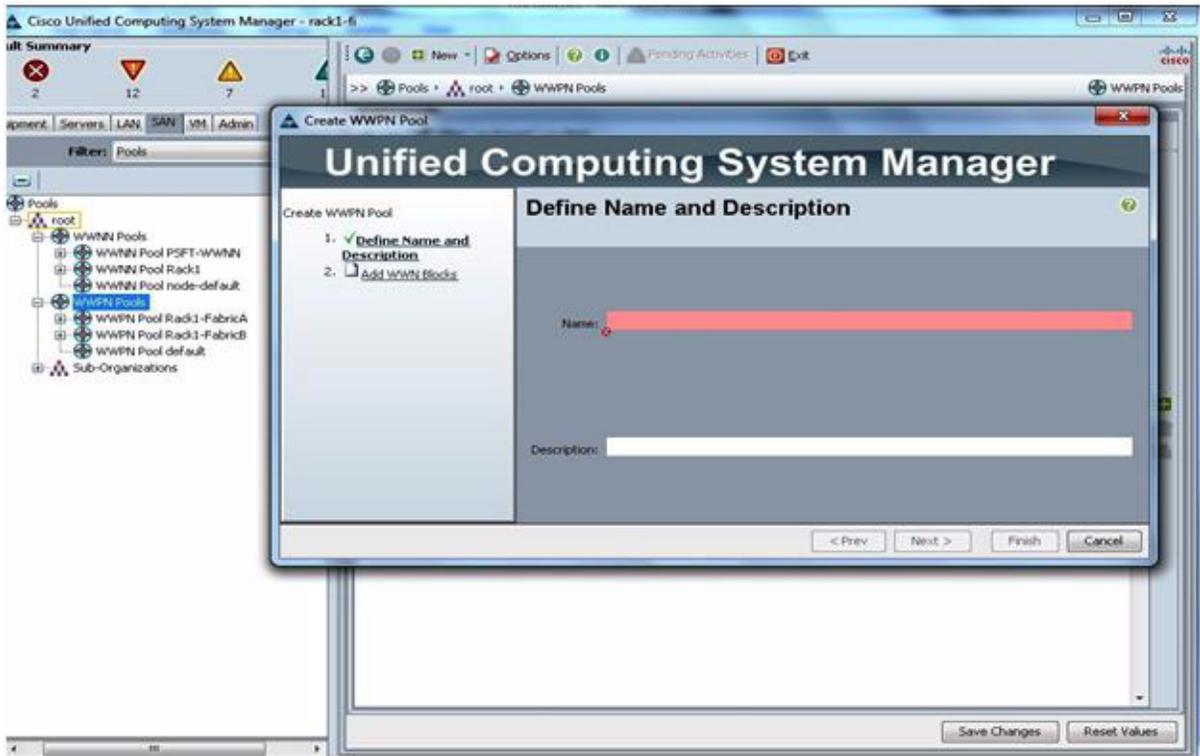
A UUID suffix pool helps ensure that these variable values are unique for each server associated with a service profile that uses that particular pool and helps prevent conflicts.

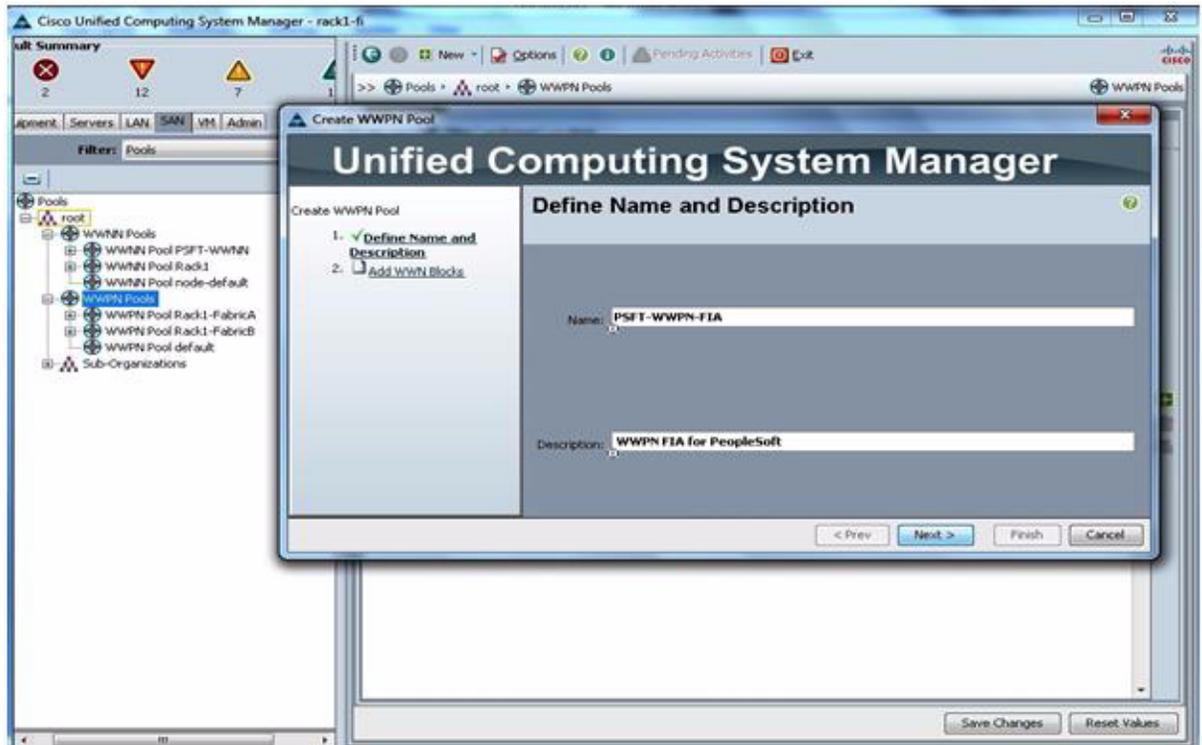


If UUID suffix pools are used in service profiles, the UUID of the server associated with the service profile does not need to be manually configured.

Create WWPN Pool from SAN Tab

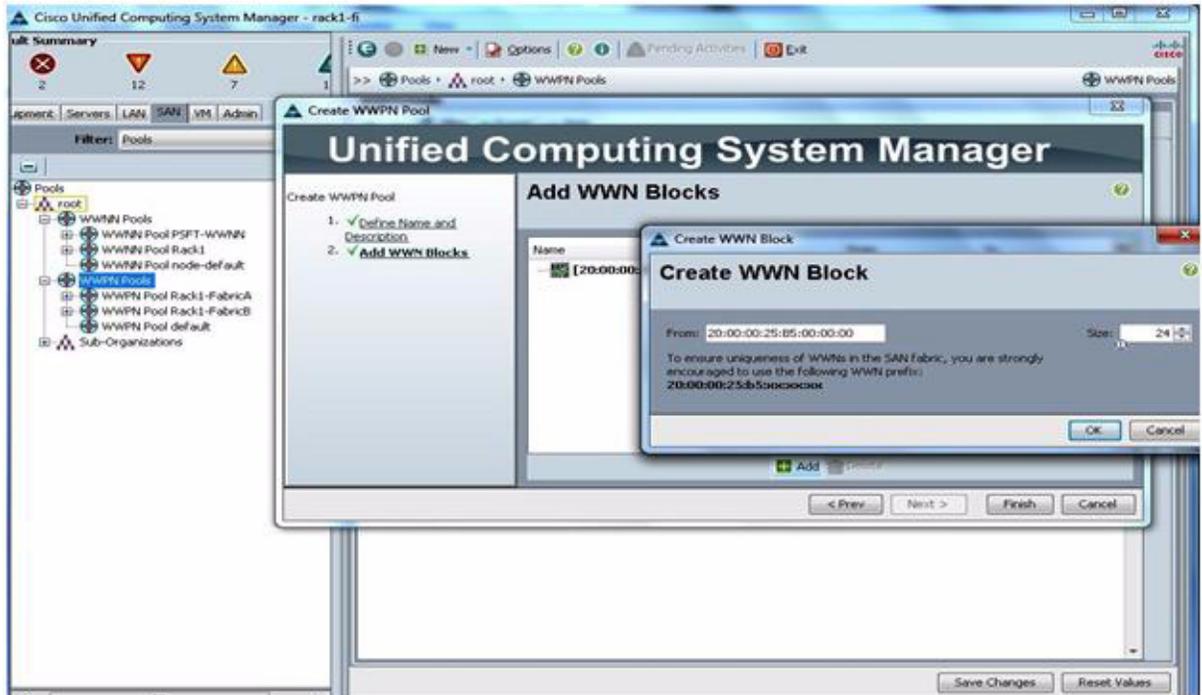
From the WWPN pools, unique pools will be created for each fabric.



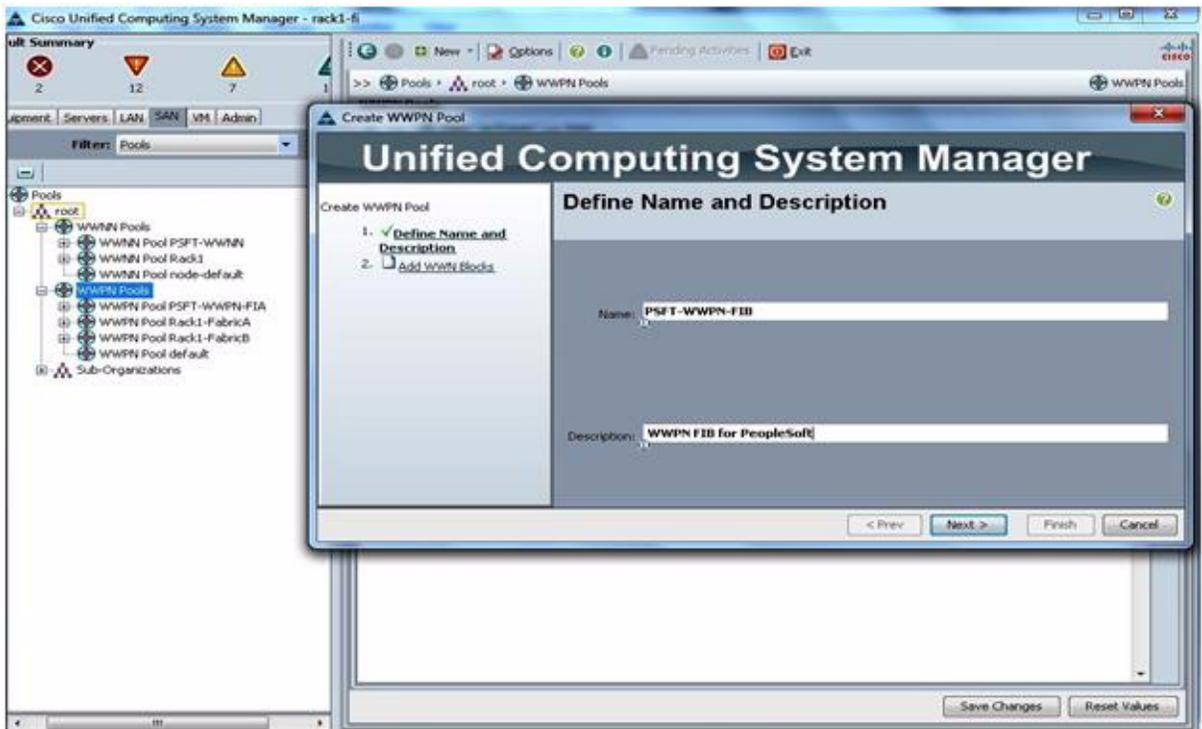


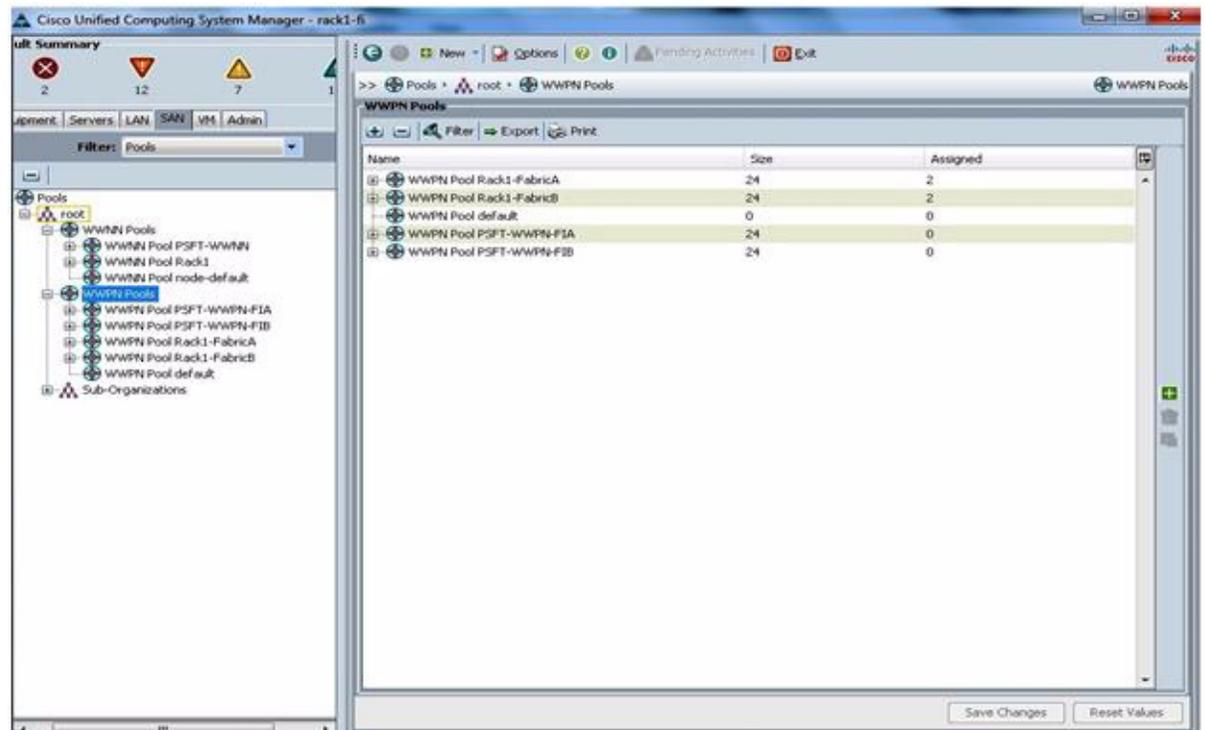
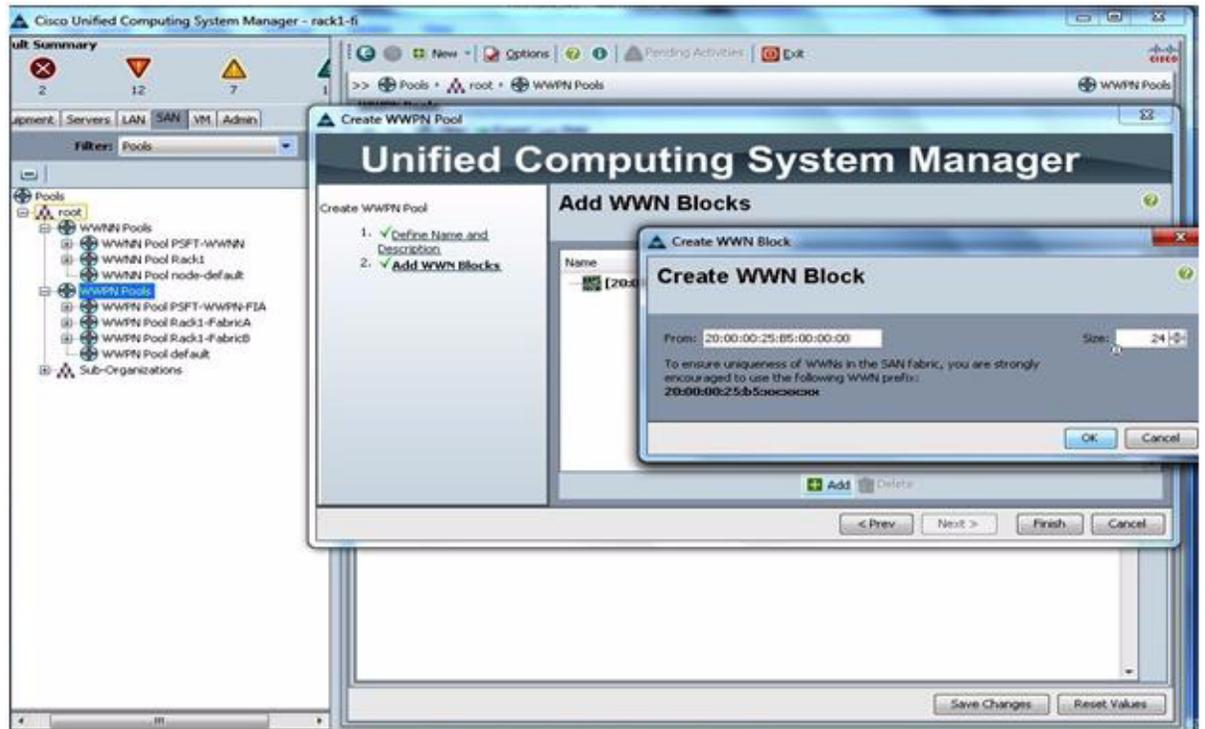
For the address convention, the following is used:

- 20:00:00:25:b5 (do not change)
- 02 (identifies this system)
- 0A (the fabric identifier)
- 00 (start of available addresses; up to 255)



Repeat the exact same steps for the second fabric except change the fabric identifier to 0B and change the specific name.





Create the Service Profile Template

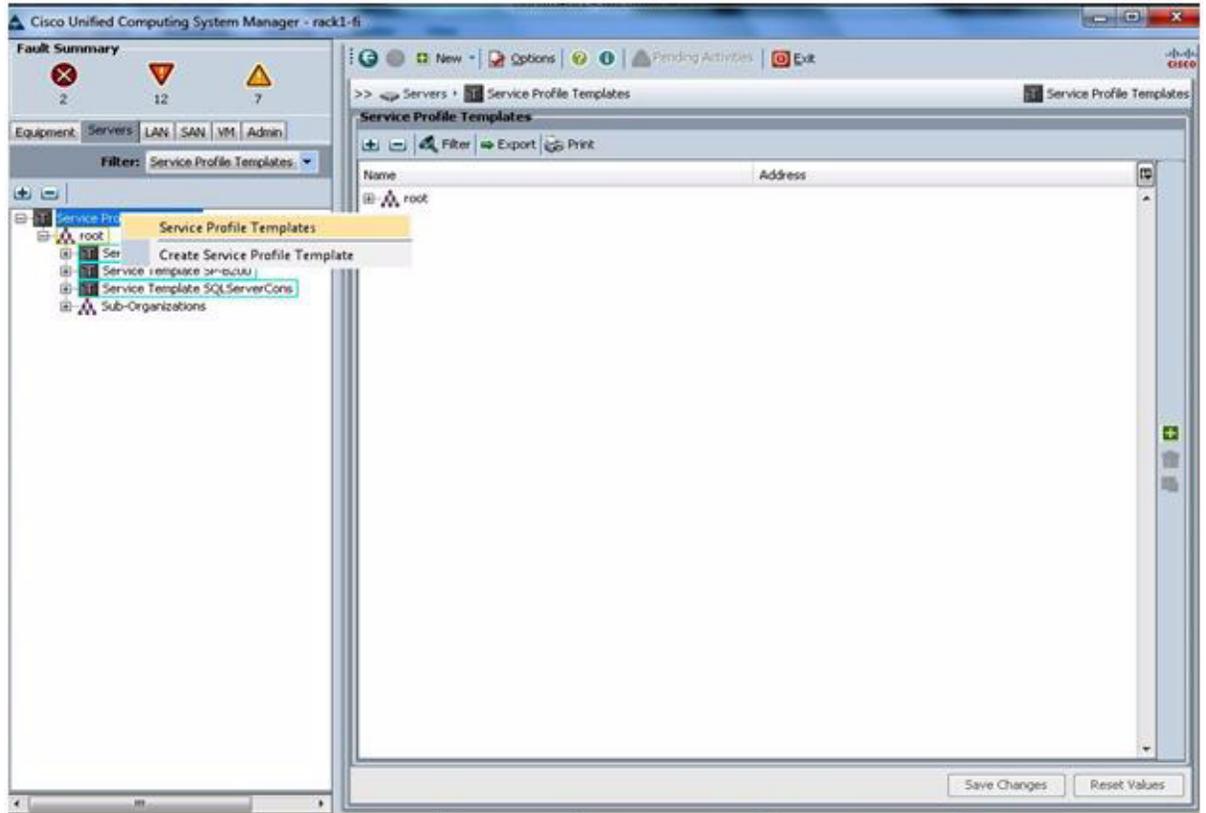
To understand blade management in Cisco UCS, you need to understand the service profile, or logical server. The service profile represents a logical view of a single blade server, without the need to know exactly which blade is discussed. The profile object contains the server personality: for example, identity and network information. The profile can then be associated with a single blade at a time.

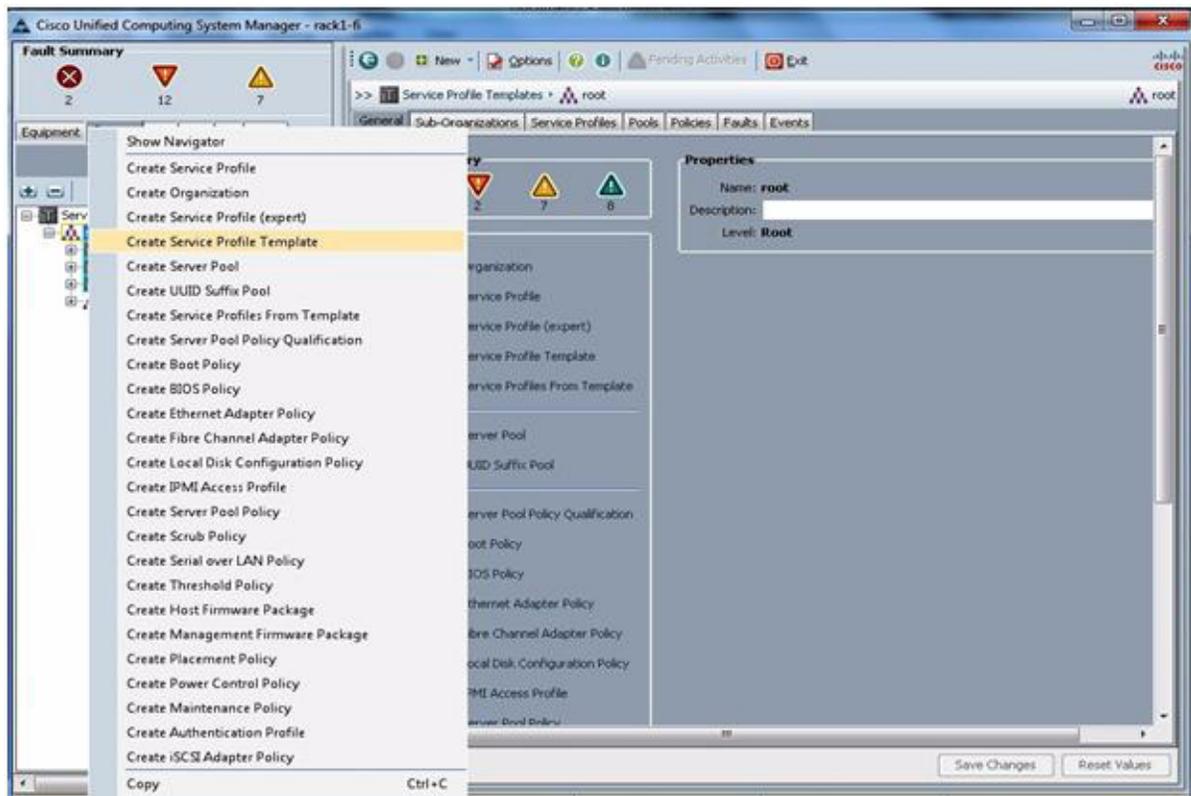
The concept of profiles was created to support the notion of logical server mobility, or the transfer of identity transparently from one blade to another, as well as the pooling concept. Even if a service profile is intended to manage a blade server as a traditional individual server and the benefits of mobility and pooling are not used, a service profile for a blade will still need to be created and managed. Although a blade can be booted without a service profile, it will not have network or SAN connectivity.

A Cisco UCS service profile contains the following information:

- Identity information for server (UUID)
- WWNN (server wide)
- LAN and SAN configuration (through virtual NIC [vNIC] and virtual HBA [vHBA] configuration)
 - NIC and HBA identity (MAC address and WWN)
 - Ethernet NIC profile
 - VLAN and VSAN configuration information
 - Boot order
 - Various policies

Identify the Service Profile





Cisco UCS Manager provides templates for the primary objects (vNICs, vHBAs, and service profiles) to facilitate reuse and rapid deployment. Properties, attributes, and policies can be defined at the template level, helping enable rapid instantiation and provisioning.

Best practices include:

- Use expert mode when creating service profile templates to have the most control and definition capabilities in the utility computing model.
- When creating templates, draw from the subordinate pools and policies that have been previously defined.

Create Service Profile Template

Unified Computing System Manager

Create Service Profile Template

1. **Identify Service Profile Template**
2. Storage
3. Networking
4. vNIC/vHBA Placement
5. Server Boot Order
6. Maintenance Policy
7. Server Assignment
8. Operational Policies

Identify Service Profile Template

You must enter a name for the service profile template and specify the template type. You can also specify how a UUID will be assigned to this template and enter a description.

Name:

The template will be created in the following organization. Its name must be unique within this organization.
Where: **org-root**

The template will be created in the following organization. Its name must be unique within this organization.

Type: Initial Template Updating Template

Specify how the UUID will be assigned to the server associated with the service generated by this template.

UUID

UUID Assignment:

Select UUID assignment option.
If no selection is made, the UUID will be assigned from the default pool.
WARNING: The selected pool does not contain any available entries.
You can select it, but it is recommended that you add entries to it.

Optionally enter a description for the profile. The description can contain information about when and where the service profile should be used.

< Prev Next > Finish Cancel

Create Service Profile Template

Unified Computing System Manager

Create Service Profile Template

1. **Identify Service Profile Template**
2. Storage
3. Networking
4. vNIC/vHBA Placement
5. Server Boot Order
6. Maintenance Policy
7. Server Assignment
8. Operational Policies

Identify Service Profile Template

You must enter a name for the service profile template and specify the template type. You can also specify how a UUID will be assigned to this template and enter a description.

Name:

The template will be created in the following organization. Its name must be unique within this organization.
Where: **org-root**

The template will be created in the following organization. Its name must be unique within this organization.

Type: Initial Template Updating Template

Specify how the UUID will be assigned to the server associated with the service generated by this template.

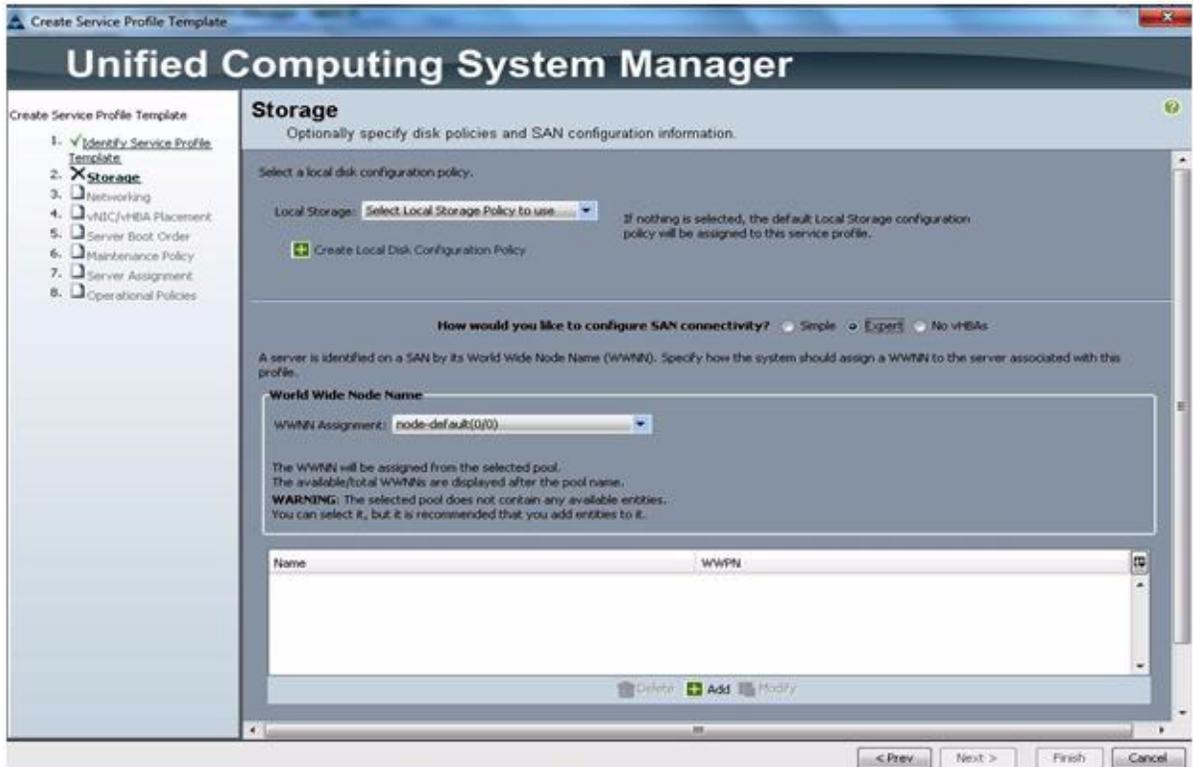
UUID

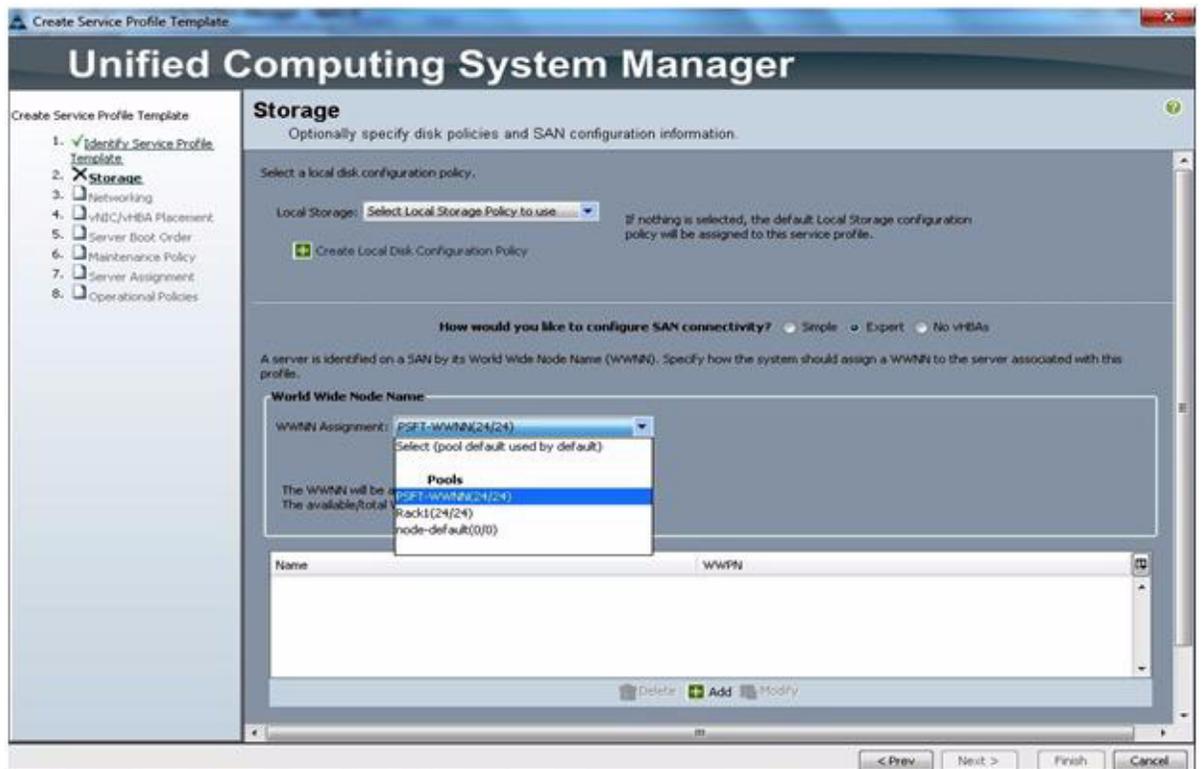
UUID Assignment:

The UUID will be assigned from the selected pool.
The available/total UUIDs are displayed after the pool name.

Optionally enter a description for the profile. The description can contain information about when and where the service profile should be used.

< Prev Next > Finish Cancel

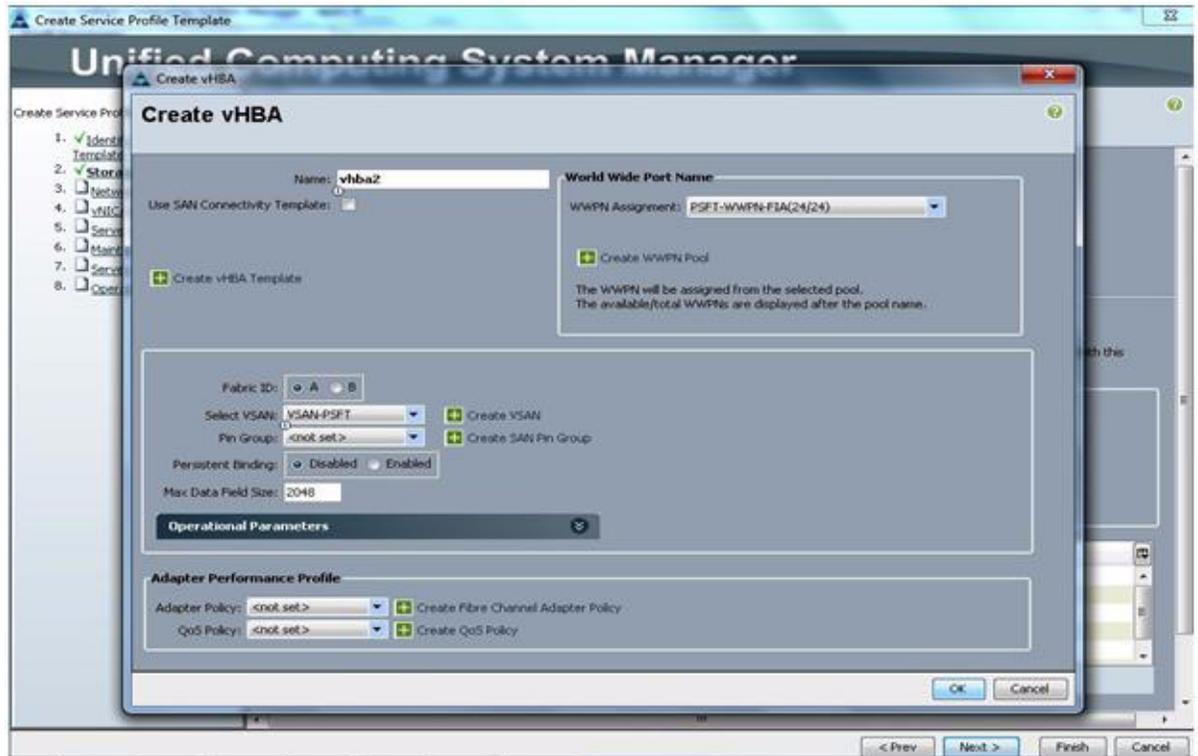


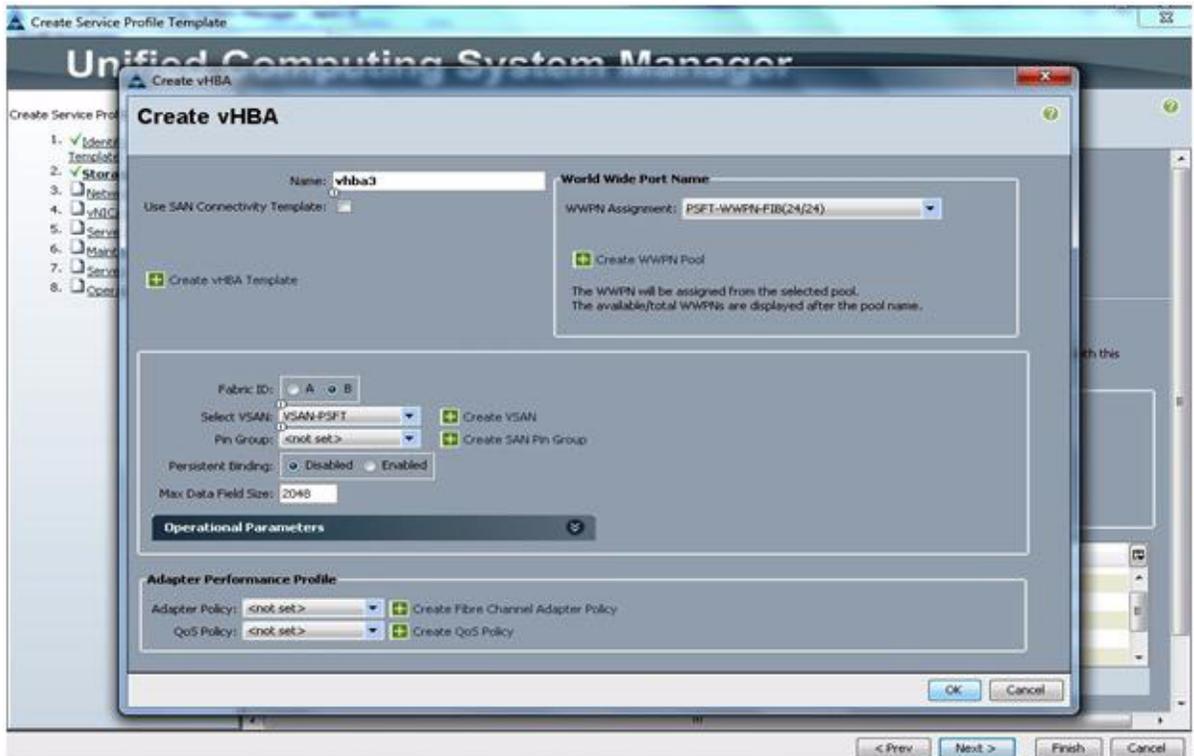


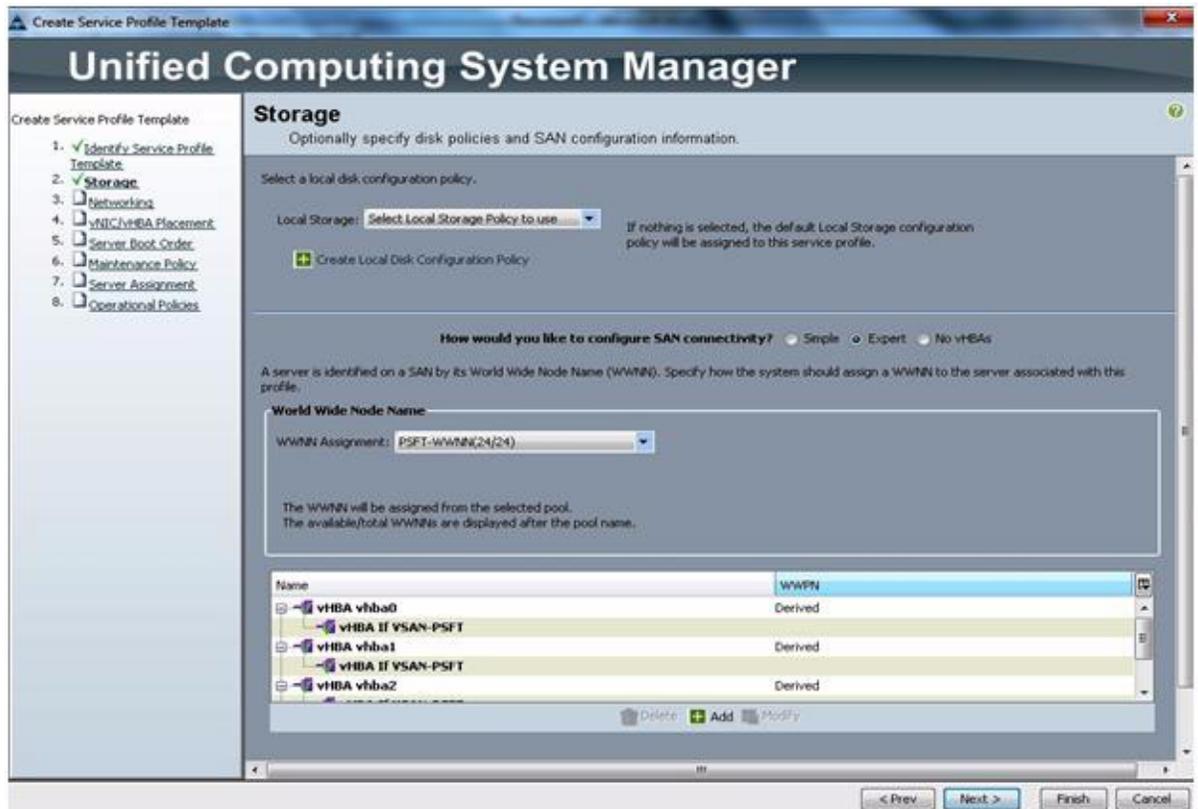
Create the vHBA Template (Attach the Storage Configuration to the Template)

vNICs and vHBAs are the most difficult parts of service profiles to create. vNICs are identified with MAC addresses, and vHBAs are identified with WWNs.



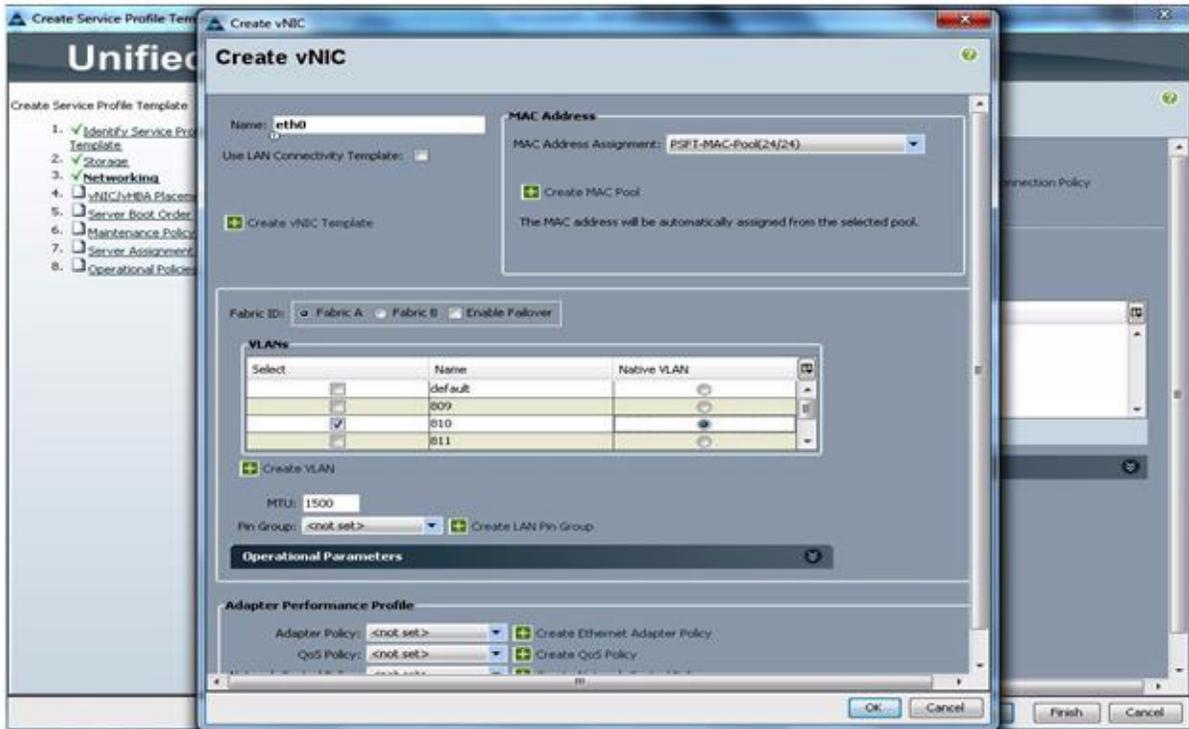


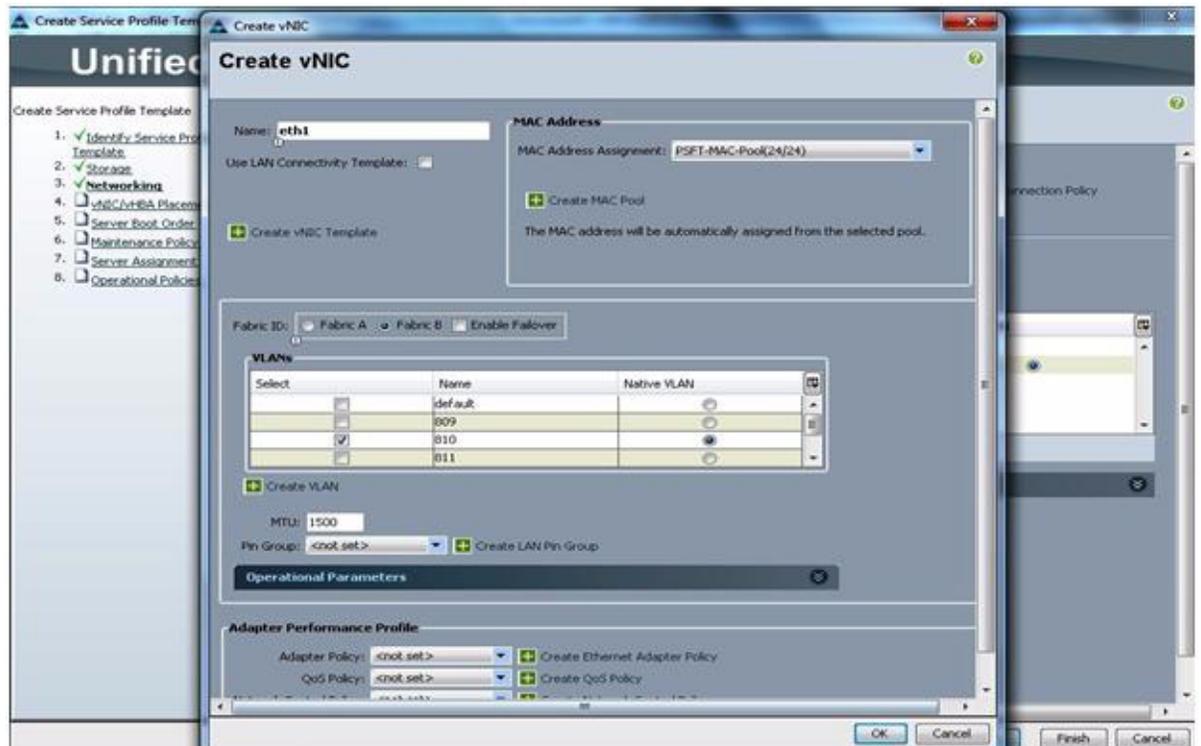




Create the vNIC (Attach a Network Configuration to the Template)

vNIC and vHBA resources are always associated with a specific fabric interconnect (A side or B side). A typical service profile has at least two vNICs and vHBAs: one bound to each Fabric Interconnect (FIA and FIB).



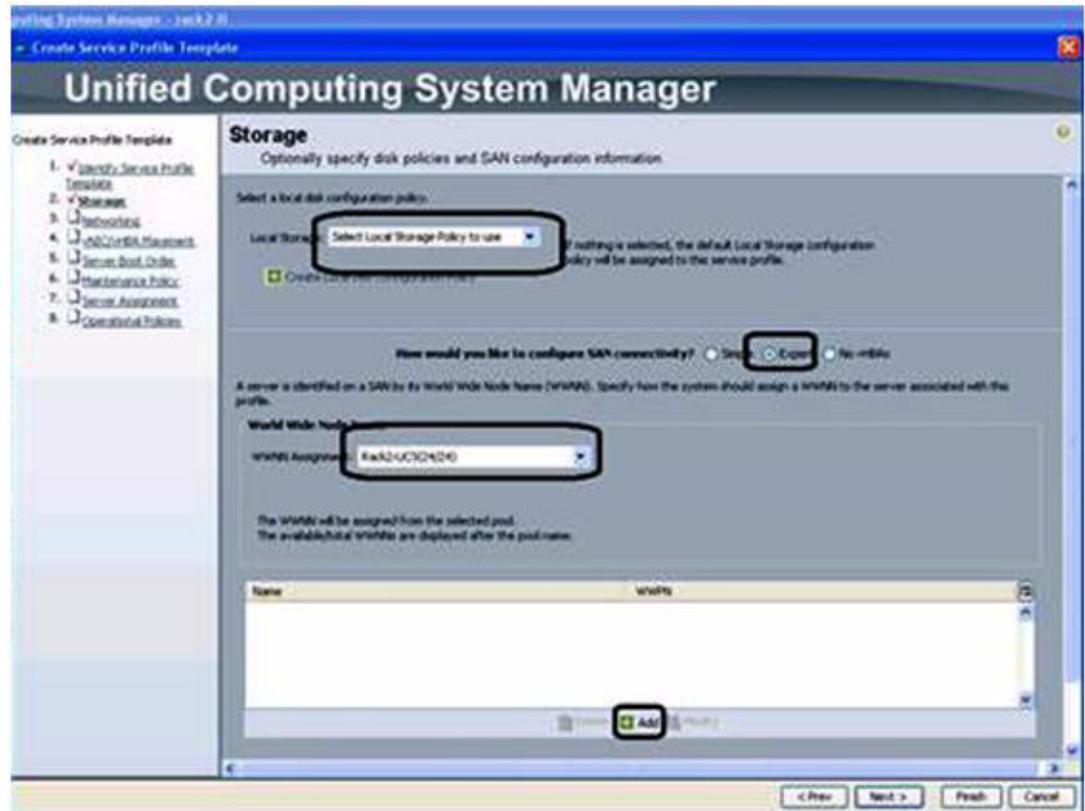


Create a vHBA in expert Mode

In the Storage Configuration Screen, do the following:

1. Do not select any local Disk policy. You are doing a SAN Boot for the B230/B250 Server and the RAID policy configured in the Storage LUN is to be used.
2. Select Expert mode in SAN Connectivity option.
3. Assign WWNN from the WWNN pool configured in the previous section.

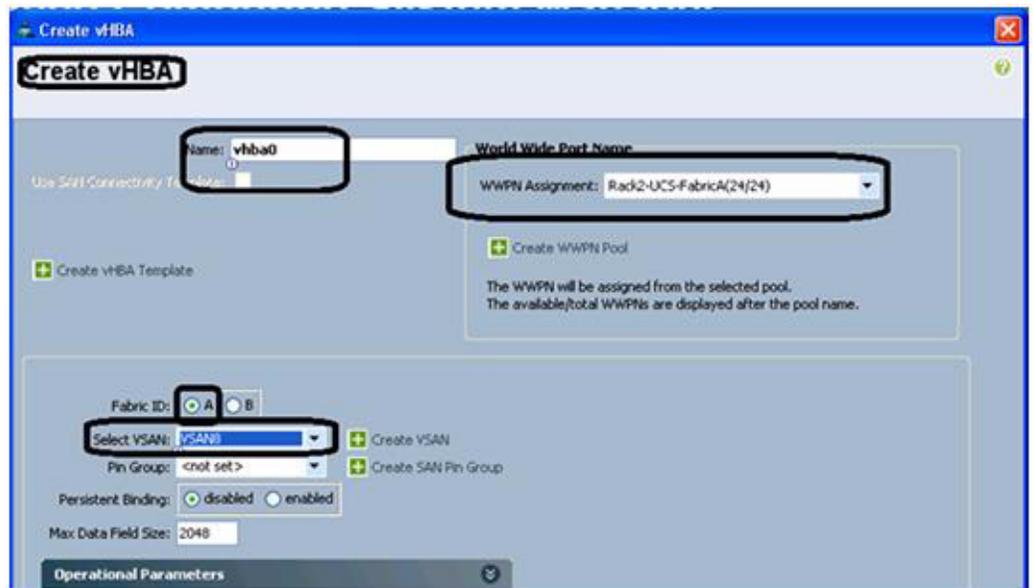
- Click Add to assign WWPN for vHBA's.



The vHBA for SAN Boot Installation are mapped to Fabric A and Fabric B respectively. This allows redundancy at the Fabric interconnect level.

To configure the vHBA screen:

- Select the WWPN pool as configured in the previous section. You have configured different WWPN pools for Fabric A and Fabric B. So this has to be selected as per the Fabric IS selected.
- Select Fabric ID as A, select Fabric ID as B for vHBA2.
- Select VSAN as configured previously.
- Follow same steps for the other three vHBA.



From the Networking screen, do the following to specify the LAN configuration:



Attach the Boot Policy Configuration to the Template

The boot policy defines the boot devices and methods and boot order.

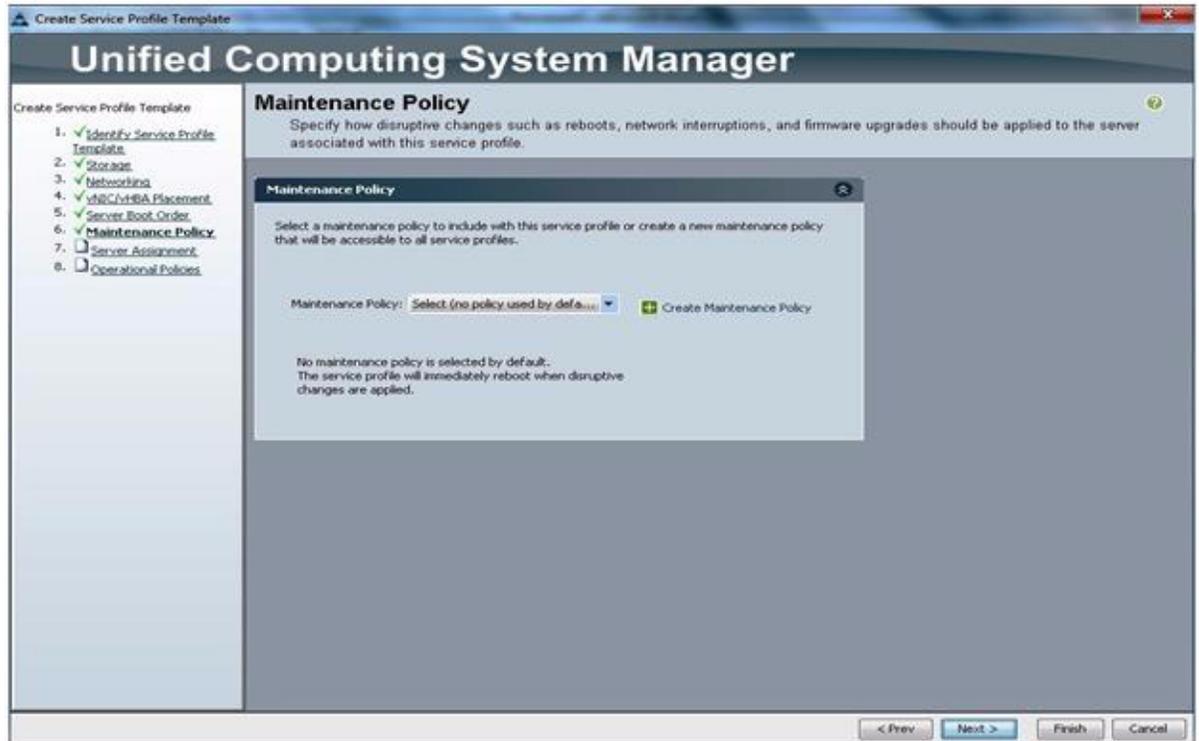
1. Place CD-ROM first in the boot order, for emergency recovery.
2. For SAN boot, define separate boot policies for each storage array that serves boot LUNs.

3. For network or PXE boot, define LAN or vNIC boot as last in the boot order, following either SAN or local boot.



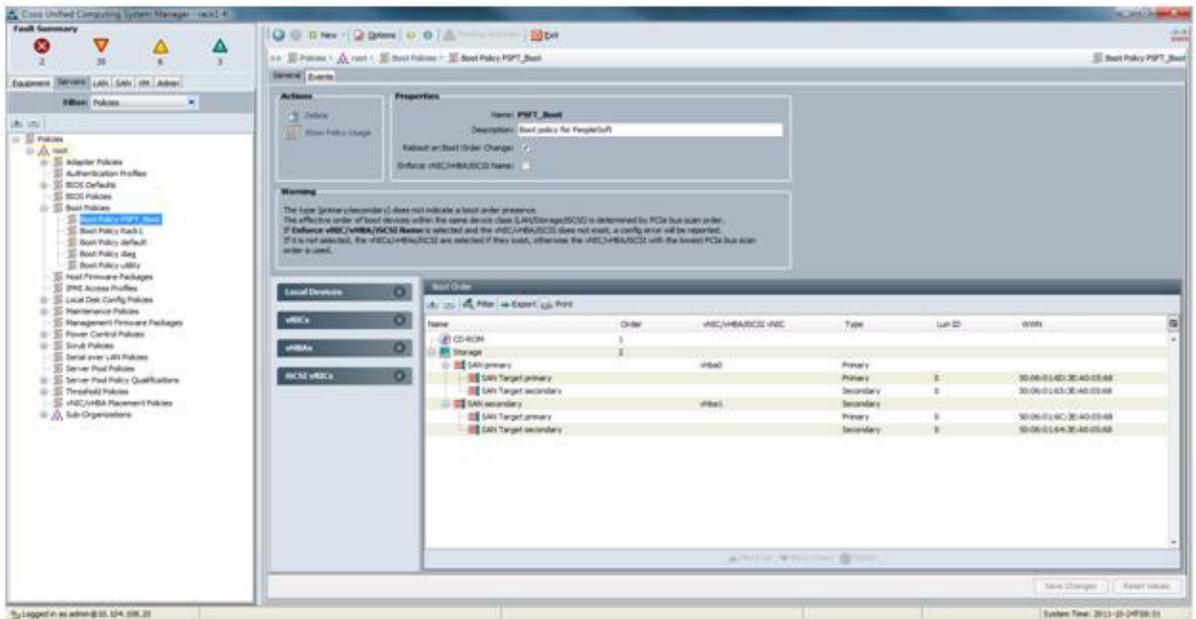
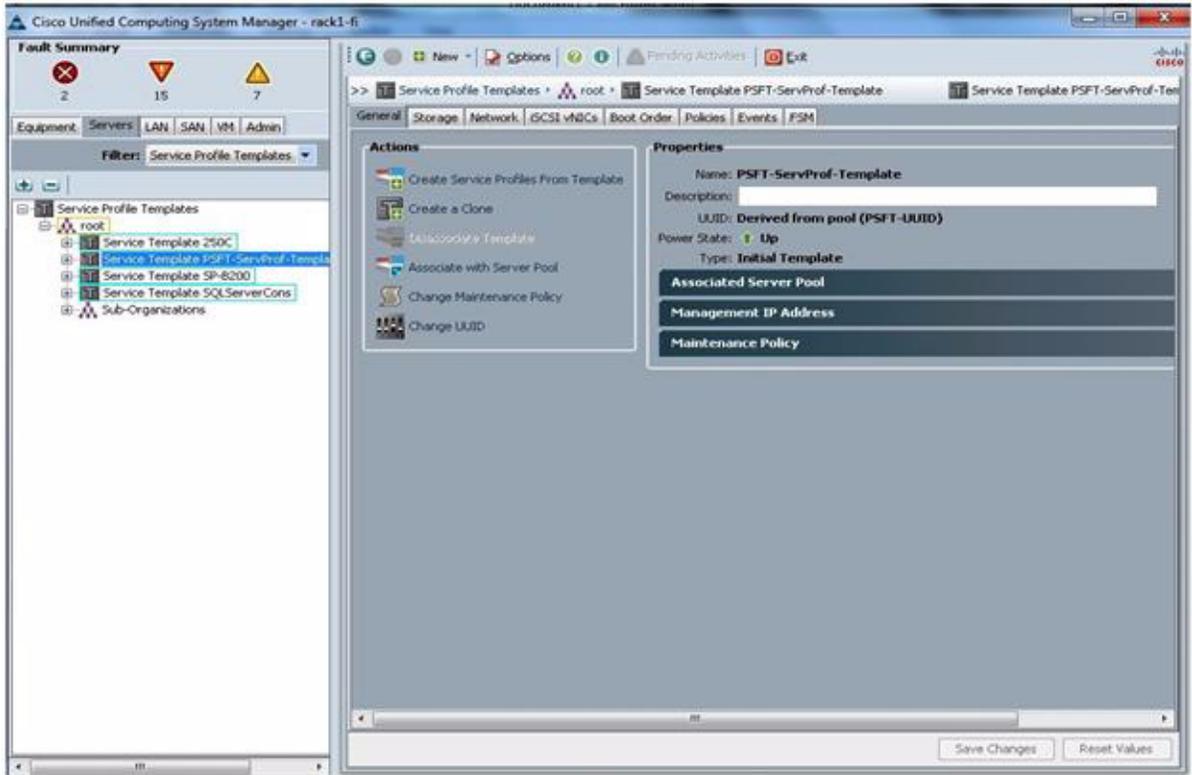
After the service profile template is created, you can create the boot policy; go to http://www.cisco.com/en/US/docs/unified_computing/ucs/sw/gui/config/guide/2.0/UCSM_GUI_Configuration_Guide_2_0_chapter29.html#task_1F7624A2A07B48459AB57B9593D98E84.

Attach the Maintenance Policy Configuration to the Template



Attach the Server Assignment Configuration to the Template



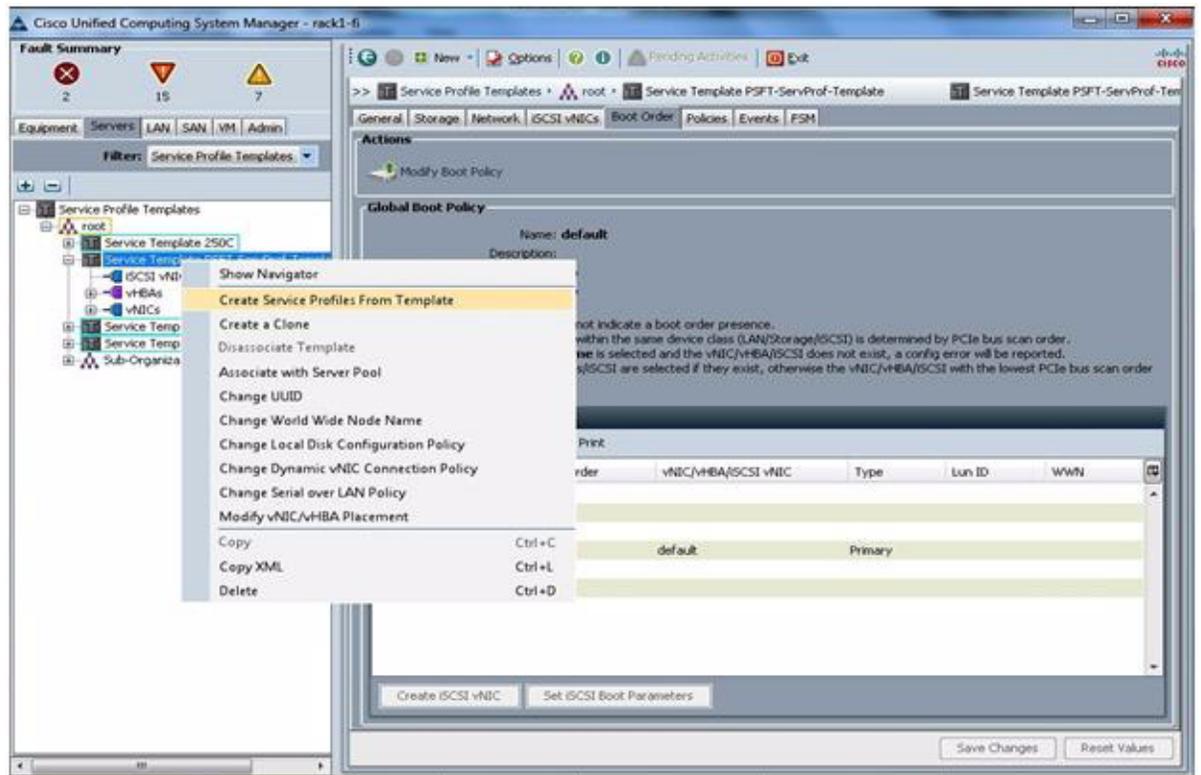


Create a Service Profile from the Service Profile Template

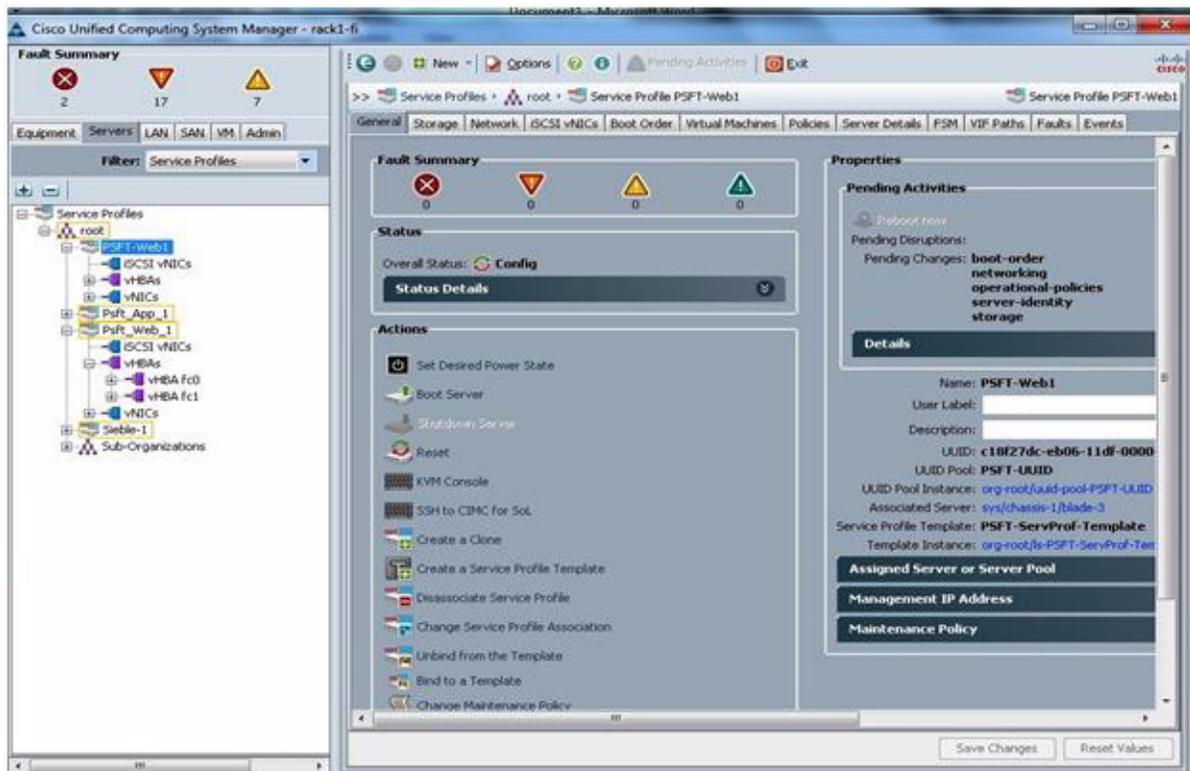
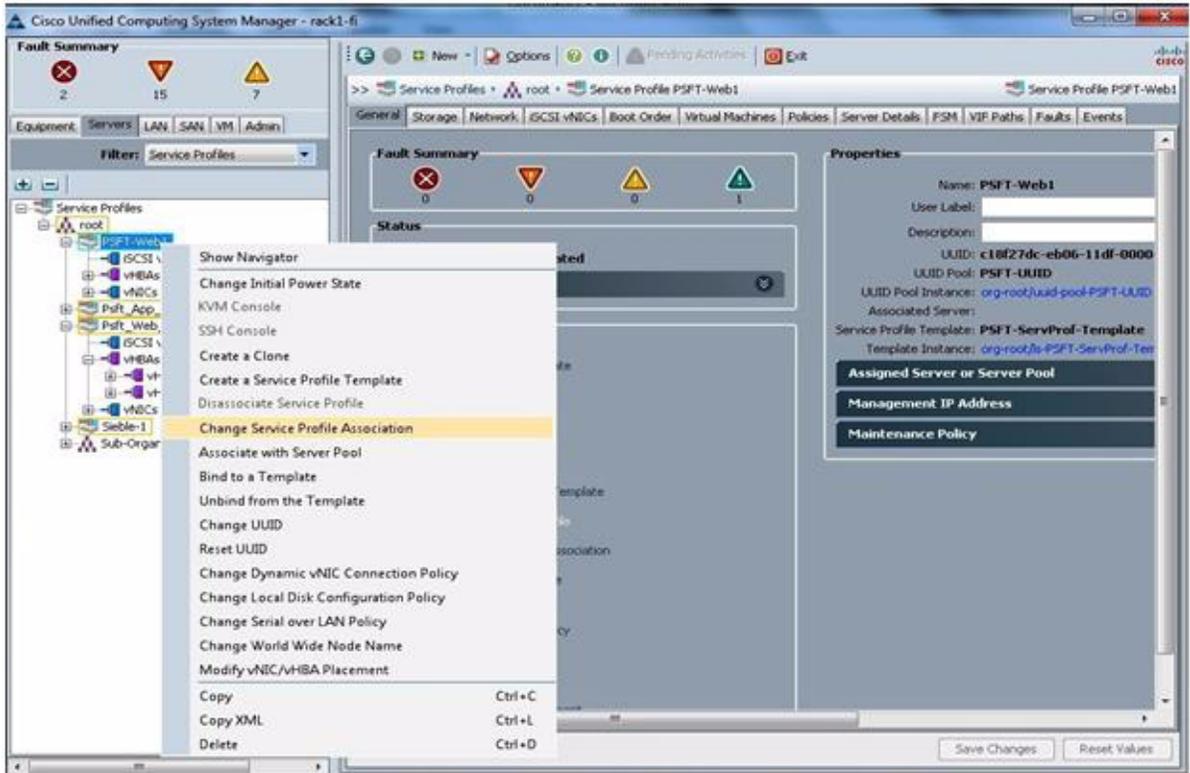


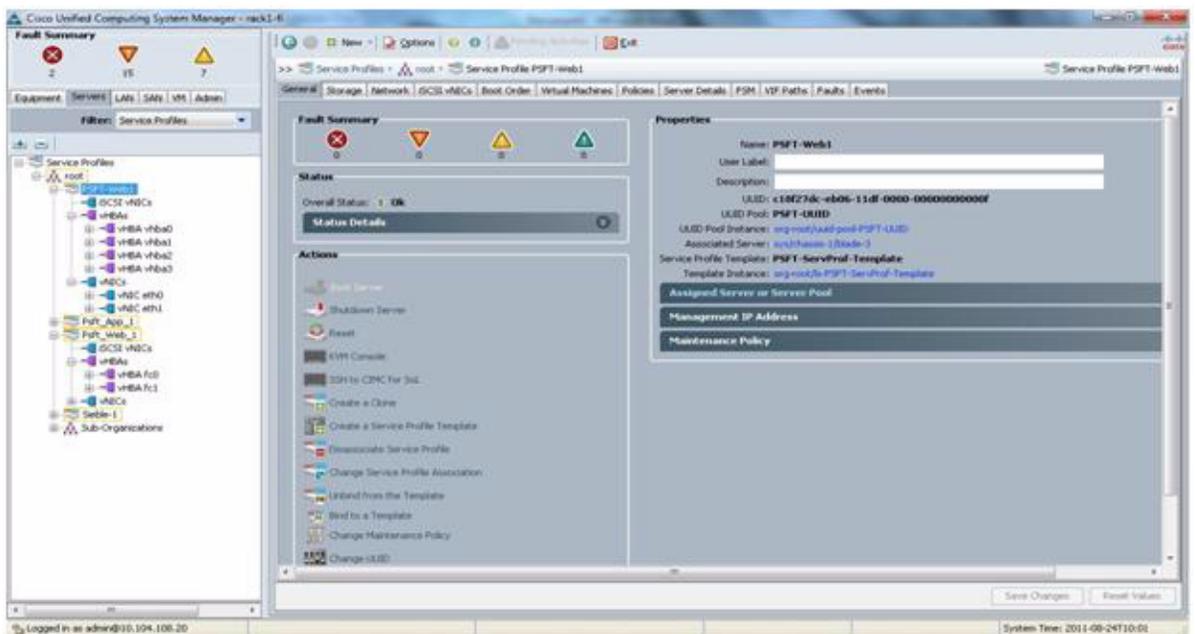
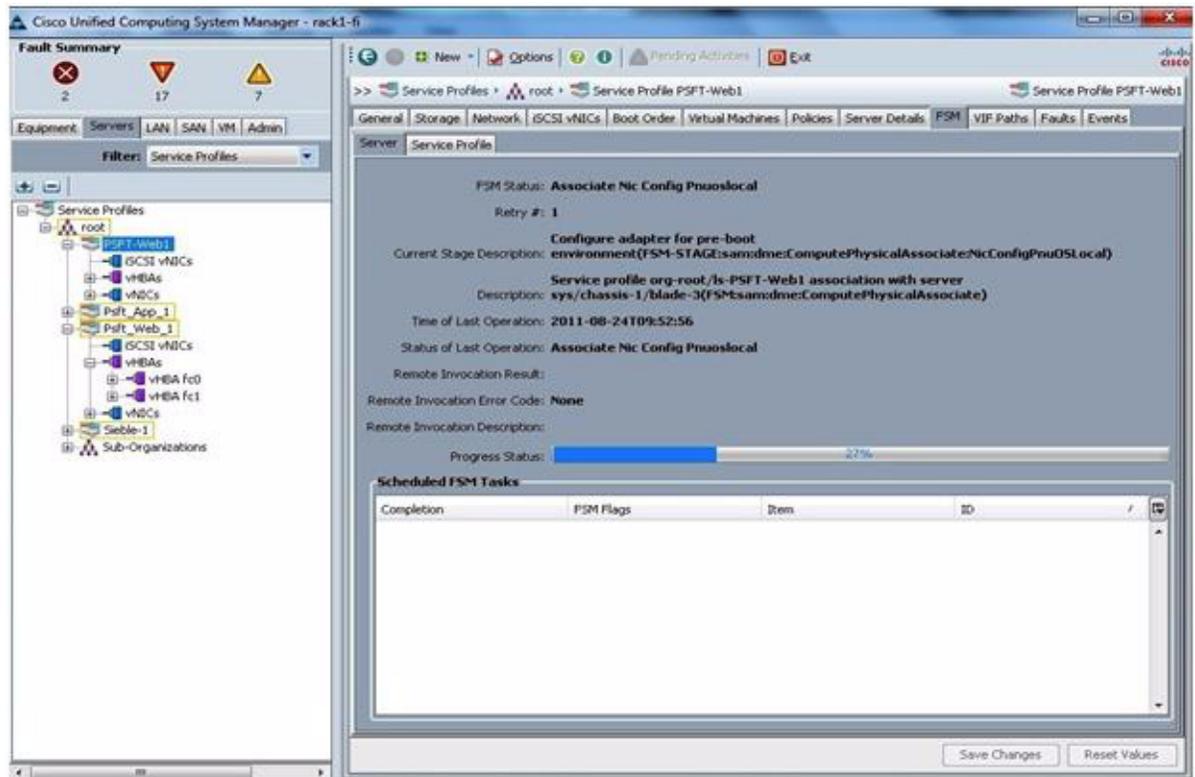
Note

Updating Templates: Cisco UCS templates have a very powerful property called updating templates. Updating templates allow changes in the template, such as pools or policies, to be propagated immediately to any higher-level template or service profile (whether instantiated or not). However, changes reflected to instantiated service profile through updating templates may cause a service interruption or server reboot. Therefore, you should use updating templates with the greatest level of awareness and caution. Updating templates can be tremendous time-saving assets during a scheduled maintenance window. However, updating templates can also have disastrous results when used during normal operations

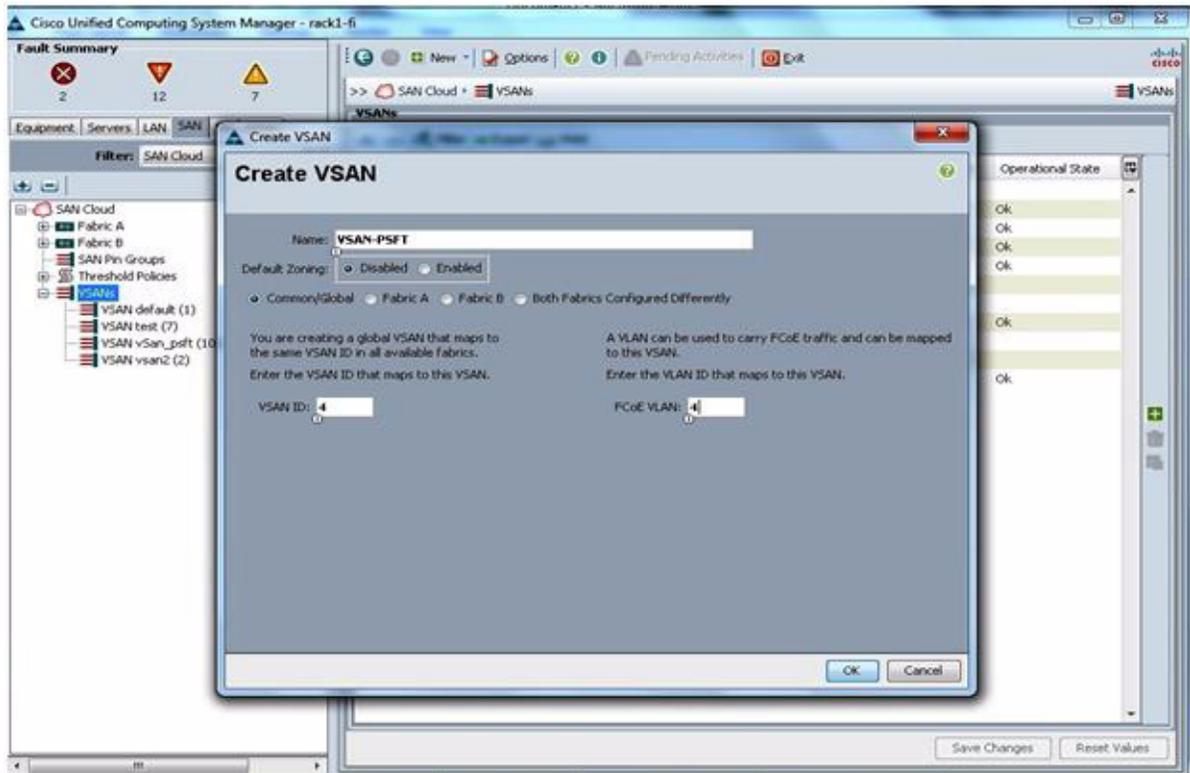
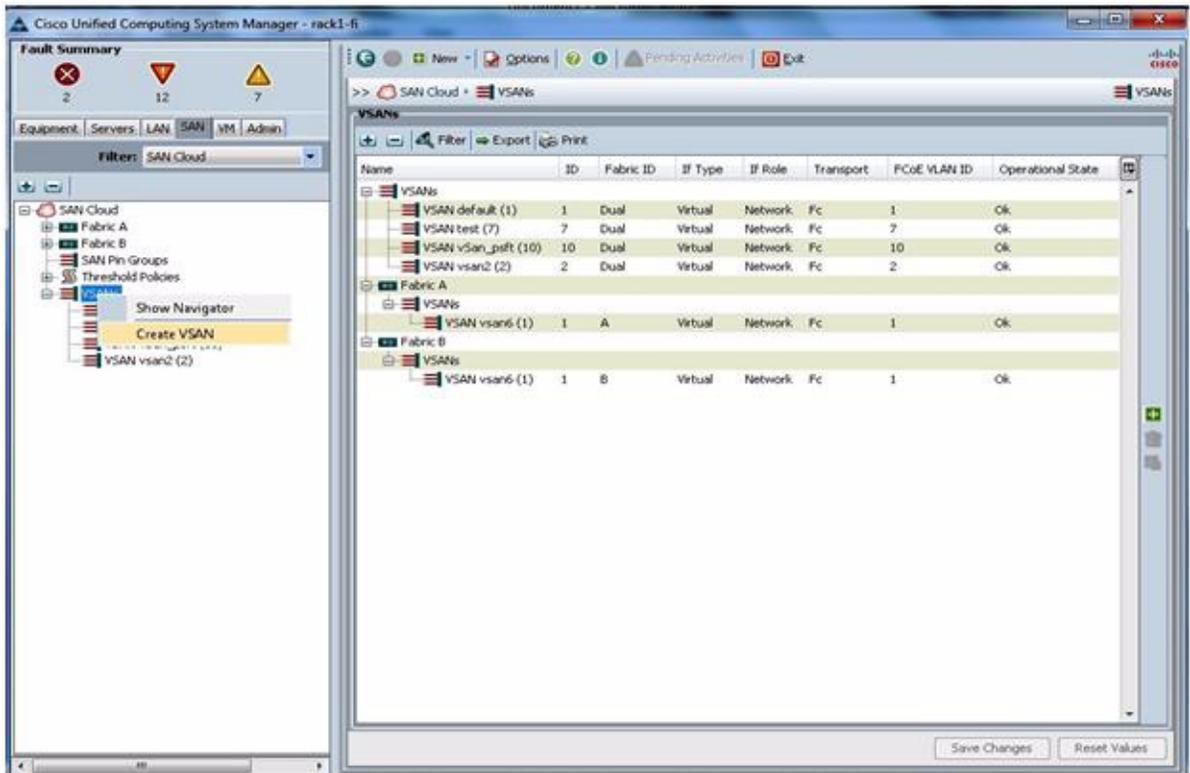


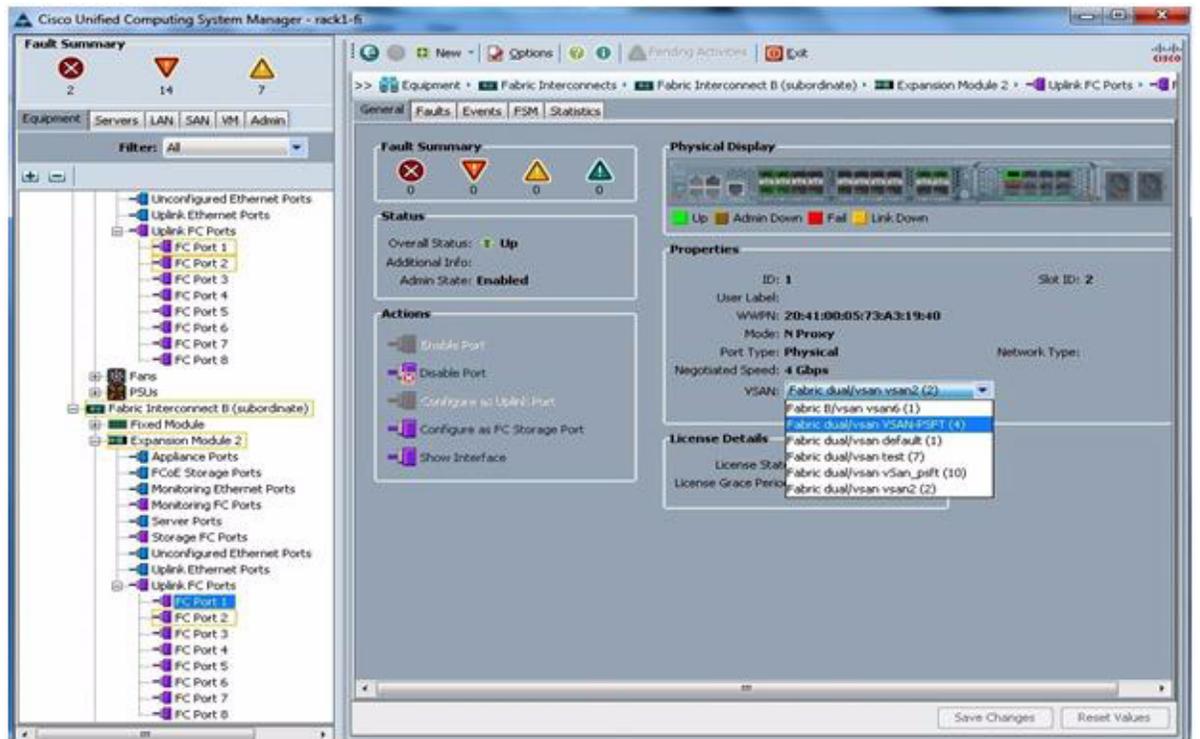
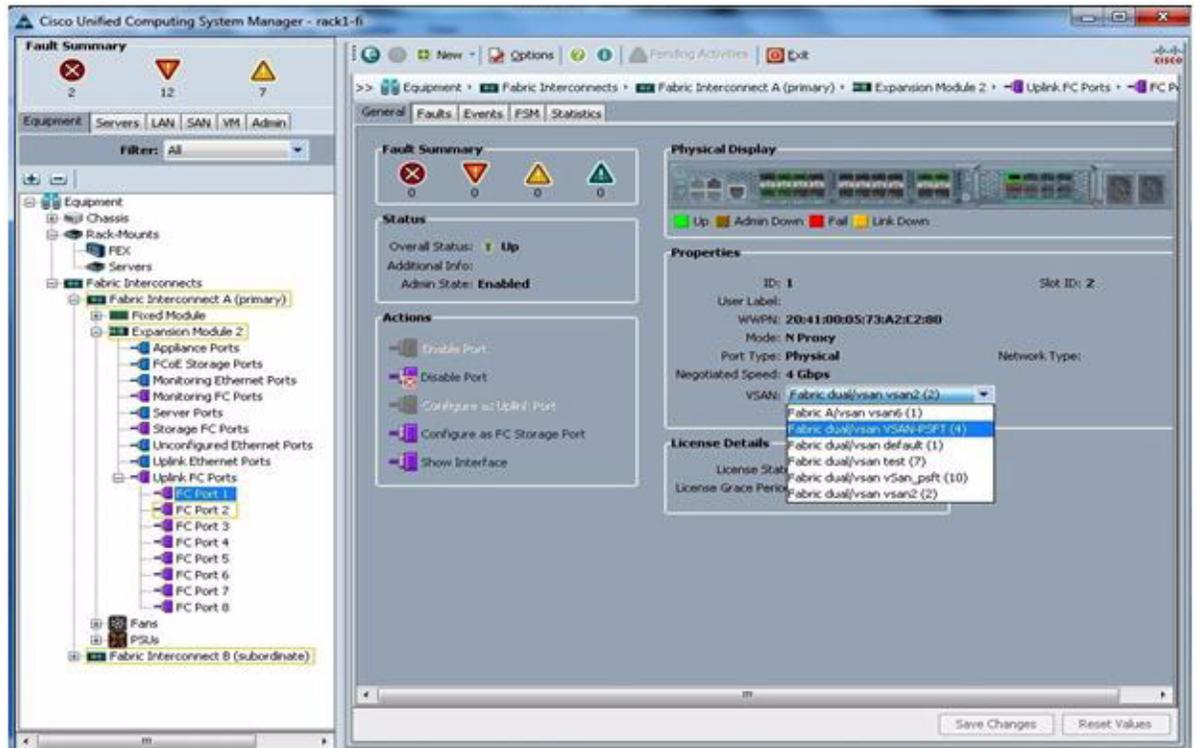
Associate Servers with Service Profiles

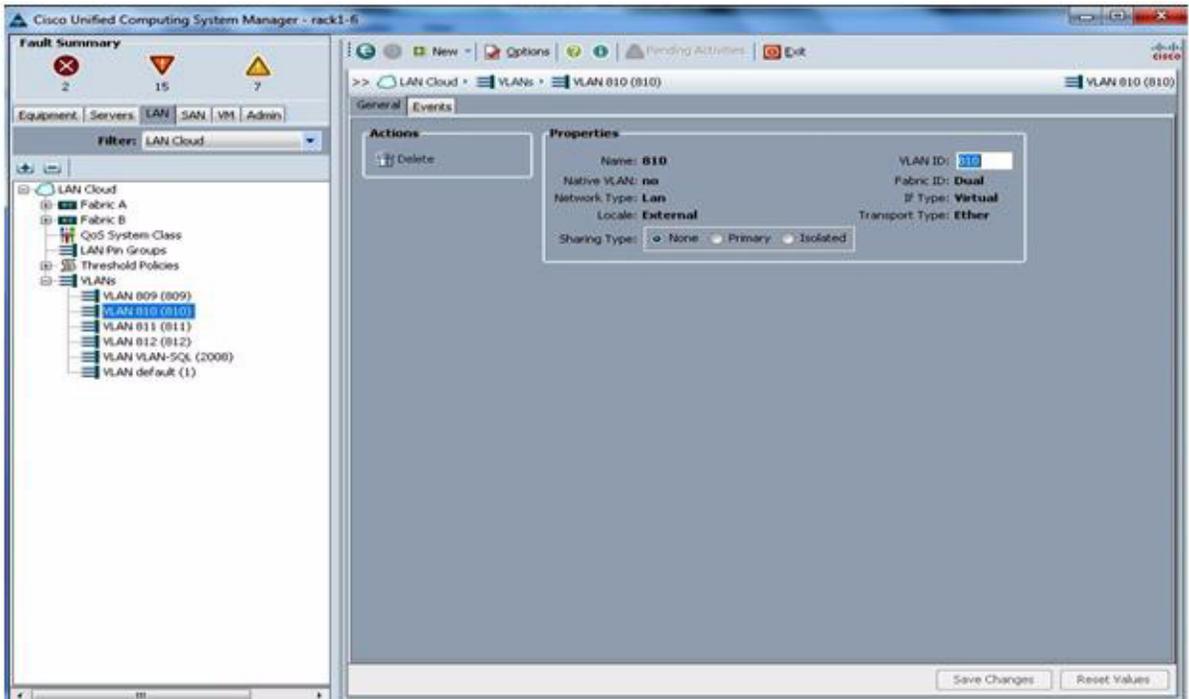
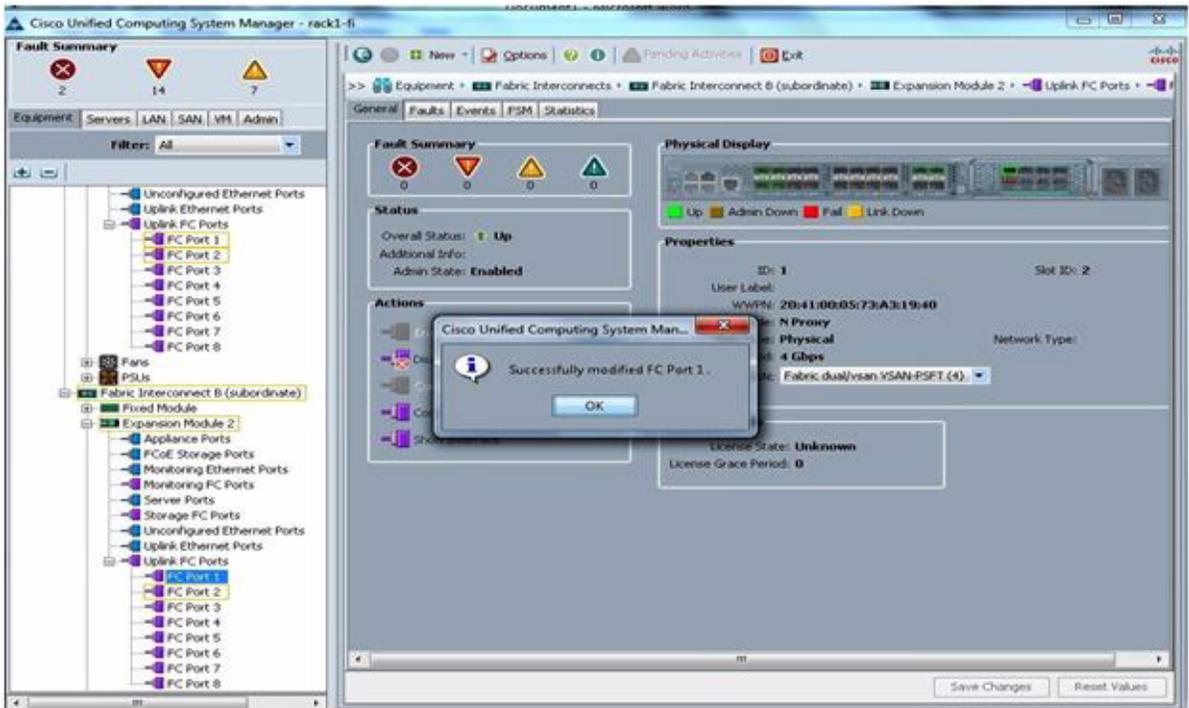


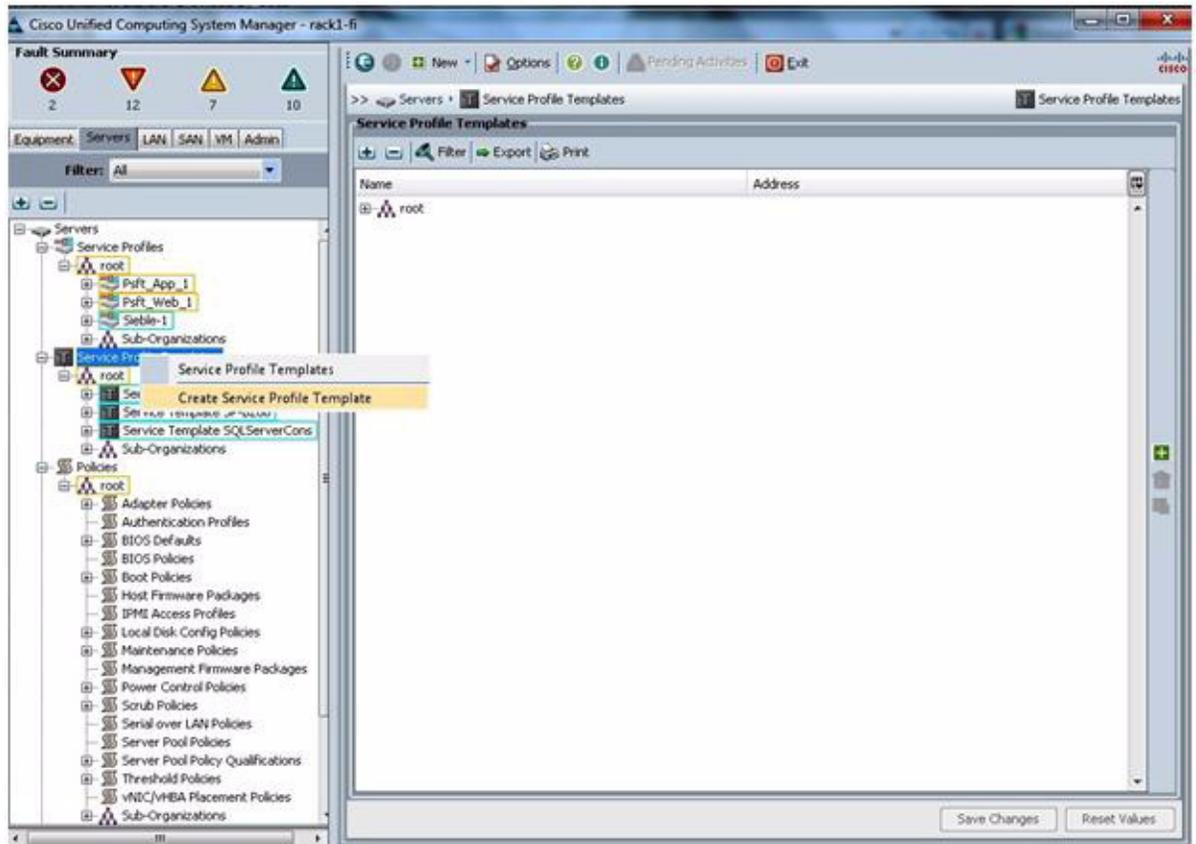


Get a free VSAN ID from the Cisco Nexus 5000 Series Switch before creating a new VSAN for Oracle PeopleSoft.





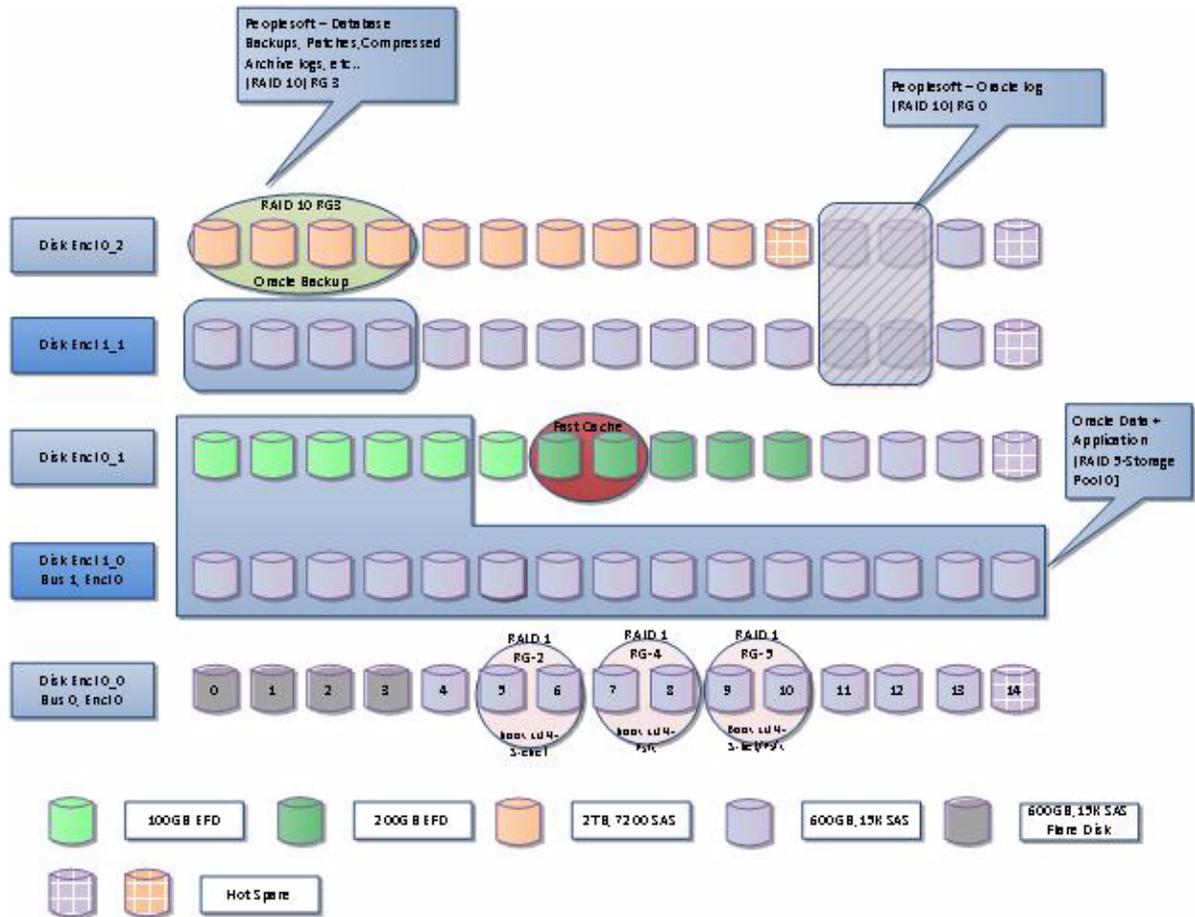




EMX VNX Storage Configuration

Figure 23 shows the disk layout of the EMC VNX5500 used in this Oracle PeopleSoft use case.

Figure 23 EMC VNX Disc Layout



Configuring Multipathing with EMC PowerPath/VE

EMC PowerPath/VE is host-based software that provides multipathing capability to help ensure QoS for VMware vSphere users by delivering business continuity and availability as well as performance to meet SLAs. EMC PowerPath/VE automates data path use in dynamic VMware virtualized environments to provide predictable and consistent information access while delivering investment protection with support for heterogeneous servers, operating systems, and storage.

Increasingly, deployments are using virtualization for consolidation and to enable scale-out of mission-critical applications. EMC PowerPath/VE manages the complexity of large virtual environments, which may contain hundreds or thousands of independent virtual machines running computation-intensive I/O applications. To manually configure this type of scenario, making sure that all the virtual machines get the I/O response time needed, is very difficult and time consuming. If other variables, such as VMware vMotion and the need for high availability in the VMware environment are requirements, any assumption about which I/O streams will be sharing which channels are invalidated. EMC PowerPath/VE manages this complexity, adjusting the I/O path use to address changes in I/O loads coming from the virtual machines. You simply assign all devices to all paths and EMC PowerPath/VE then does the work, optimizing overall I/O performance for the virtual environment.

The main benefits of using EMC PowerPath/VE in a VMware vSphere 5 environment include the capability to manage these large environments and increase performance by helping ensure optimal use of resources, while also providing high availability, automating I/O path failover, and enabling recovery in the event of a path failure.

For additional information about EMC PowerPath/VE, go to <http://www.emc.com/collateral/software/data-sheet/1751-powerpath-ve-multipathing-ds.pdf>.

Configuring LUNs with Unisphere

Create Raid Group and Boot LUNS (RAID 1)

The screenshot displays the EMC Unisphere web interface for storage management. The main view is titled 'RAID Groups' and shows a table of existing RAID configurations. Below this, the 'Details' section is expanded to show 'LUNs', displaying a list of LUNs with their respective IDs, states, capacities, and owners.

| ID | Drive Type | RAID Type | User Capacity [GB] | Free Capacity [GB] | No. Full | Largest Contiguous Free ... |
|--------------|------------|-----------|--------------------|--------------------|----------|-----------------------------|
| RAID Group 4 | SAS | RAID1 | 334.784 | 34.784 | | 34.784 |
| RAID Group 7 | SAS | RAID1 | 334.784 | 234.784 | | 234.784 |
| RAID Group 8 | SAS | Hot Spare | 334.784 | 0.000 | | 0.000 |

| Name | ID | State | User Capacity [GB] | Current Owner | Host Information |
|----------------|----|-------|--------------------|---------------|------------------|
| PSFT_BOOT_APP1 | | Ready | 60.000 SP B | ipf-esp1 | |
| PSFT_BOOT_APP2 | | Ready | 60.000 SP A | ipf-esp2 | |
| PSFT_BOOT_APP3 | | Ready | 60.000 SP B | | |
| PSFT_BOOT_APP4 | | Ready | 60.000 SP A | | |
| PSFT_BOOT_DB1 | | Ready | 60.000 SP B | ipf-dbl | |
| PSFT_BOOT_DB2 | | Ready | 60.000 SP A | | |
| PSFT_BOOT_WEB1 | | Ready | 60.000 SP B | ipf-web1 | |
| PSFT_BOOT_WEB2 | | Ready | 60.000 SP A | ipf-web2 | |

Create RAID Groups for Oracle Application Binaries

The screenshot shows the EMC Unisphere interface for RAID Groups. The RAID Groups table is as follows:

| ID | Drive Type | RAID Type | User Capacity (GB) | Free Capacity (GB) | % Full | Largest Contiguous Free ... |
|---------------|------------|-----------|--------------------|--------------------|--------|-----------------------------|
| RAID Group 9 | SAS | Hot Spare | 334,784 | 0.000 | | 0.000 |
| RAID Group 10 | NL SAS | Hot Spare | 1831,853 | 0.000 | | 0.000 |
| RAID Group 11 | SAS | RAID5 | 2141,336 | 41,336 | | 41,336 |

The Details section shows a table of LUNs:

| Name | ID | State | User Capacity (GB) | Current Owner | Host Information |
|-----------|----|-------|--------------------|---------------|------------------|
| PSFT-App1 | 41 | Ready | 300,000 SP B | psft-app1 | |
| PSFT-App2 | 35 | Ready | 300,000 SP A | psft-app2 | |
| PSFT-App3 | 37 | Ready | 300,000 SP A | | |
| PSFT-App4 | 38 | Ready | 300,000 SP B | | |
| PSFT-Ors | 42 | Ready | 300,000 SP B | psft-ors1 | |
| PSFT-web1 | 40 | Ready | 300,000 SP B | psft-web1 | |
| PSFT-web2 | 36 | Ready | 300,000 SP B | psft-web2 | |

Create a Storage Pool for the PeopleSoft Database (RAID 5)

The screenshot shows the EMC Unisphere interface for Storage Pools. The Storage Pools table is as follows:

| Name | State | RAID Type | Drive Type | User Capacity... | Free Capacity... | Allocated (GB) | %Consumed | Subscribed (GB) | %Subscribed |
|--------------------------------------|-------|-----------|------------|------------------|------------------|----------------|-----------|-----------------|-------------|
| Pool 0 - Oracle Data+Application LUN | Ready | RAID5 | Mixed | 7198,997 | 4427,856 | 2722,201 | | 2,699,29 | 37,611 |
| Pool 1 - Scaled Filesystem | Ready | RAID5 | SAS | 1046,078 | 908,772 | 158,305 | | 158,302 | 14,988 |

The Details section shows a table of Pool LUNs:

| Name | ID | State | User Capacity (GB) | Current Owner | Host Information |
|--------------------------|----|-------|--------------------|----------------------|------------------|
| Grid_1 | 43 | Ready | 3,000 SP A | ucamedb2.localdomain | |
| Grid_2 | 46 | Ready | 3,000 SP B | ucamedb2.localdomain | |
| Grid_3 | 47 | Ready | 3,000 SP A | ucamedb2.localdomain | |
| Grid_4 | 48 | Ready | 3,000 SP B | ucamedb2.localdomain | |
| Grid_5 | 49 | Ready | 3,000 SP A | ucamedb2.localdomain | |
| PSFT-Database | 39 | Ready | 80,000 SP A | psft-ors1 | |
| ucamedb1-app lun | 31 | Ready | 80,000 SP A | ucamedas1 - /web1 | |
| ucamedas1-ora client lun | 32 | Ready | 20,000 SP A | ucamedas1 - /db1c | |
| ucamedas2-app lun | 33 | Ready | 80,000 SP A | ucamedas2 - /web1 | |

Create a Storage Group and Attach a HOST

The screenshot shows the EMC Unisphere web interface. The 'Storage Groups' section is active, displaying a list of storage groups with columns for Name and WWN. The 'Hosts' section is also active, showing a list of hosts with columns for Name and IP Address.

| Storage Group Name | WWN |
|--------------------|---|
| PSFT_App1 | 02:79:96:AE:25:02:85:11:AF:9C:00:60:38:36:04:88 |
| PSFT_App2 | 04:88:39:82:29:02:85:11:AF:9C:00:60:38:36:04:88 |
| PSFT_App3 | 02:03:18:F7:25:02:85:11:AF:9C:00:60:38:36:04:88 |
| PSFT_App4 | 28:89:98:82:24:02:85:11:AF:9C:00:60:38:36:04:88 |
| PSFT_DB1 | 06:95:94:AD:24:02:85:11:AF:9C:00:60:38:36:04:88 |
| PSFT_DB2 | 3C:0D:0E:88:28:02:85:11:AF:9C:00:60:38:36:04:88 |
| PSFT_Web1 | 94:06:77:86:26:02:85:11:AF:9C:00:60:38:36:04:88 |
| PSFT_Web2 | 8E:07:18:94:24:02:85:11:AF:9C:00:60:38:36:04:88 |

| Name | IP Address |
|-----------|---------------|
| psft-app1 | 10.194.111.67 |

Create a Storage Group and Attach LUNs

The screenshot shows the EMC Unisphere web interface. The 'Storage Groups' section is active, displaying a list of storage groups with columns for Name and WWN. The 'LUNs' section is also active, showing a list of LUNs with columns for Name, ID, State, RAID Type, Storage Pool, User Capacity (GB), Current Owner, Host Information, and Additional Info.

| Name | ID | State | RAID Type | Storage Pool | User Capacity (GB) | Current Owner | Host Information | Additional Info |
|----------------|----|-------|-----------|---------------|--------------------|---------------|------------------|-----------------|
| PSFT_App1 | 41 | Ready | RAID5 | RAID Group 11 | 300,000 SP-B | | psft-app1 | |
| PSFT_BOOT_APP1 | 2 | Ready | RAID1 | RAID Group 4 | 60,000 SP-B | | psft-app1 | |

Configuring the Cisco Nexus Switch

Cisco Nexus switches are connected to the blade chassis with the I/O modules (2 x 4 cables) brought out and connected to the switch. From the fabric interconnect, the FCoE cables are drawn out and patched to the Cisco Nexus 5000 Series CNA switch. The Cisco Nexus 5000 Series Switch is also connected to EMC VNX. The uplink to the external world is from the Cisco Nexus 5000 Series Switch.

Create the Zone and Zoneset

1. Log on to the Cisco Nexus 5000 Series Switch.
2. Log on to the Cisco UCS Manager.
3. List the WWPN that appears in the Cisco Nexus 5000 Series database.

VSAN 4 is the zone in which the Oracle PeopleSoft servers are accommodated.

```
rk4-n5k8-a# sh flogi database
```

```
-----
```

| INTERFACE | VSAN | FCID | PORT NAME | NODE NAME | |
|-----------|------|----------|-------------------------|------------------------|--------------|
| fc1/21 | 4 | 0x4203ef | 50:06:01:6d:3e:a0:05:68 | 50:06:01:60:be:a0:05:6 | - VNX to N5K |
| fc1/22 | 4 | 0x4202ef | 50:06:01:65:3e:a0:05:68 | 50:06:01:60:be:a0:05:6 | - VNX to N5K |
| fc1/23 | 4 | 0x42000e | 20:43:00:05:73:a2:c2:80 | 20:04:00:05:73:a2:c2:8 | - N5K to FI |
| fc1/23 | 4 | 0x42000f | 20:00:00:25:b5:00:00:0c | 20:00:00:25:b5:00:00:0 | - N5K to FI |
| fc1/23 | 4 | 0x420011 | 20:01:00:25:b5:00:00:06 | 20:00:00:25:b5:00:00:1 | - N5K to FI |
| fc1/23 | 4 | 0x420012 | 20:00:00:25:b5:00:00:0e | 20:00:00:25:b5:00:00:0 | - N5K to FI |
| fc1/24 | 4 | 0x42000d | 20:42:00:05:73:a2:c2:80 | 20:04:00:05:73:a2:c2:8 | - N5K to FI |
| fc1/24 | 4 | 0x420010 | 20:00:00:25:b5:00:00:17 | 20:00:00:25:b5:00:00:0 | - N5K to FI |
| fc1/24 | 4 | 0x420013 | 20:00:00:25:b5:00:00:09 | 20:00:00:25:b5:00:00:0 | - N5K to FI |
| fc1/24 | 4 | 0x420014 | 20:01:00:25:b5:00:00:07 | 20:00:00:25:b5:00:00:1 | - N5K to FI |
| fc1/27 | 2 | 0x4405ef | 50:06:01:6f:3e:a0:05:68 | 50:06:01:60:be:a0:05:6 | |
| fc1/28 | 2 | 0x4403ef | 50:06:01:66:3e:a0:05:68 | 50:06:01:60:be:a0:05:6 | |

```
-----
```

Create a new Volume to install Oracle Software:

```
rk4-n5k8-a# conf t
Enter configuration commands, one per line. End with CNTL/Z.
rk4-n5k8-a(config)# zone name psft_appl_data_vhba0 vsan 4
rk4-n5k8-a(config-zone)# member pwnn 20:00:00:25:b5:00:00:09
rk4-n5k8-a(config-zone)# member pwnn 50:06:01:6d:3e:a0:05:68
rk4-n5k8-a(config-zone)# member pwnn 50:06:01:65:3e:a0:05:68
rk4-n5k8-a(config-zone)# exit
```

Show the Zone Names of ZoneSet

```
rk4-n5k8-a(config)# sh zone
zone                               zone-attribute-group  zoneset
rk4-n5k8-a(config)# sh zoneset active vsan 4
zoneset name psft_zoneset vsan 4
  zone name psft_web1_vhba0 vsan 4
  * fcid 0x4203ef [pwnn 50:06:01:6d:3e:a0:05:68]
  * fcid 0x4202ef [pwnn 50:06:01:65:3e:a0:05:68]
  * fcid 0x42000f [pwnn 20:00:00:25:b5:00:00:0c]
```

```

zone name psft_appl_vhba0 vsan 4
* fcid 0x4203ef [pwwn 50:06:01:6d:3e:a0:05:68]
* fcid 0x4202ef [pwwn 50:06:01:65:3e:a0:05:68]
* fcid 0x420010 [pwwn 20:00:00:25:b5:00:00:17]

zone name psft_db1_vhba0 vsan 4
* fcid 0x4203ef [pwwn 50:06:01:6d:3e:a0:05:68]
* fcid 0x4202ef [pwwn 50:06:01:65:3e:a0:05:68]
* fcid 0x420011 [pwwn 20:01:00:25:b5:00:00:06]

```

Add New Zone Name to ZoneSet

```

rk4-n5k8-a(config)# zoneset name psft_zoneset vsan 4
rk4-n5k8-a(config-zoneset)# member psft_appl_data_vhba0
rk4-n5k8-a(config-zoneset)# zoneset activate name psft_zoneset vsan 4
Zoneset activation initiated. check zone status

```

Discovering LUNs

Discovering all the Attached Disks on the Server

```

login as: root
root@10.104.111.71's password:
Last login: Mon Sep  5 14:10:51 2011 from dhcp-72-163-185-123.cisco.com

[root@psft-db1 ~]# echo "1" > /sys/class/fc_host/host0/issue_lip
[root@psft-db1 ~]# echo "1" > /sys/class/fc_host/host1/issue_lip
[root@psft-db1 ~]# echo "1" > /sys/class/fc_host/host2/issue_lip
[root@psft-db1 ~]# echo "1" > /sys/class/fc_host/host3/issue_lip

```

Creating a Filesystem Partition on the PeopleSoft Servers

List out the connected hard disks and their partitions

```
[root@psft-db1 ~]# fdisk -l
```

Partition the Disk with fdisk

fdisk /dev/sdk and input the following in the order shown:

```
(n->p->1->default value ->default value -> p -> w)
```

```
[root@psft-db1 ~]# fdisk /dev/sdk
```

Device contains neither a valid DOS partition table, nor Sun, SGI or OSF disklabel

Building a new DOS disklabel. Changes will remain in memory only,

until it is decided to write them. After that, of course, the previous

content will not be recoverable.

The number of cylinders for this disk is set to 39162.

There is nothing wrong with that, but this is larger than 1024,
and could in certain setups cause problems with:

- 1) software that runs at boot time (e.g., old versions of LILO)
- 2) booting and partitioning software from other OSs
(for example, DOS FDISK, OS/2 FDISK)

Warning: invalid flag 0x0000 of partition table 4 will be corrected by w(rite)

Command (m for help): n

Command action

e extended

p primary partition (1-4)

p

Partition number (1-4): 1

First cylinder (1-39162, default 1):

Using default value 1

Last cylinder or +size or +sizeM or +sizeK (1-39162, default 39162):

Using default value 39162

Command (m for help): w

The partition table has been altered!

Calling ioctl() to re-read partition table.

Syncing disks.

Create a File System

After creating the partition, a file system (format) can be overlaid using mkfs command as shown below.

```
[root@psft-dbl ~]# mkfs -t ext3 /dev/sdk
```

Add the file system created to FSTAB

```
[root@psft-dbl ~]# vi /etc/fstab
```

```
Add  "/dev/sdk          /db2-data ext3 defaults          0 0"
```

```

LABEL=/                /                    ext3      defaults    1 1
LABEL=/boot            /boot                ext3      defaults    1 2
devpts                 /dev/pts             devpts    gid=5,mode=620 0 0
/dev/sdk               /db2-data            ext3      defaults    0 0
tmpfs                  /dev/shm             tmpfs     defaults    0 0
proc                   /proc                proc      defaults    0 0
sysfs                  /sys                 sysfs     defaults    0 0
```

Create a Directory

```
[root@psft-db1 ~]# mkdir /db2-data
```

Mount the Directory

```
[root@psft-db1 ~]# mount /db2-data
```

```
[root@psft-web1 host4]# mkfs -t ext3 /dev/sdk
```

```
mke2fs 1.39 (29-May-2006)
```

```
Filesystem label=
```

```
OS type: Linux
```

```
Block size=4096 (log=2)
```

```
Fragment size=4096 (log=2)
```

```
39321600 inodes, 78642183 blocks
```

```
3932109 blocks (5.00%) reserved for the super user
```

```
First data block=0
```

```
Maximum filesystem blocks=4294967296
```

```
2400 block groups
```

```
32768 blocks per group, 32768 fragments per group
```

```
16384 inodes per group
```

```
Superblock backups stored on blocks:
```

```
    32768, 98304, 163840, 229376, 294912, 819200, 884736, 1605632, 2654208,
    4096000, 7962624, 11239424, 20480000, 23887872, 71663616
```

```
Writing inode tables: done
```

```
Creating journal (32768 blocks): done
```

```
Writing superblocks and filesystem accounting information: done
```

This filesystem will be automatically checked every 27 mounts or 180 days, whichever comes first. Use tune2fs -c or -i to override.

Remember:

Now -> vi /etc/fstab

```
Add "/dev/sdc1          /db2-data ext3 defaults          0 0" in fstab
```

```
Then - > mkdir /db2-data
```

```
then - > mount /db2-data
```

Installing Oracle PeopleSoft on Cisco Unified Computing System

An Oracle PeopleSoft Enterprise Server requires creation of a standard UNIX system user account: for example, psoft. This account must be available on each Oracle PeopleSoft server in your enterprise under which Oracle PeopleSoft processes and components operate. Use the following guidelines to create the Oracle PeopleSoft service owner account:

- The Oracle PeopleSoft service owner account must be defined or available on each applicable server: on each application server, on each web server, and on each process scheduler.
- The Oracle PeopleSoft owner account password must not require a change on the next logon and must be set so that it does not expire.
- The Oracle PeopleSoft owner account name or password cannot contain any spaces.

Prerequisites

- A root user and a non-root user (psoft) are needed to perform any installation tasks on the Linux devices.
- Root user credentials are required to create the required Oracle PeopleSoft or Oracle users.
- Required file systems must be configured to install Oracle Tuxedo, WebLogic, PeopleTools, and Database.
- Use the Oracle PeopleSoft certification matrix to identify the required software and versions.
- All the required software must be downloaded.
- Network connectivity must be established between all the devices involved.
- JRE Version 1.6.0_20 must be installed on each server on which Oracle PeopleSoft components will be in-stalled.
- Oracle database software must be installed on the device that will host the Oracle PeopleSoft database.
- The Oracle client must be installed on all devices that will host Oracle PeopleSoft servers.
- Database connectivity must be established between devices that will host Oracle PeopleSoft servers and the Oracle server.
- Set unmask to 027 on the installation directory.

Creating an Oracle PeopleSoft Service Account

The Oracle PeopleSoft Enterprise Server requires creation of a standard UNIX system user account: for example, psoft. This account must be available on each Oracle PeopleSoft server in your enterprise under which Oracle PeopleSoft processes and components operate. Use the following guidelines to create the Oracle PeopleSoft service owner account:

- The Oracle PeopleSoft service owner account must be defined or available on each applicable server: on each application server, on each web server, and on each process scheduler.
- The Oracle PeopleSoft owner account password must not require a change on the next logon and must be set so that it does not expire.

- The Oracle PeopleSoft owner account name or password cannot contain any spaces.

General Installation Requirements

The following general requirements must be met before Oracle PeopleSoft Enterprise Server is installed:

- Choose a load-balancing strategy.
- Make sure that the disk space is sufficient for the installation.
- Make sure that the database server software is installed on the Oracle PeopleSoft database server.
- Make sure that the database client software is installed in other Oracle PeopleSoft servers such as application servers and web servers.
- Install database server and client prior to installing the Oracle PeopleSoft server components as required.
- Install all the third-party software required for Oracle PeopleSoft (JRE, JDK, etc.).
- Create directories for the Oracle PeopleSoft software and PeopleSoft file system on the Linux machine.
- Make sure that enough temporary disk space is available for the installers and wizards.
- If you are installing Oracle PeopleSoft products in GUI mode, set the DISPLAY variable to display the Java Installer user interface on the machine.
- If you are installing in console mode, specify the `=-console` parameter during the installation procedure.

Installation Requirements Specific to UNIX and Linux

- Installation can be performed either as root or as a non-root user. In most cases, installation should be performed by a non-root user, for simpler administration and maintenance.
- If the Oracle PeopleSoft application server is installed by root, then only root can stop and start the server. To avoid this requirement, an account other than root that has the authorization to install can be used. All future patch releases must be installed as the same user who installed the base installation being patched.
- If the web server is installed by the root user, then only root can stop and start the server. To avoid this requirement, use an account other than root that has the authorization to install. All future patch releases must be installed as the same user who installed the base installation being patched.
- Use VNC Viewer, xterm, or Xmanager, which is third-party software, or remote access to the Linux machine to install Oracle PeopleSoft products in GUI mode.
- Installation can be performed in console mode by specifying the parameter `mode=-console` during the installation.
- Set the user profiles and environment variables for Oracle and Oracle PeopleSoft.

Oracle PeopleSoft Web Server Installation

- Install JDK or jrockit `jrockit-jdk1.6.0_26-R28.1.4-4.0.1` on the web server before installing the Oracle WebLogic server.
- Install Oracle WebLogic 10.3.4.0 (64-bit mode) on the web server.

- Install Oracle PeopleTools 8.51 on the web server.
- Install Oracle PeopleTools Patch 8.51.11 on the web server.

Oracle PeopleSoft Application Server Installation

- Install Oracle Client 11.2.0.10 on the application server.
- Install Oracle Tuxedo 10.3.0.0 on the application server.
- Install Oracle Tuxedo Patch RP065 on the application server.
- Install Oracle PeopleTools 8.51 on the application server.
- Install Oracle PeopleTools Patch 8.51.11 on the application server.
- Install Oracle PeopleSoft HRMS 9.1 Feature Pack December 2010 on the application server.

Oracle PeopleSoft Database Server Installation

- Install Oracle Server 11.2.0.1.0 binaries on the database server.
- Install Oracle Client 11.2.0.10 on the database server.
- Install Oracle Tuxedo 10.3.0.0 on the database server.
- Install Oracle Tuxedo Patch RP065 on the database server.
- Install Oracle PeopleTools 8.51 on the database server.
- Install Oracle PeopleTools Patch 8.51.11 on the database server.
- Install Oracle PeopleSoft HRMS 9.1 Feature Pack December 2010 on the database server.
- Install Micro Focus Server Express COBOL compiler 5.1wp4

Oracle PeopleSoft Installation Port Numbers

The following port numbers are used for the workstation server listener (WSL), Oracle Jolt server listener (JSL), HTTP, and other ports:

- WSL: 7700
- JSL: 9700
- HTTP: 8700
- HTTPS: 443
- JRAD: 9100
- PSDBGSRV: 9500
- SMTP: 25

Oracle PeopleSoft Web Server Installation

Oracle JRockit Installation on Web Server

Log in to the Oracle PeopleSoft web server as psoft and follow the installation procedure shown below.



Note

Oracle JRockit installation was performed in console mode. The following listing shows the procedures and commands captured during the Oracle JRockit installation on the web server.

Download the jrockit28.1.4 software from Oracle My Support.

- Choose the file p12706519_2814_Linux-x86-64.zip.
- Transfer the file to the software location of the web server: /u01/software.
- Create a directory: /u01/bea/jrockit28.1.4.
- Unzip the software. Unzipping will extract all the files and folders into the specified directory.

The directory structure after the installation of Oracle JRockit is shown below:

```
[psoft@psft-web1 jrockit-jdk1.6.0_26]$ pwd
/u01/psoft/bea/jrockit28.1.4/jrockit-jdk1.6.0_26
[psoft@psft-web1 jrockit-jdk1.6.0_26]$ ls -ltr
total 18984
-rwxrwxr-x 1 psoft oinstall 19103658 May  4 10:42 src.zip
drwxrwxr-x 3 psoft oinstall    4096 May  4 10:42 include
drwxrwxr-x 8 psoft oinstall    4096 May  4 10:49 sample
drwxrwxr-x 9 psoft oinstall    4096 May  4 10:49 demo
drwxrwxr-x 2 psoft oinstall    4096 May  4 12:51 lib
-rwxrwxr-x 1 psoft oinstall 239443 Jun 17 21:30 THIRDPARTYLICENSEREADME.txt
drwxrwxr-x 4 psoft oinstall    4096 Jun 17 21:35 jre
drwxrwxr-x 2 psoft oinstall    4096 Jun 25 21:30 bin
drwxr-xr-x 6 psoft oinstall    4096 Oct 11 12:47 missioncontrol
```

There is no separate installation method or processes followed/required for this installation of jrockit. Just unzipping in a folder will do.

Oracle WebLogic Installation on Web Server

Log in to the Oracle PeopleSoft web server as psoft and follow the installation procedure shown below.



Note

Oracle WebLogic installation was performed in console mode. The following listing shows the procedures and commands captured during the Oracle WebLogic installation on the web server.

```
[psoft@psft-web1 ~]$ export
JAVA_HOME=/u01/psoft/bea/jrockit28.1.4/jrockit-jdk1.6.0_26
[psoft@psft-web1 ~]$ echo $JAVA_HOME
```

```

/u01/psoft/boa/jrockit28.1.4/jrockit-jdk1.6.0_26
[psft@psft-web1 ~]$ cd /u01/software/weblogic1034-linuxx86-64/V24338-01
[psft@psft-web1 V24338-01]$ ls -ltr
-rwxrwxrwx 1 psoft oinstall 1119969142 Sep  6 10:47 [00;32mws1034_generic.jar
[psft@psft-web1 V24338-01]$ echo $JAVA_HOME
/u01/psoft/boa/jrockit28.1.4/jrockit-jdk1.6.0_26
[psft@psft-web1 V24338-01]$
/u01/psoft/boa/jrockit28.1.4/jrockit-jdk1.6.0_26/bin/java -d64 -jar
./ws1034_generic.jar -mode=console -log=ws1034install7sep2011-in.log
Extracting
0%.....
.....100%
<----- Oracle Installer - WebLogic 10.3.4.0 ----->
Welcome:
-----
This installer will guide you through the installation of WebLogic 10.3.4.0.
Type "Next" or enter to proceed to the next prompt.  If you want to change data
entered previously, type "Previous".  You may quit the installer at any time by
typing "Exit".
Enter [Exit][Next]>
<----- Oracle Installer - WebLogic 10.3.4.0 ----->
Choose Middleware Home Directory:
-----
"Middleware Home" = [Enter new value or use default
"/home/psoft/Oracle/Middleware"]
Enter new Middleware Home OR [Exit][Previous][Next]>
/u01/psoft/boa/weblogic1034
<----- Oracle Installer - WebLogic 10.3.4.0 ----->
Choose Middleware Home Directory:
-----
"Middleware Home" = [/u01/psoft/boa/weblogic1034]
Use above value or select another option:
    1 - Enter new Middleware Home
    2 - Change to default [/home/psoft/Oracle/Middleware]
Enter option number to select OR [Exit][Previous][Next]>
<----- Oracle Installer - WebLogic 10.3.4.0 ----->

Register for Security Updates:
-----
Provide your email address for security updates and to initiate configuration
manager.
    1|Email:[]
    2|Support Password:[]
    3|Receive Security Update:[Yes]
Enter index number to select OR [Exit][Previous][Next]> 3

```

```

<----- Oracle Installer - WebLogic 10.3.4.0 ----->
Register for Security Updates:
-----
Provide your email address for security updates and to initiate configuration
manager.
    "Receive Security Update:" = [Enter new value or use default "Yes"]
Enter [Yes][No]? No
<----- Oracle Installer - WebLogic 10.3.4.0 ----->
Register for Security Updates:
-----
Provide your email address for security updates and to initiate configuration
manager.
    "Receive Security Update:" = [Enter new value or use default "Yes"]
    ** Do you wish to bypass initiation of the configuration manager and
    ** remain uninformed of critical security issues in your configuration?
Enter [Yes][No]? Y
<----- Oracle Installer - WebLogic 10.3.4.0 ----->
Register for Security Updates:
-----
Provide your email address for security updates and to initiate configuration
manager.
    "Receive Security Update:" = [Enter new value or use default "Yes"]
    ** Valid value can be either Yes or No
Enter [Yes][No]? Yes
<----- Oracle Installer - WebLogic 10.3.4.0 ----->
Register for Security Updates:
-----
Provide your email address for security updates and to initiate configuration
manager.
    1|Email:[]
    2|Support Password:[]
    3|Receive Security Update:[No]
Enter index number to select OR [Exit][Previous][Next]>
<----- Oracle Installer - WebLogic 10.3.4.0 ----->
Register for Security Updates:
-----
Provide your email address for security updates and to initiate configuration
manager.
    1|Email:[]
    2|Support Password:[]
    3|Receive Security Update:[No]
Enter index number to select OR [Exit][Previous][Next]>
<----- Oracle Installer - WebLogic 10.3.4.0 ----->
Choose Install Type:

```

```

-----
Select the type of installation you wish to perform.

->1|Typical
  |  Install the following product(s) and component(s):
  |  - WebLogic Server
  |  - Oracle Coherence
2|Custom
  |  Choose software products and components to install and perform optional
  |  configuration.
Enter index number to select OR [Exit][Previous][Next]> 1

<----- Oracle Installer - WebLogic 10.3.4.0 ----->
JDK Selection (Any * indicates Oracle Supplied VM):
-----
JDK(s) chosen will be installed. Defaults will be used in script
string-substitution if installed.
  1|Add Local Jdk
  2|/u01/psoft/boa/jrockit28.1.4/jrockit-jdk1.6.0_26[x]
  *Estimated size of installation: 663.9 MB
Enter 1 to add or >= 2 to toggle selection OR [Exit][Previous][Next]>
<----- Oracle Installer - WebLogic 10.3.4.0 ----->
Choose Product Installation Directories:
-----
Middleware Home Directory: [/u01/psoft/boa/weblogic1034]
Product Installation Directories:
  1|WebLogic Server: [/u01/psoft/boa/weblogic1034/wlserver_10.3]
  2|Oracle Coherence: [/u01/psoft/boa/weblogic1034/coherence_3.6]
Enter index number to select OR [Exit][Previous][Next]>

<----- Oracle Installer - WebLogic 10.3.4.0 ----->
The following Products and JDKs will be installed:
-----
WebLogic Platform 10.3.4.0
|___WebLogic Server
|   |___Core Application Server
|   |___Administration Console
|   |___Configuration Wizard and Upgrade Framework
|   |___Web 2.0 HTTP Pub-Sub Server
|   |___WebLogic SCA
|   |___WebLogic JDBC Drivers
|   |___Third Party JDBC Drivers
|   |___WebLogic Server Clients

```

```

|      |_____WebLogic Web Server Plugins
|      |_____UDDI and Xquery Support
|      |_____Evaluation Database
|_____Oracle Coherence
|      |_____Coherence Product Files
*Estimated size of installation: 664.0 MB
Enter [Exit][Previous][Next]>

Sep 7, 2011 2:08:08 PM java.util.prefs.FileSystemPreferences$2 run
INFO: Created user preferences directory.
<----- Oracle Installer - WebLogic 10.3.4.0 ----->
Installing files..
0%          25%          50%          75%          100%
[-----|-----|-----|-----]
[*****]

Performing String Substitutions...
<----- Oracle Installer - WebLogic 10.3.4.0 ----->
Configuring OCM...
0%          25%          50%          75%          100%
[-----|-----|-----|-----]
[*****]

Creating Domains...
<----- Oracle Installer - WebLogic 10.3.4.0 ----->
Installation Complete
Congratulations! Installation is complete.
Press [Enter] to continue or type [Exit]>
<----- Oracle Installer - WebLogic 10.3.4.0 ----->
Clean up process in progress ...

```

Oracle PeopleTools 8.51 Installation on Web Server

Log in to the Oracle PeopleSoft web server as psft and follow the installation procedure shown here.



Note

Oracle PeopleTools installation was performed in console mode. The following listing shows the procedure captured during the Oracle PeopleTools installation on the web server.

```

[psft@psft-web1 ~]$ cd /u01/software/PT851-CDS/cd1/Disk1/InstData
[psft@psft-web1 InstData]$ ls -ltr
total 1341968
-rwxrwxrwx 1 psft oinstall 2459194 Apr 2 2009 emocmutl.jar
-rwxrwxrwx 1 psft oinstall 37267075 Aug 29 2010 setup.exe
-rwxrwxrwx 1 psft oinstall 216005302 Aug 29 2010 setup.aix

```

```

-rwxrwxrwx 1 psoft oinstall 97811126 Aug 29 2010 setup.hp
-rwxrwxrwx 1 psoft oinstall 54885046 Aug 29 2010 setup.linux
-rwxrwxrwx 1 psoft oinstall 149486262 Aug 29 2010 setup.linux
-rwxrwxrwx 1 psoft oinstall 118717110 Aug 29 2010 setup.hp-ia64
-rwxrwxrwx 1 psoft oinstall 574358435 Aug 29 2010 Resource1.zip
-rwxrwxrwx 1 psoft oinstall 118 Aug 29 2010 MediaId.properties
-rwxrwxrwx 1 psoft oinstall 121731766 Aug 29 2010 setup.zlinux
psoft@psft-web1:/u01/software/PT851-CDS/cd1/Disk1/InstData
[psoft@psft-web1 InstData]$ pwd
/u01/software/PT851-CDS/cd1/Disk1/InstData
[psoft@psft-web1 InstData]$ ./setup.linux -i console
Preparing to install...
Extracting the JRE from the installer archive...
Unpacking the JRE...
Extracting the installation resources from the installer archive...
Configuring the installer for this system's environment...

Launching installer...
Preparing CONSOLE Mode Installation...
=====
==
PeopleTools (created with InstallAnywhere)
-----
--
=====
==
Welcome
-----
InstallAnywhere will guide you through the installation of PeopleTools 8.51.
PRESS <ENTER> TO CONTINUE:
=====
==
Please enter your PeopleSoft license code []: zm7ky3w41m044u863q67okelms7t1f2
Press 1 for Next, 2 for Previous, 3 to Cancel or 5 to Redisplay [1] :
=====
==
Please select the Oracle database character set:
->1- Non-Unicode Database
2- Unicode Database
To select an item enter its number, or 0 when you are finished [0] : 2

Please select the Oracle database character set:
1- Non-Unicode Database
->2- Unicode Database

```

To select an item enter its number, or 0 when you are finished [0] :
 Press 1 for Next, 2 for Previous, 3 to Cancel or 5 to Redisplay [1] :

=====
 ==

For Oracle please select the products to install:

- >1- PeopleSoft Application Server
- >2- PeopleSoft Batch Server
- >3- PeopleSoft Database Server
- >4- PeopleSoft Web Server

To select an item enter its number, or 0 when you are finished [0] :
 Press 1 for Next, 2 for Previous, 3 to Cancel or 5 to Redisplay [1] :

=====
 ==

Please enter an installation location or press <ENTER> to accept the default
 (DEFAULT: /opt/PT8.51): /u01/psoft/pshome

Press 1 for Next, 2 for Previous, 3 to Cancel or 5 to Redisplay [1] :

=====
 ==

Provide your email address to be informed on security issues, install the
 product and initiate configuration manager. Easier for you if you use your My
 Oracle Support Email address/User Name. Visit

<http://www.oracle.com/support/policies.html> for details

Email address/ User Name (DEFAULT:):

You have not provided an email address

Do you wish to remain uninformed of critical security issues in your
 configuration. (Y/N): Y

Press 1 for Next, 2 for Previous, 3 to Cancel or 5 to Redisplay [1] :

=====
 ==

Please enter the hub machine name: [PSEMHUB]:

Please enter the hub port number: [80]:

Press 1 for Next, 2 for Previous, 3 to Cancel or 5 to Redisplay [1] :

=====
 ==

Please select the features to install:

- >1- PeopleTools
- >2- PeopleTools System Database

To select an item enter its number, or 0 when you are finished [0] :
 Press 1 for Next, 2 for Previous, 3 to Cancel or 5 to Redisplay [1] :

=====
 ==

Pre-Install Summary

```

Please review the following before continuing:
PeopleTools will be installed in the following location: /u01/psoft/pshome
with the following features:
PeopleTools
PeopleTools System Database
The following PeopleSoft Servers were selected by you:
PeopleSoft Application Server
PeopleSoft Batch Server
PeopleSoft Database Server
PeopleSoft Web Server
Database type: Oracle
Environment Hub Configuration:
Hub machine name: PSEMHUB
Hub port number: 80

Press 1 for Next, 2 for Previous, 3 to Cancel or 5 to Redisplay [1] :
=====
==
Installing...
-----

[=====|=====|=====|=====]
[----- Insert New Media -----
Please insert Disk2 or type it's location.: /u01/software/PT851-CDS/cd2
-----|-----|-----|----- Insert New Media -----
Please insert Disk3 or type it's location.: /u01/software/PT851-CDS/cd3
-----]
=====
==
Installation Complete
-----

Congratulations. PeopleTools has been successfully installed to:
/u01/psoft/pshome
PRESS <ENTER> TO EXIT THE INSTALLER:

```

Oracle PeopleTools 8.51.11 Patch Installation on Web Server

Log in to the Oracle PeopleSoft web server as psoft and follow the installation procedure shown below.



Note

Oracle PeopleTools patch installation was performed in console mode. The following listing shows the procedures and commands captured during the Oracle PeopleTools patch installation on the web server.

```
[psoft@psft-web1 ~]$ cd /u01/software/85111-PATCH/cd85111/Disk1/InstData
```

```
[psft@psft-web1 InstData]$ ls -ltr
total 1383984
-rwxrwxrwx 1 psft oinstall 2459194 Apr 2 2009 emocmutl.jar
-rwxrwxrwx 1 psft oinstall 37170092 Jun 30 12:09 setup.exe
-rwxrwxrwx 1 psft oinstall 215908880 Jun 30 12:09 setup.aix
-rwxrwxrwx 1 psft oinstall 97714704 Jun 30 12:09 setup.hp
-rwxrwxrwx 1 psft oinstall 54788624 Jun 30 12:09 setup.linux
-rwxrwxrwx 1 psft oinstall 149389840 Jun 30 12:09 setup.linux
-rwxrwxrwx 1 psft oinstall 118620688 Jun 30 12:09 setup.hp-ia64
-rwxrwxrwx 1 psft oinstall 618007113 Jun 30 12:09 Resource1.zip
-rwxrwxrwx 1 psft oinstall 118 Jun 30 12:09 MediaId.properties
-rwxrwxrwx 1 psft oinstall 121635344 Jun 30 12:09 setup.zlinux
psft@psft-web1 InstData]$ ./setup.linux -i console
```

Preparing to install...

Extracting the JRE from the installer archive...

Unpacking the JRE...

Extracting the installation resources from the installer archive...

Configuring the installer for this system's environment...

Launching installer...

Preparing CONSOLE Mode Installation...

```
=====
==
PeopleTools                                     (created with InstallAnywhere)
```

```
-----
--
```

```
=====
==
```

Welcome

```
-----
```

InstallAnywhere will guide you through the installation of PeopleTools 8.51.11.

PRESS <ENTER> TO CONTINUE:

```
=====
==
```

Please enter your PeopleSoft license code []: zm7ky3w41m044u863q67oke1ms7t1f2

Press 1 for Next, 2 for Previous, 3 to Cancel or 5 to Redisplay [1] :

```
=====
==
```

Please select the Oracle database character set:

->1- Non-Unicode Database

2- Unicode Database

To select an item enter its number, or 0 when you are finished [0] : 2

Please select the Oracle database character set:

1- Non-Unicode Database

```

->2- Unicode Database
To select an item enter its number, or 0 when you are finished [0] :
Press 1 for Next, 2 for Previous, 3 to Cancel or 5 to Redisplay [1] :
=====
==
For Oracle please select the products to install:
->1- PeopleSoft Application Server
->2- PeopleSoft Batch Server
->3- PeopleSoft Database Server
->4- PeopleSoft Web Server
To select an item enter its number, or 0 when you are finished [0] : \
Please enter a value between 0 and 4
To select an item enter its number, or 0 when you are finished [0] :
Press 1 for Next, 2 for Previous, 3 to Cancel or 5 to Redisplay [1] :
=====
==
Please enter an installation location or press <ENTER> to accept the default
(DEFAULT: /opt/PT8.51.11): /u01/psoft/pshome
Press 1 for Next, 2 for Previous, 3 to Cancel or 5 to Redisplay [1] :
=====
==
Provide your email address to be informed on security issues, install the
product and initiate configuration manager. Easier for you if you use your My
Oracle Support Email address/User Name. Visit
http://www.oracle.com/support/policies.html for details
Email address/ User Name (DEFAULT: ):
You have not provided an email address
Do you wish to remain uninformed of critical security issues in your
configuration. (Y/N): N
Provide your email address to be informed on security issues, install the
product and initiate configuration manager. Easier for you if you use your My
Oracle Support Email address/User Name. Visit
http://www.oracle.com/support/policies.html for details
Email address/ User Name (DEFAULT: ):
You have not provided an email address
Do you wish to remain uninformed of critical security issues in your
configuration. (Y/N): Y
Press 1 for Next, 2 for Previous, 3 to Cancel or 5 to Redisplay [1] :
=====
==
Please select the features to install:
->1- PeopleTools
->2- PeopleTools System Database
To select an item enter its number, or 0 when you are finished [0] :

```

```

Press 1 for Next, 2 for Previous, 3 to Cancel or 5 to Redisplay [1] :
=====
==
Pre-Install Summary
Please review the following before continuing:
PeopleTools will be installed in the following location: /u01/psoft/pshome with
the following features:
PeopleTools
PeopleTools System Database
The following PeopleSoft Servers were selected by you:
PeopleSoft Application Server
PeopleSoft Batch Server
PeopleSoft Database Server
PeopleSoft Web Server
Database type: Oracle
Environment Hub Configuration:
Hub machine name:
Hub port number:
Press 1 for Next, 2 for Previous, 3 to Cancel or 5 to Redisplay [1] :
=====
==
Installing...
-----

[=====|=====|=====|=====|=====]
[-----|-----|-----|-----]
=====
==
Installation Complete
-----
Congratulations. PeopleTools has been successfully installed to:
    /u01/psoft/pshome
PRESS <ENTER> TO EXIT THE INSTALLER:

```

Oracle PeopleSoft Application Server Installation

Oracle Tuxedo Installation on Application Server

Log in to the Oracle PeopleSoft application server as psoft and follow the installation procedure shown below.

**Note**

Oracle Tuxedo installation was performed in console mode. The following listing shows the procedure captured during the Oracle Tuxedo installation on the application server.

```
[psoft@psft-appl ~]$ export TUXDIR=/u01/psoft/bea/tuxedo10gR3
[psoft@psft-appl ~]$ echo $TUXDIR
/u01/psoft/bea/tuxedo10gR3
[psoft@psft-appl ~]$ cd /u01/software/Tuxedo10gR3-linux
[psoft@psft-appl Tuxedo10gR3-linux]$ ls -ltr
total 83468
[psoft@psft-appl Tuxedo10gR3-linux]$ ./tuxedo10gR3_64_Linux_01_x86.bin -i
console
Preparing to install...
Extracting the JRE from the installer archive...
Unpacking the JRE...
Extracting the installation resources from the installer archive...
Configuring the installer for this system's environment...
Launching installer...
Preparing CONSOLE Mode Installation...
=====
==
Choose Locale...
-----
->1- English
CHOOSE LOCALE BY NUMBER:
=====
==
Tuxedo 10gR3                               (created with InstallAnywhere by Macrovision)
-----
--
=====
==
Introduction
-----
InstallAnywhere will guide you through the Tuxedo 10gR3 installation.
It is strongly recommended that you quit all programs before continuing with
this installation.
Enter "next" to proceed to the next screen. Enter "back" to modify the previous
screen.
You may cancel this installation at any time by typing "quit".
WARNING: "Quitting" creates an incomplete Tuxedo 10gR3 installation. You must
re-install Tuxedo 10gR3. For more information, see "Preparing to Install the
Oracle Tuxedo System" in the Tuxedo 10gR3 Installation Guide.
PRESS <ENTER> TO CONTINUE:
```

```

=====
==
Choose Install Set
-----
Please choose the Install Set to be installed by this installer.
->1- Full Install
    2- Server Install
    3- Full Client Install
    4- Jolt Client Install
    5- ATMI Client Install
    6- CORBA Client Install
    7- Customize...
ENTER THE NUMBER FOR THE INSTALL SET, OR PRESS <ENTER> TO ACCEPT THE DEFAULT :
=====
==
Choose Oracle Home
-----
    1- Create new Oracle Home
    2- Use existing Oracle Home
Enter a number:
Enter a number: 1
Specify a new Oracle Home directory: /u01/psoft/bea/tuxedo10gR3
=====
==
Choose Product Directory
-----
    1- Modify Current Selection (/u01/psoft/bea/tuxedo10gR3/tuxedo10gR3)
    2- Use Current Selection (/u01/psoft/bea/tuxedo10gR3/tuxedo10gR3)
Enter a number: 1
Specify Product Installation Directory: /u01/psoft/bea/tuxedo10gR3
Install Samples (Y/N): Y
    1- Modify Current Selection (/u01/psoft/bea/tuxedo10gR3)
    2- Use Current Selection (/u01/psoft/bea/tuxedo10gR3)
Enter a number: 2
Install Samples (Y/N): Y
=====
==
Pre-Installation Summary
-----
Please Review the Following Before Continuing:

Product Name:
    Tuxedo 10gR3
Install Folder:

```

```

    /u01/psoft/bea/tuxedo10gR3
Link Folder:
    /home/psoft
Disk Space Information (for Installation Target):
    Required: 195,536,693 bytes
    Available: 291,352,813,568 bytes
PRESS <ENTER> TO CONTINUE:
=====
==
Ready To Install
-----

InstallAnywhere is now ready to install Tuxedo 10gR3 onto your system at the
following location:
    /u01/psoft/bea/tuxedo10gR3
PRESS <ENTER> TO INSTALL:
=====
==
Installing...
-----

[===== | ===== | ===== | =====]

[----- | ----- | ----- | -----]
=====
==
Configure listen Service
-----

Password:
Verify Password:
Password Accepted! Press "Enter" to continue.
=====
==
SSL Installation Choice.
-----

Would you like to install SSL Support?
    ->1- Yes
        2- No
ENTER THE NUMBER FOR YOUR CHOICE, OR PRESS <ENTER> TO ACCEPT THE DEFAULT:
    : 2
=====
==
Installation Complete
-----

Congratulations. Tuxedo 10gR3 has been successfully installed to:
    /u01/psoft/bea/tuxedo10gR3

```

PRESS <ENTER> TO EXIT THE INSTALLER:

Oracle Tuxedo Patch Installation on Application Server

Log in to the Oracle PeopleSoft application server as psoft and follow the installation procedure shown below.



Note

Oracle Tuxedo patch installation was performed in console mode. The following listing shows the procedure captured during the Oracle Tuxedo patch installation on the application server.

```
[psft@psft-app1 ~]$ export TUXDIR=/u01/psft/bea/tuxedo10gr3
[psft@psft-app1 ~]$ echo $TUXDIR
/u01/psft/bea/tuxedo10gr3
[psft@psft-app1 ~]$ echo $ORACLE_HOME
/u01/app/oracle/product/11.2.0/psft
[psft@psft-app1 ~]$ cd
/u01/software/Tuxedo10gr3-RP-linux-x86-64/p12746335_10300_Linux-x86-64/RP065
[psft@psft-app1 RP065]$ ls -ltr
total 10772
-r-xr-xr-- 1 psft oinstall      24347 Jul 23 10:54 uninstall
drwxr-xr-x 4 psft oinstall      4096 Jul 23 10:54 udataobj
-rw-r--r-- 1 psft oinstall      1360 Jul 23 10:54 README.txt
drwx----- 6 psft oinstall      4096 Jul 23 10:54 locale
drwx----- 2 psft oinstall      4096 Jul 23 10:54 lib
-r-xr-xr-- 1 psft oinstall     38729 Jul 23 10:54 install
drwx----- 2 psft oinstall      4096 Jul 23 10:54 bin
-rwxrwxrwx 1 psft oinstall      4399 Sep  6 16:28 releasenotes.txt
-rwxrwxrwx 1 psft oinstall     15715 Sep  6 16:28 README.html
-rwxrwxrwx 1 psft oinstall      9566 Sep  6 16:28 patchlev
-rwxrwxrwx 1 psft oinstall 10842803 Sep  6 16:28 RP065.tar.Z

[psft@psft-app1 RP065]$ ./install
DIR=/u01/software/Tuxedo10gr3-RP-linux-x86-64/p12746335_10300_Linux-x86-64/RP065
rpreleasenote = SUSE LINUX Enterprise Server 10 (x86_64) x86 for AMD64, 64bits
Tuxedo
portreleasenotes= SUSE LINUX Enterprise Server 10 (x86_64) x86 for AMD64, 64bits
Tuxedo
Installing server and client files...

Enter owner for patch files:
psft
Enter group for patch files:
oinstall
```

The patch installation finished successfully.

Oracle PeopleTools 8.51 Installation on Application Server

Log in to the Oracle PeopleSoft application server as psoft and follow the installation procedure shown below.



Note

Oracle PeopleTools installation was performed in console mode. The following listing shows the procedure captured during the Oracle PeopleTools installation on the application server.

```
[psft@psft-appl ~]$ cd /u01/software/PT851-CDS/cd1/Disk1/InstData
[psft@psft-appl InstData]$ ls -ltr
total 1341968
-rwxrwxrwx 1 psoft oinstall 2459194 Apr 2 2009 emocmutl.jar
-rwxrwxrwx 1 psoft oinstall 37267075 Aug 29 2010 setup.exe
-rwxrwxrwx 1 psoft oinstall 216005302 Aug 29 2010 setup.aix
-rwxrwxrwx 1 psoft oinstall 97811126 Aug 29 2010 setup.hp
-rwxrwxrwx 1 psoft oinstall 54885046 Aug 29 2010 setup.linux
-rwxrwxrwx 1 psoft oinstall 149486262 Aug 29 2010 setup.linux
-rwxrwxrwx 1 psoft oinstall 118717110 Aug 29 2010 setup.hp-ia64
-rwxrwxrwx 1 psoft oinstall 574358435 Aug 29 2010 Resource1.zip
-rwxrwxrwx 1 psoft oinstall 118 Aug 29 2010 MediaId.properties
-rwxrwxrwx 1 psoft oinstall 121731766 Aug 29 2010 setup.zlinux

[psft@psft-appl InstData]$ ./setup.linux -i console
Preparing to install...
Extracting the JRE from the installer archive...
Unpacking the JRE...
Extracting the installation resources from the installer archive...
Configuring the installer for this system's environment...
Launching installer...
Preparing CONSOLE Mode Installation...
=====
==
PeopleTools (created with InstallAnywhere)
-----
--
=====
==
Welcome
-----
InstallAnywhere will guide you through the installation of PeopleTools 8.51.
PRESS <ENTER> TO CONTINUE:
```

```

=====
==
Please enter your PeopleSoft license code []: zm7ky3w41m044u863q67oke1ms7t1f2
Press 1 for Next, 2 for Previous, 3 to Cancel or 5 to Redisplay [1] :
=====
==
Please select the Oracle database character set:
->1- Non-Unicode Database
    2- Unicode Database
To select an item enter its number, or 0 when you are finished [0] : 2
Please select the Oracle database character set:
    1- Non-Unicode Database
->2- Unicode Database
To select an item enter its number, or 0 when you are finished [0] :
Press 1 for Next, 2 for Previous, 3 to Cancel or 5 to Redisplay [1] :
=====
==
For Oracle please select the products to install:
->1- PeopleSoft Application Server
->2- PeopleSoft Batch Server
->3- PeopleSoft Database Server
->4- PeopleSoft Web Server
To select an item enter its number, or 0 when you are finished [0] :
Press 1 for Next, 2 for Previous, 3 to Cancel or 5 to Redisplay [1] :
=====
==
Please enter an installation location or press <ENTER> to accept the default
(DEFAULT: /opt/PT8.51): /u01/psoft/pshome
Press 1 for Next, 2 for Previous, 3 to Cancel or 5 to Redisplay [1] :
=====
==
Provide your email address to be informed on security issues, install the
product and initiate configuration manager. Easier for you if you use your My
Oracle Support Email address/User Name. Visit
http://www.oracle.com/support/policies.html for details
Email address/ User Name (DEFAULT: ):
You have not provided an email address
Do you wish to remain uninformed of critical security issues in your
configuration. (Y/N): Y
Press 1 for Next, 2 for Previous, 3 to Cancel or 5 to Redisplay [1] :
=====
==
Please enter the hub machine name: [PSEMHUB]:
Please enter the hub port number: [80]:

```

```

Press 1 for Next, 2 for Previous, 3 to Cancel or 5 to Redisplay [1] :
=====
==
Please select the features to install:
  ->1- PeopleTools
  ->2- PeopleTools System Database
To select an item enter its number, or 0 when you are finished [0] :
Press 1 for Next, 2 for Previous, 3 to Cancel or 5 to Redisplay [1] :
=====
==
Pre-Install Summary
Please review the following before continuing:
PeopleTools will be installed in the following location: /u01/psoft/pshome
with the following features:
PeopleTools
PeopleTools System Database
The following PeopleSoft Servers were selected by you:
PeopleSoft Application Server
PeopleSoft Batch Server
PeopleSoft Database Server
PeopleSoft Web Server
Database type: Oracle
Environment Hub Configuration:
Hub machine name: PSEMHub
Hub port number: 80
Press 1 for Next, 2 for Previous, 3 to Cancel or 5 to Redisplay [1] :
=====
==
Installing...
-----

[=====|=====|=====|=====]
[----- Insert New Media -----]
  Please insert Disk2 or type it's location.: /u01/software/PT851-CDS/cd2
-----|-----|-----|----- Insert New Media -----
  Please insert Disk3 or type it's location.: /u01/software/PT851-CDS/cd3
-----]
=====
==
Installation Complete
-----

Congratulations. PeopleTools has been successfully installed to:
  /u01/psoft/pshome
PRESS <ENTER> TO EXIT THE INSTALLER:

```

Oracle PeopleTools 8.51.11 Patch Installation on Application Server

Log in to the Oracle PeopleSoft application server as psoft and follow the installation procedure shown below.



Note

Oracle PeopleTools patch installation was performed in console mode. The following listing shows the procedure captured during the Oracle PeopleTools patch installation on the application server.

```
[psoft@psft-app1 ~]$ cd /u01/software/85111-PATCH/cd85111/Disk1/InstData
[psoft@psft-app1 InstData]$ ls -ltr
total 1383984
-rwxrwxrwx 1 psoft oinstall  2459194 Apr  2  2009 emocmutl.jar
-rwxrwxrwx 1 psoft oinstall  37170092 Jun 30 12:09 setup.exe
-rwxrwxrwx 1 psoft oinstall 215908880 Jun 30 12:09 setup.aix
-rwxrwxrwx 1 psoft oinstall  97714704 Jun 30 12:09 setup.hp
-rwxrwxrwx 1 psoft oinstall  54788624 Jun 30 12:09 setup.linux
-rwxrwxrwx 1 psoft oinstall 149389840 Jun 30 12:09 setup.linux
-rwxrwxrwx 1 psoft oinstall 118620688 Jun 30 12:09 setup.hp-ia64
-rwxrwxrwx 1 psoft oinstall 618007113 Jun 30 12:09 Resource1.zip
-rwxrwxrwx 1 psoft oinstall      118 Jun 30 12:09 MediaId.properties
-rwxrwxrwx 1 psoft oinstall 121635344 Jun 30 12:09 setup.zlinux

[psoft@psft-app1 InstData]$ ./setup.linux -i console
Preparing to install...
Extracting the JRE from the installer archive...
Unpacking the JRE...
Extracting the installation resources from the installer archive...
Configuring the installer for this system's environment...

Launching installer...

Preparing CONSOLE Mode Installation...
=====
==
PeopleTools                                     (created with InstallAnywhere)
-----
--
=====
==
Welcome
-----

InstallAnywhere will guide you through the installation of PeopleTools 8.51.11.
PRESS <ENTER> TO CONTINUE:
```

```

=====
==
Please enter your PeopleSoft license code []: zm7ky3w41m044u863q67okelms7t1f2
Press 1 for Next, 2 for Previous, 3 to Cancel or 5 to Redisplay [1] :
=====
==
Please select the Oracle database character set:
->1- Non-Unicode Database
   2- Unicode Database
To select an item enter its number, or 0 when you are finished [0] : 2
Please select the Oracle database character set:
   1- Non-Unicode Database
->2- Unicode Database
To select an item enter its number, or 0 when you are finished [0] :
Press 1 for Next, 2 for Previous, 3 to Cancel or 5 to Redisplay [1] :
=====
==
For Oracle please select the products to install:
->1- PeopleSoft Application Server
->2- PeopleSoft Batch Server
->3- PeopleSoft Database Server
->4- PeopleSoft Web Server
To select an item enter its number, or 0 when you are finished [0] :
Press 1 for Next, 2 for Previous, 3 to Cancel or 5 to Redisplay [1] :
=====
==
Please enter an installation location or press <ENTER> to accept the default
(DEFAULT: /opt/PT8.51.11): /u01/psoft/pshome
Press 1 for Next, 2 for Previous, 3 to Cancel or 5 to Redisplay [1] :
=====
==
Provide your email address to be informed on security issues, install the
product and initiate configuration manager. Easier for you if you use your My
Oracle Support Email address/User Name. Visit
http://www.oracle.com/support/policies.html for details
Email address/ User Name (DEFAULT: ):
You have not provided an email address
Do you wish to remain uninformed of critical security issues in your
configuration. (Y/N): Y
Press 1 for Next, 2 for Previous, 3 to Cancel or 5 to Redisplay [1] :
=====
==
Please select the features to install:
->1- PeopleTools

```

```

->2- PeopleTools System Database
To select an item enter its number, or 0 when you are finished [0] :
Press 1 for Next, 2 for Previous, 3 to Cancel or 5 to Redisplay [1] :
=====
==
Pre-Install Summary
Please review the following before continuing:
PeopleTools will be installed in the following location: /u01/psoft/pshome with
the following features:
PeopleTools
PeopleTools System Database
The following PeopleSoft Servers were selected by you:
PeopleSoft Application Server
PeopleSoft Batch Server
PeopleSoft Database Server
PeopleSoft Web Server
Database type: Oracle
Environment Hub Configuration:
Hub machine name:
Hub port number:
Press 1 for Next, 2 for Previous, 3 to Cancel or 5 to Redisplay [1] :
=====
==
Installing...
-----

[=====|=====|=====|=====|=====]
[-----|-----|-----|-----]
=====
==
Installation Complete
-----
Congratulations. PeopleTools has been successfully installed to:
    /u01/psoft/pshome
PRESS <ENTER> TO EXIT THE INSTALLER:

```

Oracle PeopleSoft HRMS 9.10 Installation on Application Server

Log in to the Oracle PeopleSoft application server as psoft and follow the installation procedure shown below.

**Note**

Oracle PeopleSoft HRMS application installation was performed in console mode. The following listing shows the procedure captured during the Oracle PeopleSoft HRMS application installation on the application server.

```
[psoft@psft-appl ~]$ cd
/u01/software/HRMS91featurepack-dec2010/V23382-01/Disk1/InstData
[psoft@psft-appl InstData]$ ls -ltr
-rwxrwxrwx 1 psoft oinstall 54824825 Nov 2 2010 setup.linux
-rwxrwxrwx 1 psoft oinstall 97750905 Nov 2 2010 setup.hp
-rwxrwxrwx 1 psoft oinstall 41059115 Nov 2 2010 setup.exe
-rwxrwxrwx 1 psoft oinstall 215945081 Nov 2 2010 setup.aix
-rwxrwxrwx 1 psoft oinstall 9637753 Nov 2 2010 setup.zlinux
-rwxrwxrwx 1 psoft oinstall 149426041 Nov 2 2010 setup.linux
-rwxrwxrwx 1 psoft oinstall 118656889 Nov 2 2010 setup.hp-ia64
-rwxrwxrwx 1 psoft oinstall 595646325 Nov 2 2010 sesourcel.zip
-rwxrwxrwx 1 psoft oinstall 118 Nov 2 2010 MediaId.properties
psoft@psft-appl:/u01/software/HRMS91featurepack-dec2010/V23382-01/Disk1/Inst
Data

[psoft@psft-appl InstData]$ ./setup.linux -i console
Preparing to install...
Extracting the JRE from the installer archive...
Unpacking the JRE...
Extracting the installation resources from the installer archive...
Configuring the installer for this system's environment...
Launching installer...
Preparing CONSOLE Mode Installation...
=====
==
HR                                     (created with InstallAnywhere)
-----
--
=====
==
Welcome
-----
InstallAnywhere will guide you through the installation of PeopleSoft Human
Resources Management System 9.1: FP - Dec 2010 .
PRESS <ENTER> TO CONTINUE:
=====
==
Please enter your PeopleSoft license code []: 117feffff8ffffebfb197c32sm64u
Press 1 for Next, 2 for Previous, 3 to Cancel or 5 to Redisplay [1] :
```

```
=====
==
Please select the Oracle database character set:
  ->1- Non-Unicode Database
      2- Unicode Database
To select an item enter its number, or 0 when you are finished [0] : 2
Please select the Oracle database character set:
  1- Non-Unicode Database
  ->2- Unicode Database
To select an item enter its number, or 0 when you are finished [0] :
Press 1 for Next, 2 for Previous, 3 to Cancel or 5 to Redisplay [1] :
=====
==
For Oracle please select the products to install:
  ->1- PeopleSoft Application Server
  ->2- PeopleSoft Batch Server
  ->3- PeopleSoft Database Server
  ->4- PeopleSoft Web Server

To select an item enter its number, or 0 when you are finished [0] :
Press 1 for Next, 2 for Previous, 3 to Cancel or 5 to Redisplay [1] :
=====
==
Please enter an installation location or press <ENTER> to accept the default
  (DEFAULT: /opt/PT9.1): /u01/psoft/pshome
Press 1 for Next, 2 for Previous, 3 to Cancel or 5 to Redisplay [1] :
=====
==
Please select the features to install:
  ->1- PeopleSoft HR Database
  ->2- PeopleSoft HR Demo Database
  ->3- PeopleSoft Absence Management
  ->4- PeopleSoft Benefits Administration
  ->5- PeopleSoft Candidate Gateway
  ->6- PeopleSoft Currency Conversion
  ->7- PeopleSoft Directory Interface
  ->8- PeopleSoft Enterprise Components
  ->9- PeopleSoft Global Payroll Argentina
  ->10- PeopleSoft Global Payroll Australia
  ->11- PeopleSoft Global Payroll Brazil
  ->12- PeopleSoft Global Payroll China
  ->13- PeopleSoft Global Payroll Core
  ->14- PeopleSoft Global Payroll France
  ->15- PeopleSoft Global Payroll Germany
```

- >16- PeopleSoft Global Payroll Hong Kong
- >17- PeopleSoft Global Payroll India
- >18- PeopleSoft Global Payroll Italy
- >19- PeopleSoft Global Payroll Japan
- >20- PeopleSoft Global Payroll Malaysia
- >21- PeopleSoft Global Payroll Mexico
- >22- PeopleSoft Global Payroll Netherlands
- >23- PeopleSoft Global Payroll New Zealand
- >24- PeopleSoft Global Payroll Singapore
- >25- PeopleSoft Global Payroll Spain
- >26- PeopleSoft Global Payroll Switzerland
- >27- PeopleSoft Global Payroll Thailand
- >28- PeopleSoft Global Payroll UK
- >29- PeopleSoft Global Payroll United States
- >30- PeopleSoft HRMS Portal Pack
- >31- PeopleSoft Human Resources
- >32- PeopleSoft Pay/Bill Management
- >33- PeopleSoft Payroll Interface
- >34- PeopleSoft Payroll Interface for ADP
- >35- PeopleSoft Payroll for North America
- >36- PeopleSoft Pension Administration
- >37- PeopleSoft Recruit Workforce/Ltd TAM
- >38- PeopleSoft Shared Components
- >39- PeopleSoft Stock Administration
- >40- PeopleSoft Succession Planning
- >41- PeopleSoft Talent Acquisition Mgr
- >42- PeopleSoft Time and Labor
- >43- PeopleSoft eBenefits
- >44- PeopleSoft eCompensation
- >45- PeopleSoft eCompensation Mgr Desktop
- >46- PeopleSoft eDevelopment
- >47- PeopleSoft ePay
- >48- PeopleSoft ePerformance
- >49- PeopleSoft eProfile
- >50- PeopleSoft eProfile Manager Desktop

To select an item enter its number, or 0 when you are finished [0] :
Press 1 for Next, 2 for Previous, 3 to Cancel or 5 to Redisplay [1] :

=====
==

Pre-Install Summary

Please review the following before continuing:

HR will be installed in the following location: /u01/psoft/pshome with the following features:

PeopleSoft HR Database
PeopleSoft HR Demo Database
PeopleSoft Absence Management
PeopleSoft Benefits Administration
PeopleSoft Candidate Gateway
PeopleSoft Currency Conversion
PeopleSoft Directory Interface
PeopleSoft Enterprise Components
PeopleSoft Global Payroll Argentina
PeopleSoft Global Payroll Australia
PeopleSoft Global Payroll Brazil
PeopleSoft Global Payroll China
PeopleSoft Global Payroll Core
PeopleSoft Global Payroll France
PeopleSoft Global Payroll Germany
PeopleSoft Global Payroll Hong Kong
PeopleSoft Global Payroll India
PeopleSoft Global Payroll Italy
PeopleSoft Global Payroll Japan
PeopleSoft Global Payroll Malaysia
PeopleSoft Global Payroll Mexico
PRESS <ENTER> TO CONTINUE:
PeopleSoft Global Payroll Netherlands
PeopleSoft Global Payroll New Zealand
PeopleSoft Global Payroll Singapore
PeopleSoft Global Payroll Spain
PeopleSoft Global Payroll Switzerland
PeopleSoft Global Payroll Thailand
PeopleSoft Global Payroll UK
PeopleSoft Global Payroll United States
PeopleSoft HRMS Portal Pack
PeopleSoft Human Resources
PeopleSoft Pay/Bill Management
PeopleSoft Payroll Interface
PeopleSoft Payroll Interface for ADP
PeopleSoft Payroll for North America
PeopleSoft Pension Administration
PeopleSoft Recruit Workforce/Ltd TAM
PeopleSoft Shared Components
PeopleSoft Stock Administration
PeopleSoft Succession Planning

```

PeopleSoft Talent Acquisition Mgr
PeopleSoft Time and Labor
PeopleSoft eBenefits
PRESS <ENTER> TO CONTINUE:
PeopleSoft eCompensation
PeopleSoft eCompensation Mgr Desktop
PeopleSoft eDevelopment
PeopleSoft ePay
PeopleSoft ePerformance
PeopleSoft eProfile
PeopleSoft eProfile Manager Desktop
The following PeopleSoft Servers were selected by you:
PeopleSoft Application Server
PeopleSoft Batch Server
PeopleSoft Database Server
PeopleSoft Web Server
Database type: Oracle

Press 1 for Next, 2 for Previous, 3 to Cancel or 5 to Redisplay [1] :
=====
=
Installing...
-----

[=====|=====|=====|=====]
[-----|-----|-----|-----]
=====
==
Installation Complete
-----

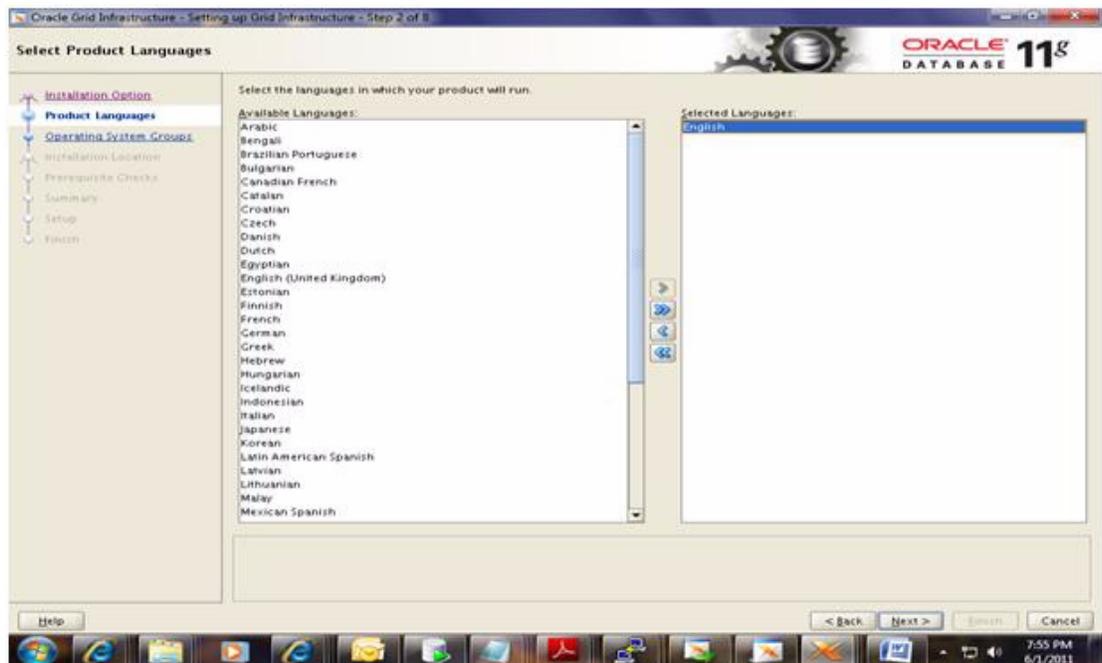
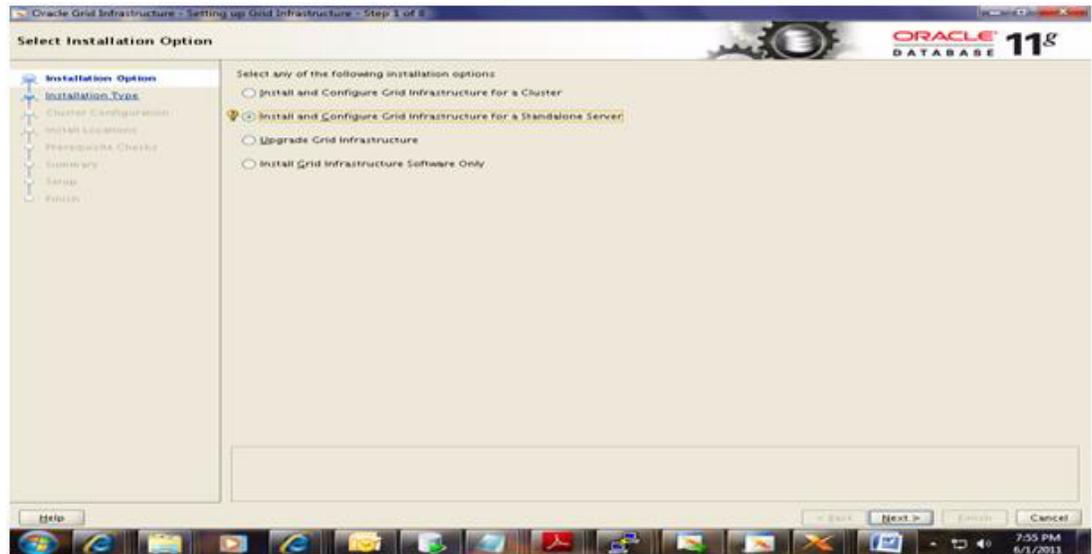
Congratulations. PeopleSoft Human Resources Management System 9.1: FP - Dec
2010 has been successfully installed to:
    /u01/psoft/pshome
PRESS <ENTER> TO EXIT THE INSTALLER:
psft@psft-appl:/u01/software/HRMS91featurepack-dec2010/V23382-01/Disk1/Inst
Data
[psft@psft-appl InstData]$ exit
exit

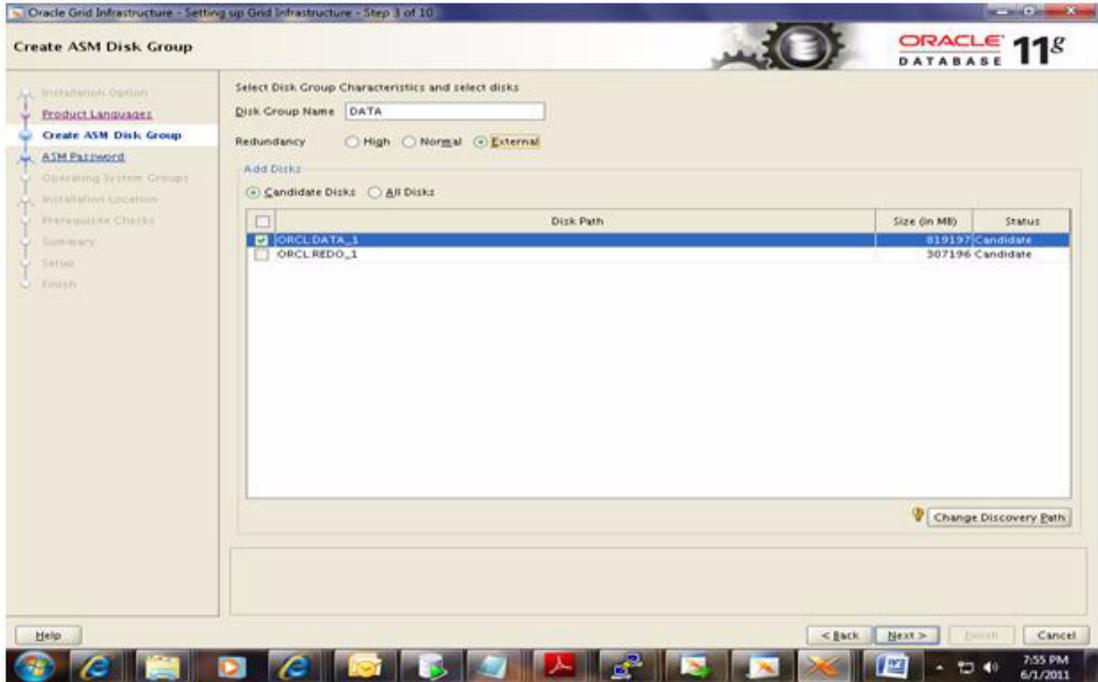
```

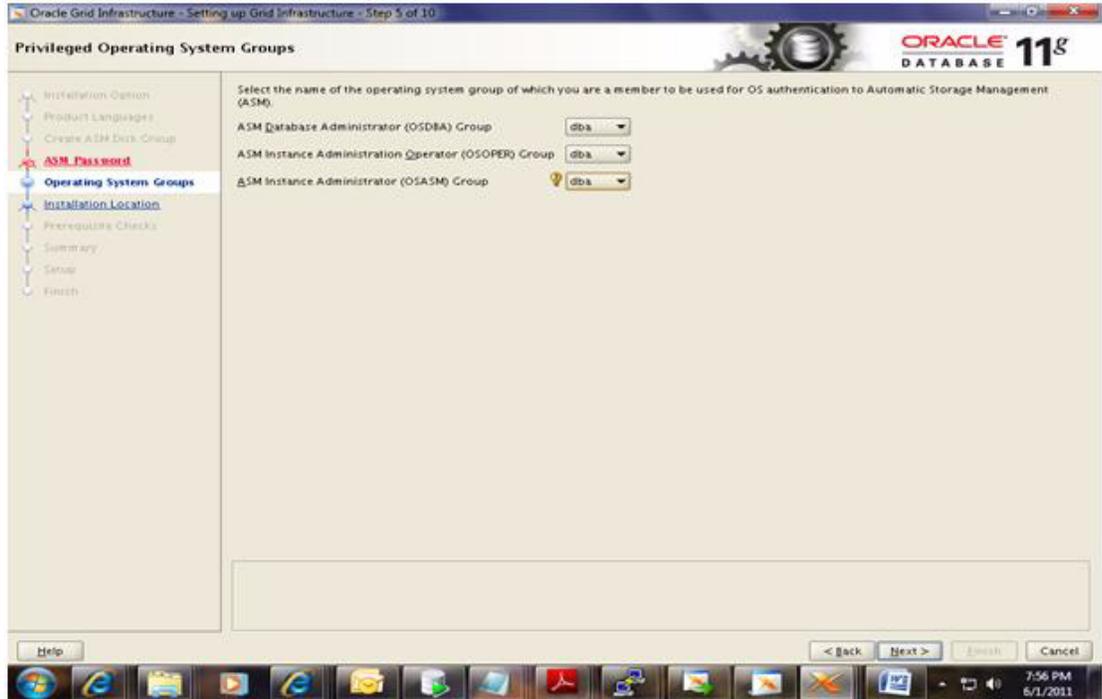
Oracle PeopleSoft Database Server Installation

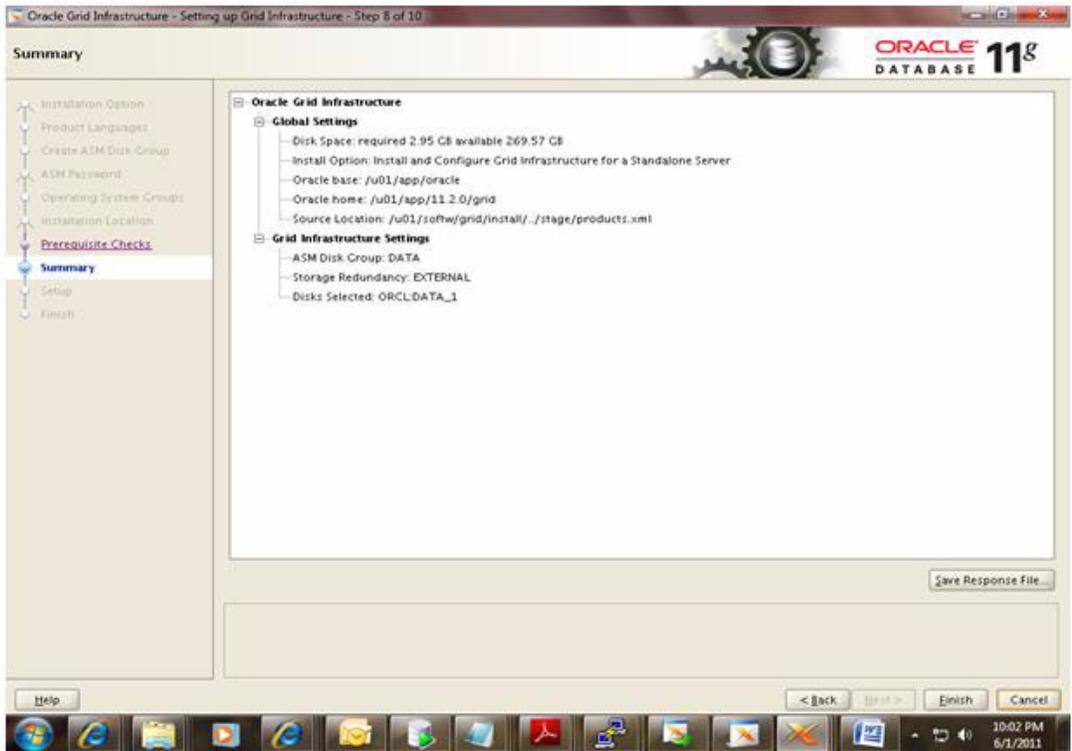
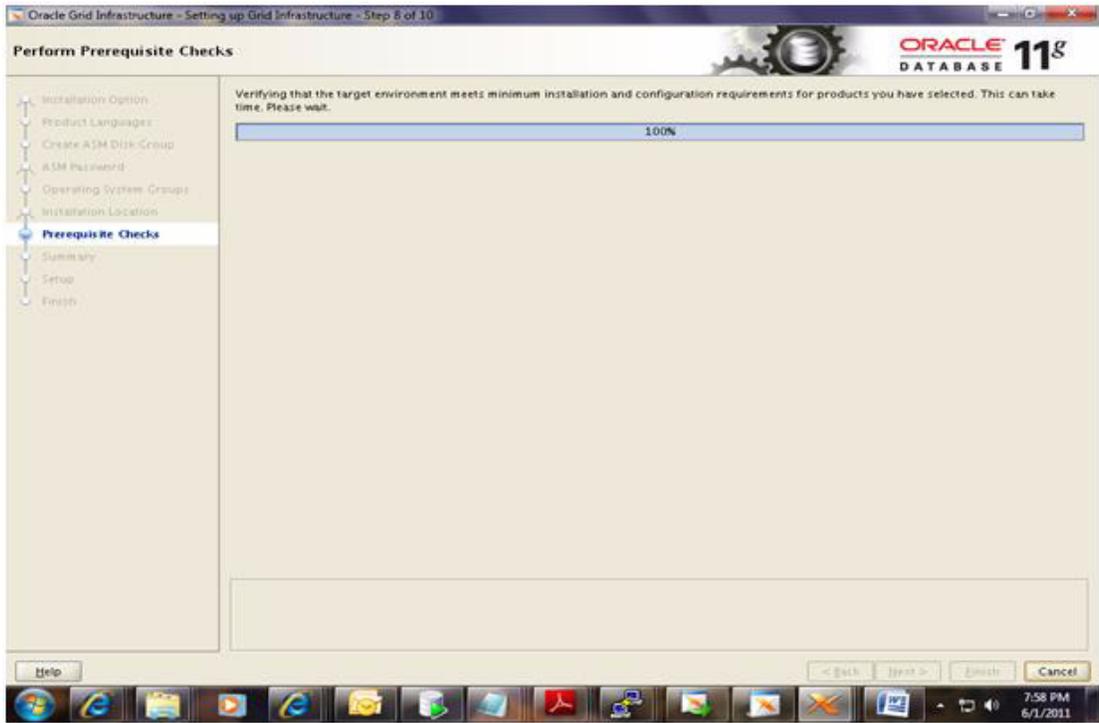
Installing Oracle 11g r2 (11.2.0.1.0) Software Binaries on the Database Server

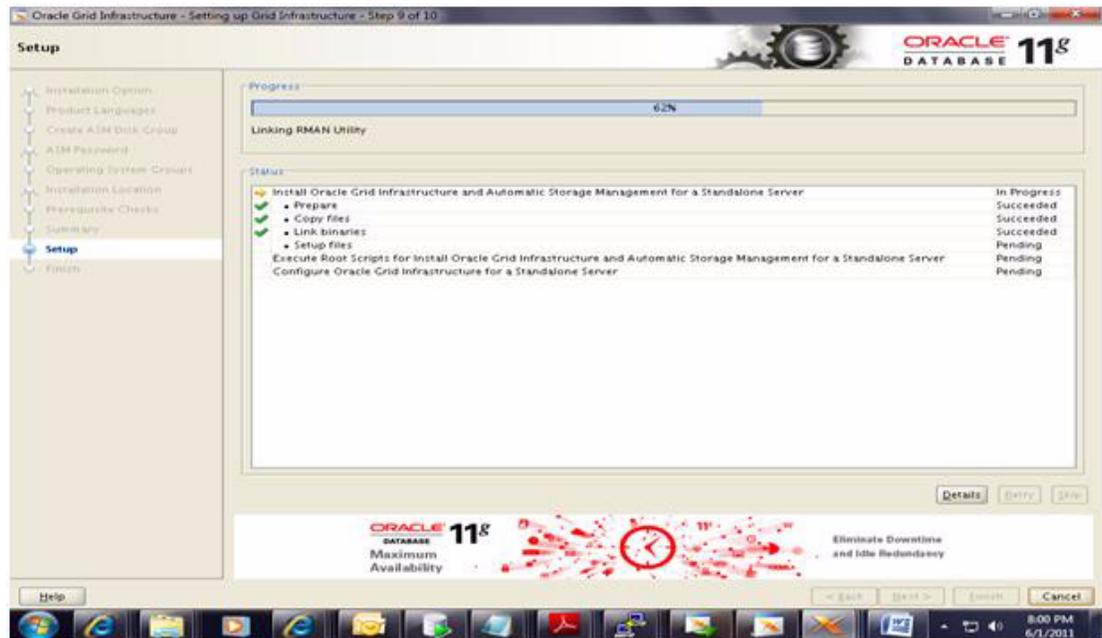
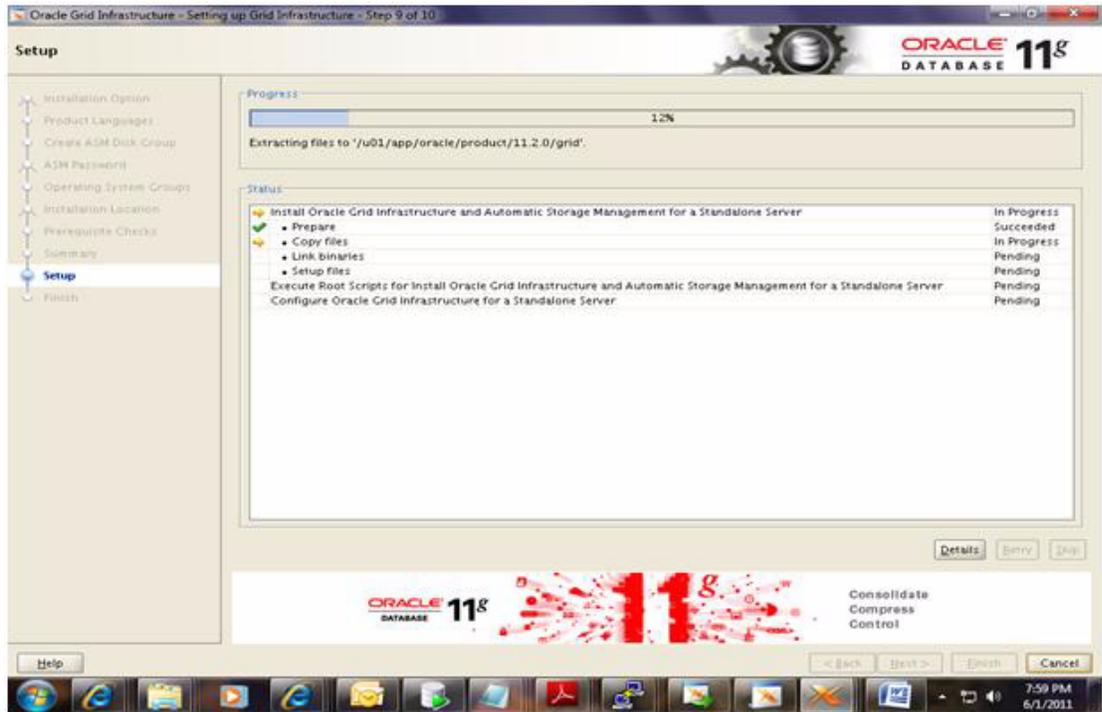
Log in as the oracle user and install the Oracle 11gr2 database server software as shown on the following screens. The screens and procedures cover the installation of both Oracle Automatic Storage Management (ASM) and Oracle server binaries.

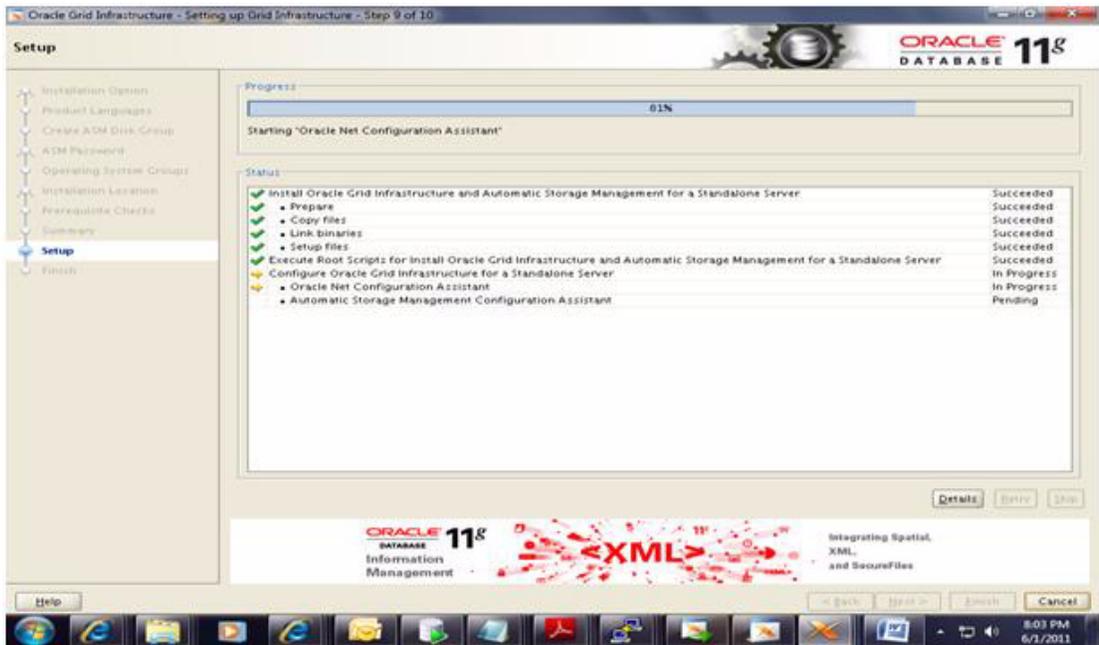
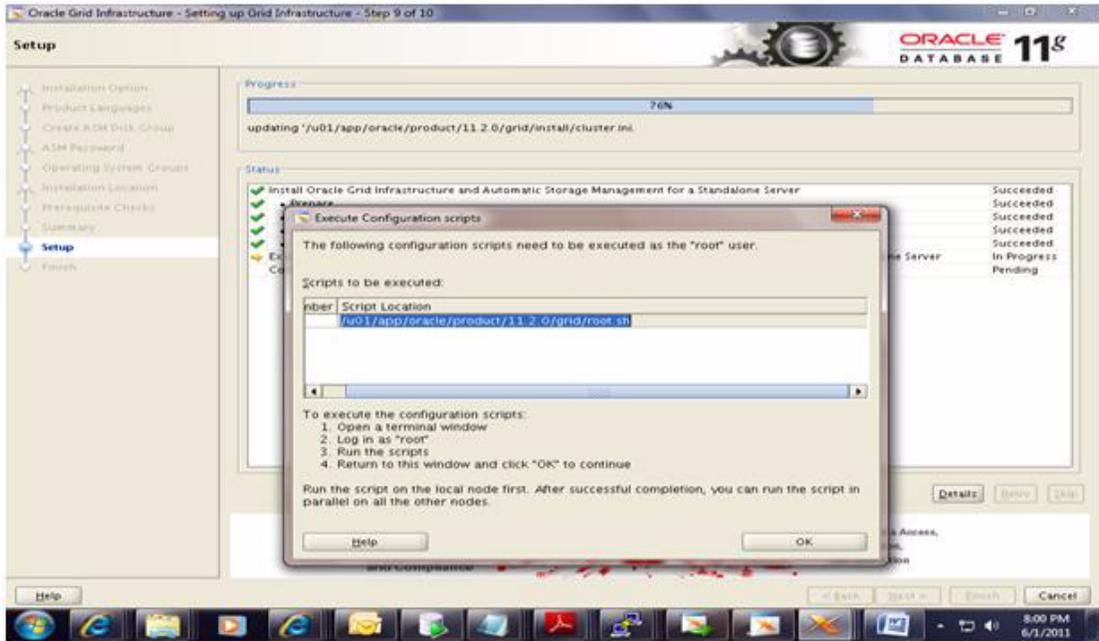


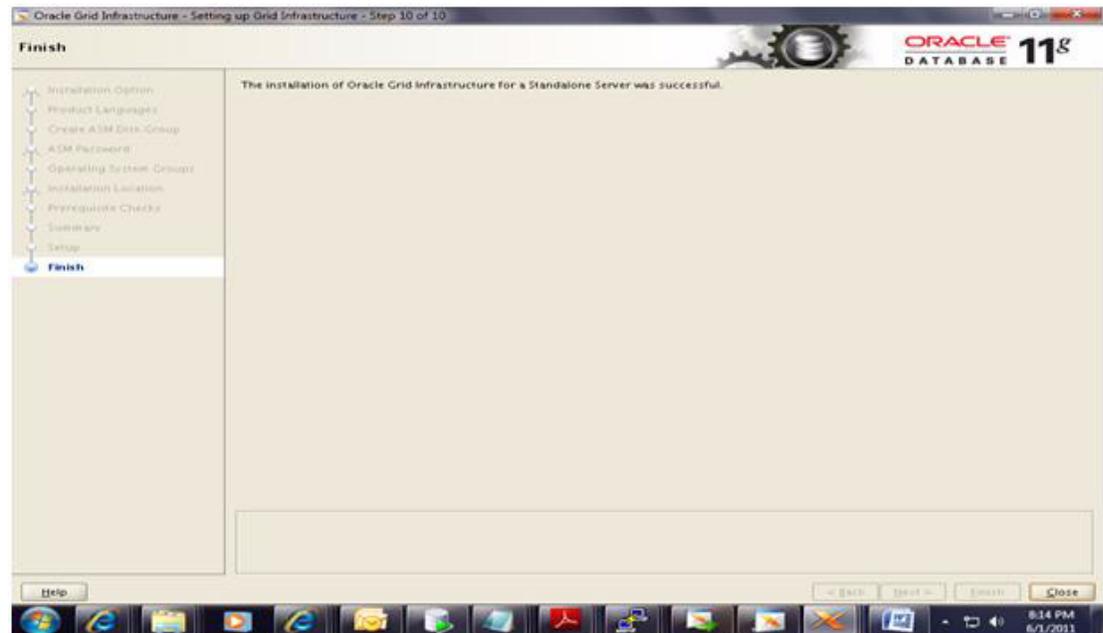
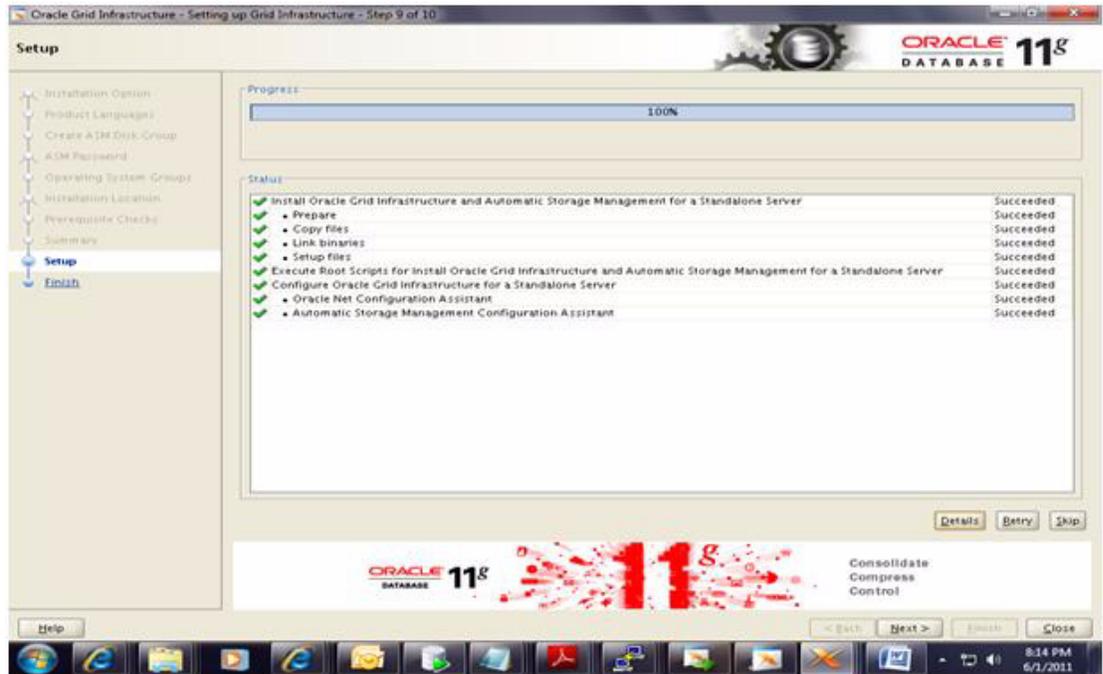




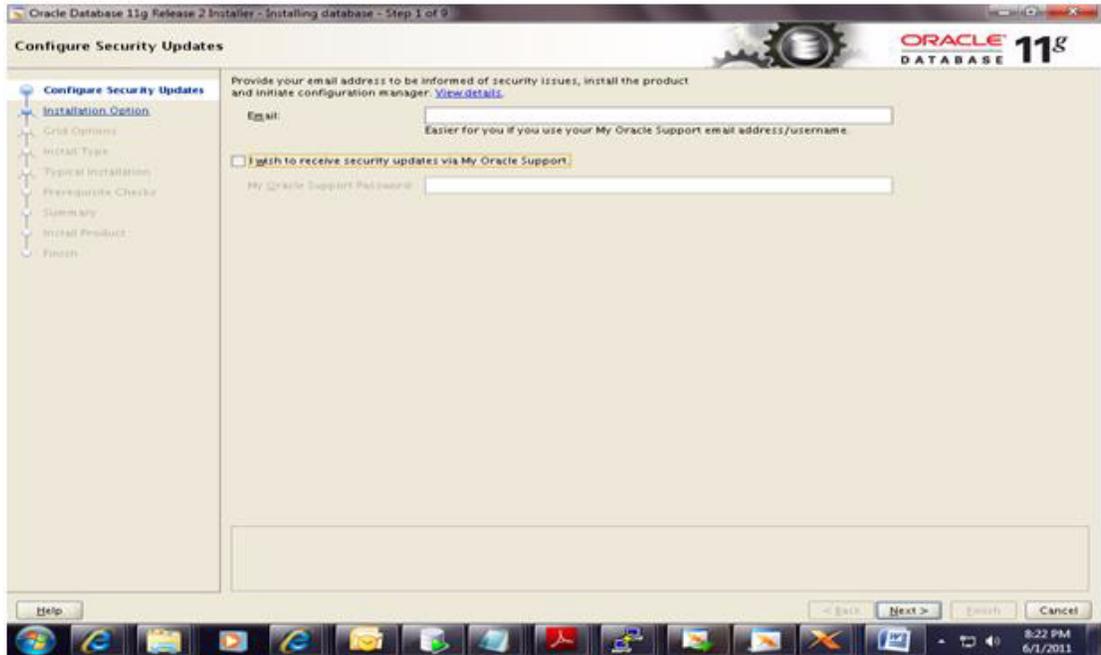


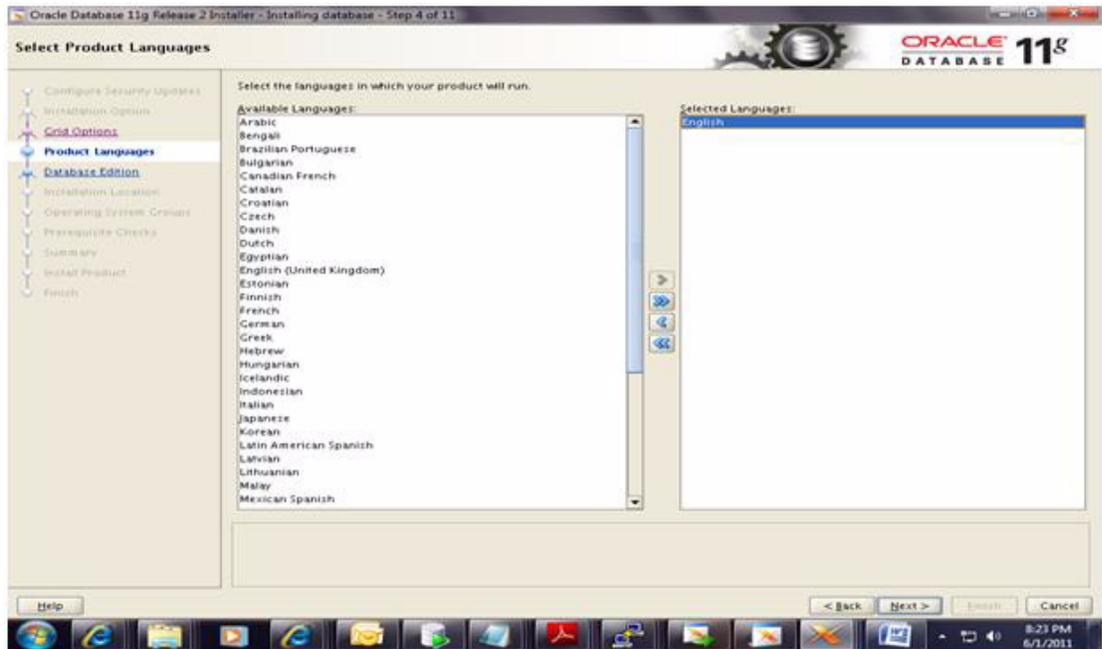
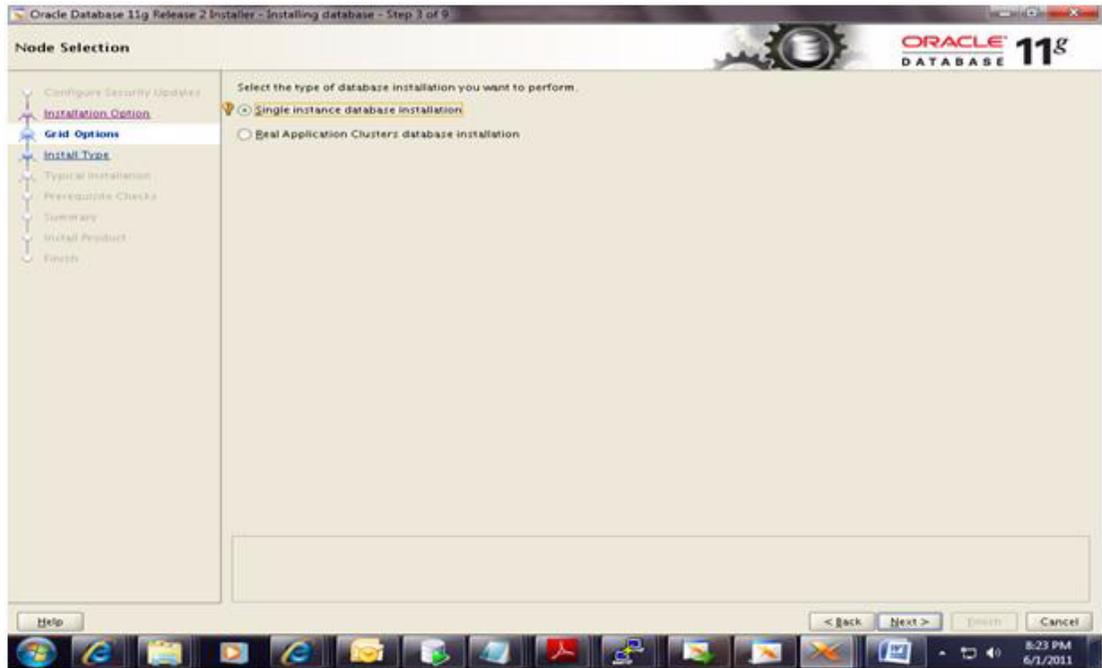


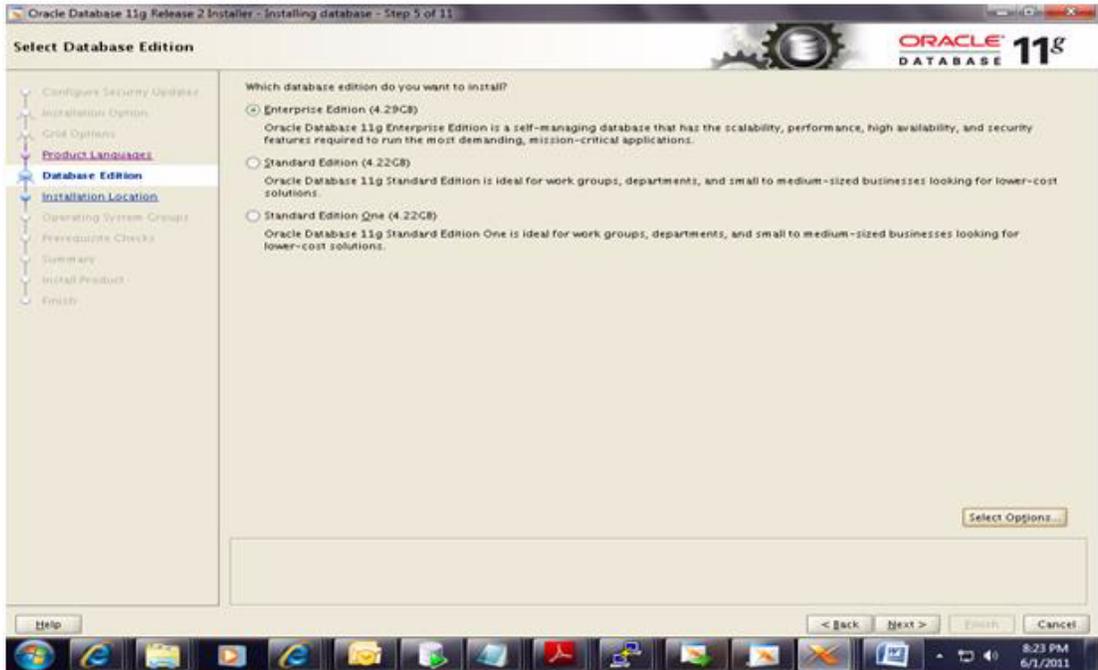


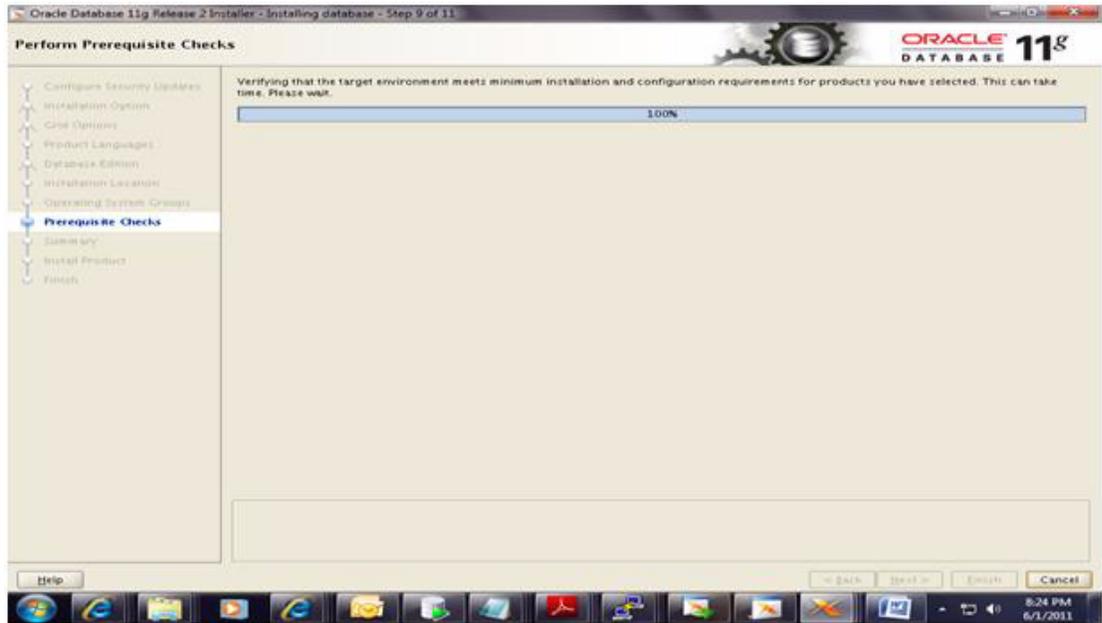


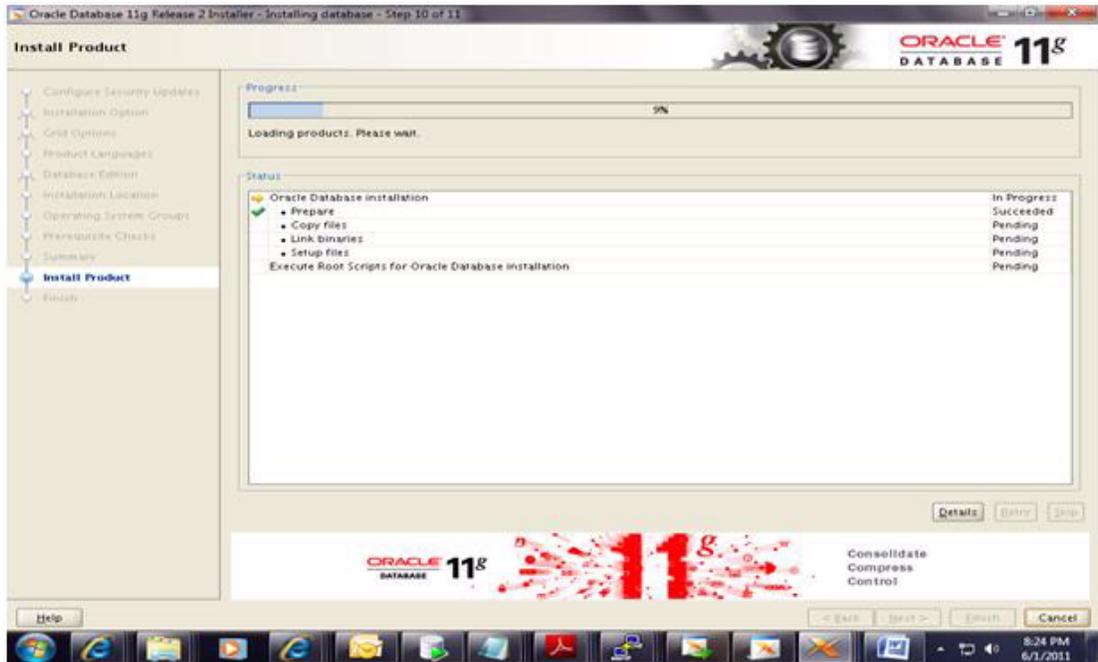
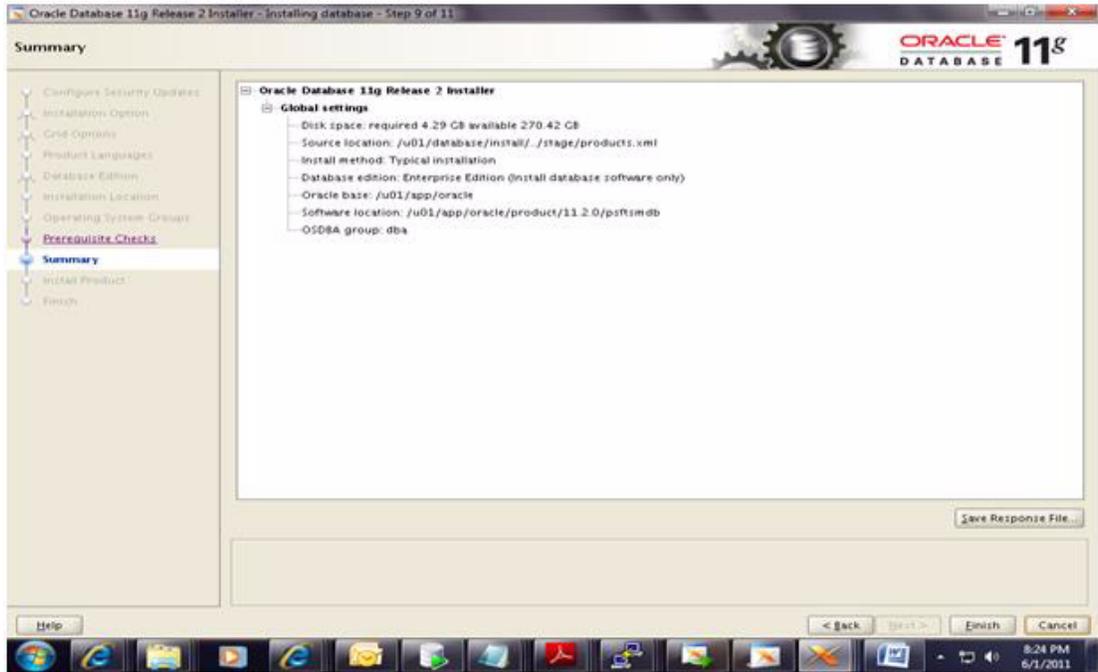
Database Binaries Installation

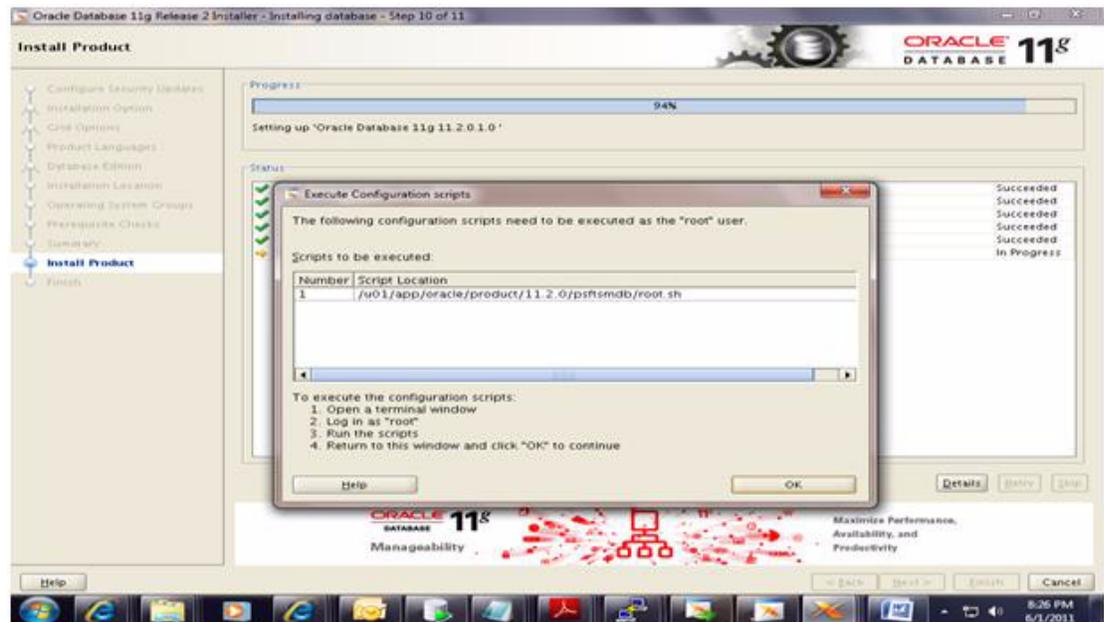
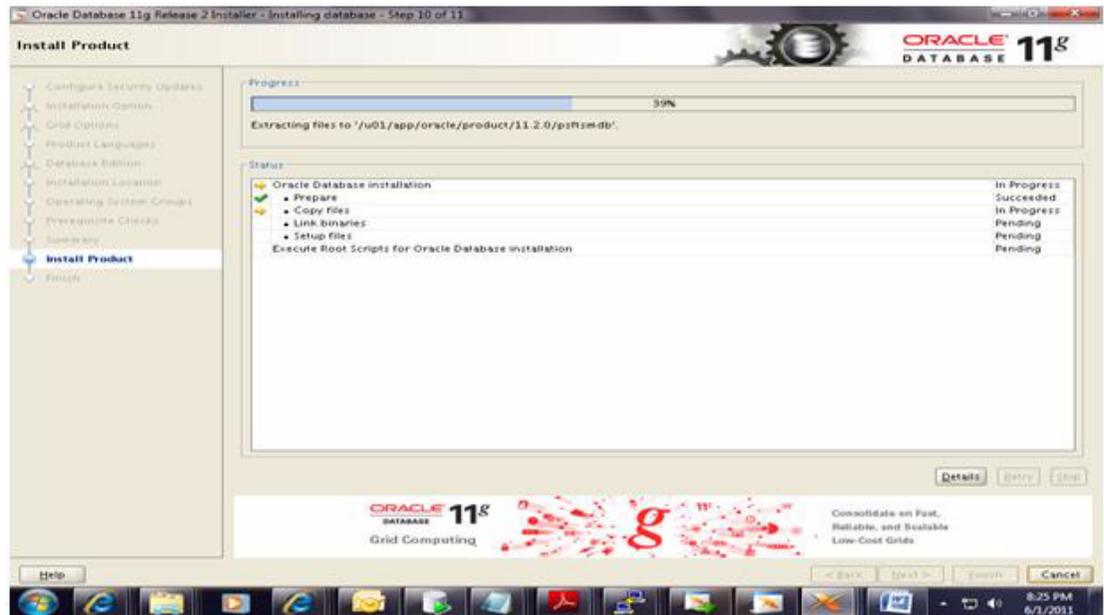


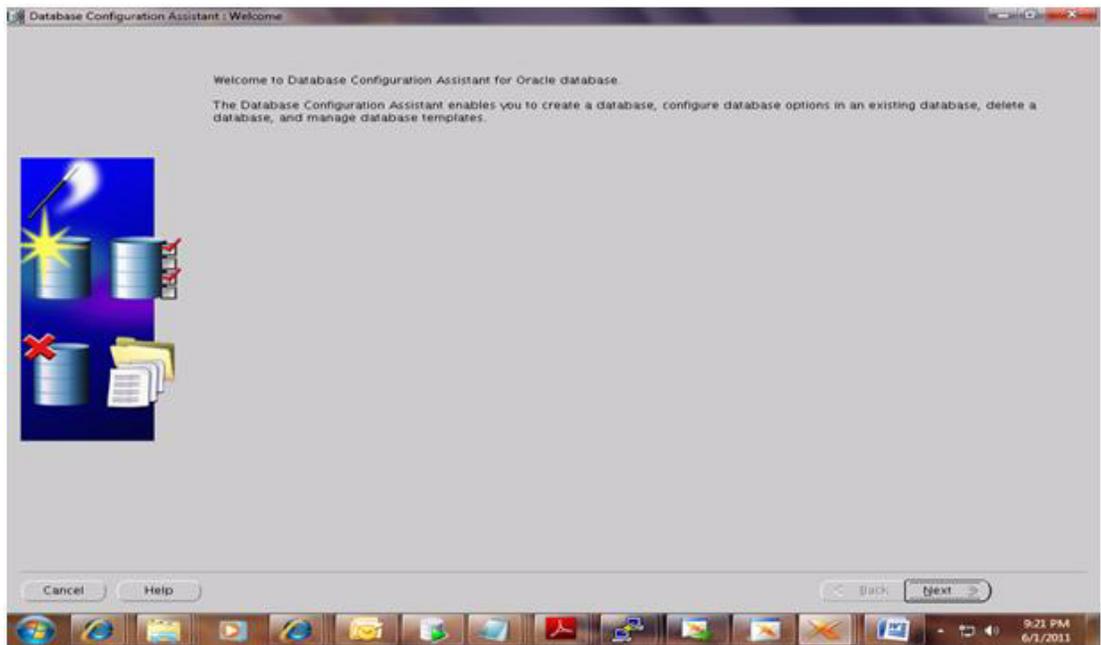
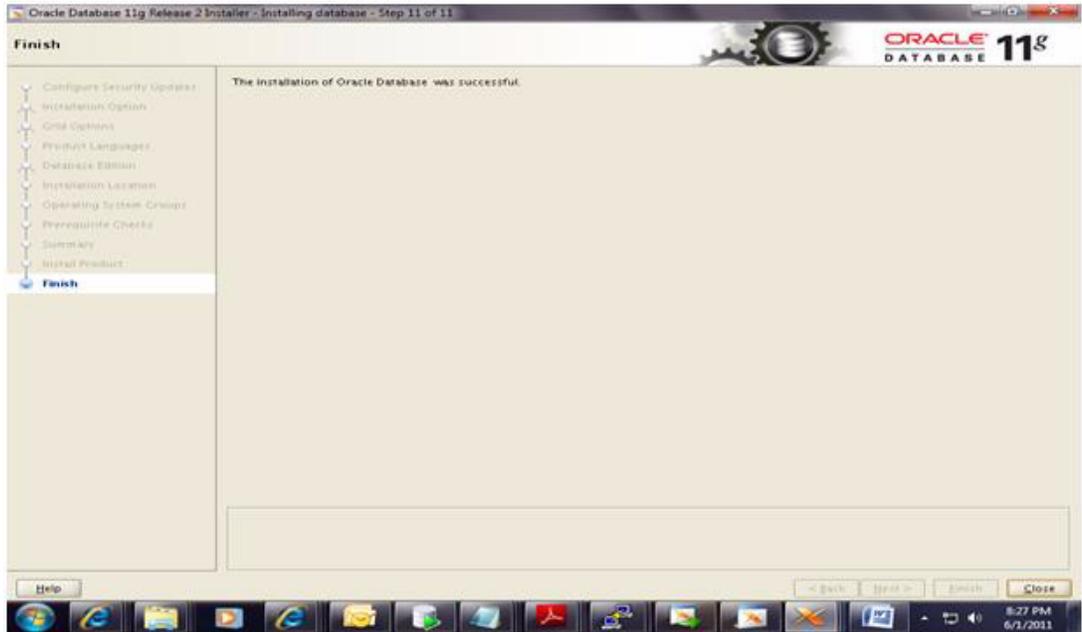


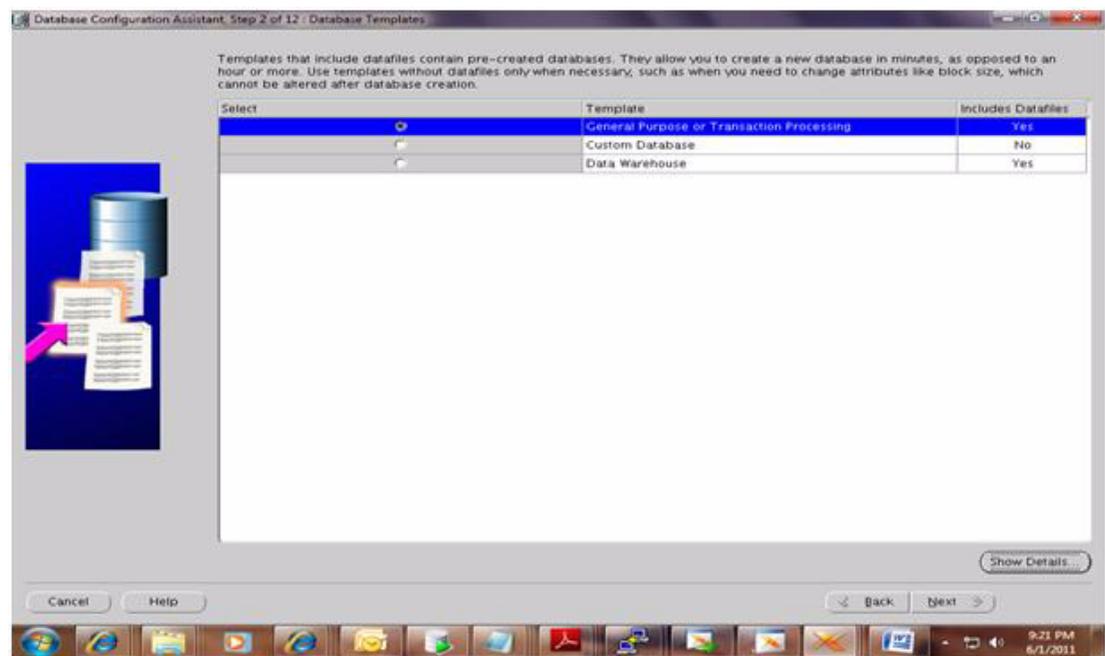
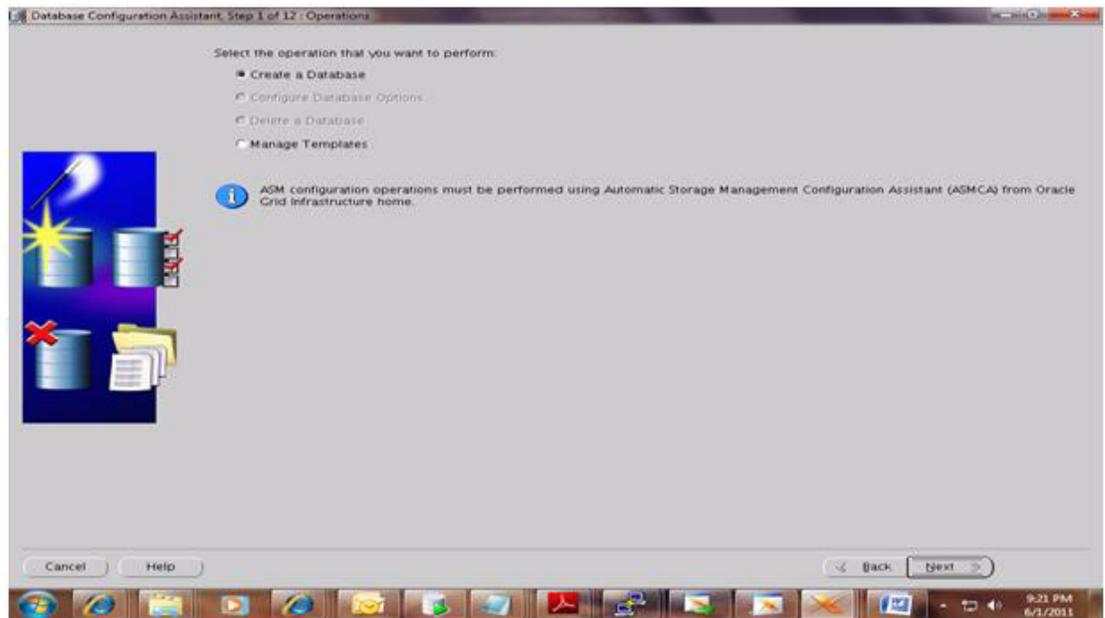


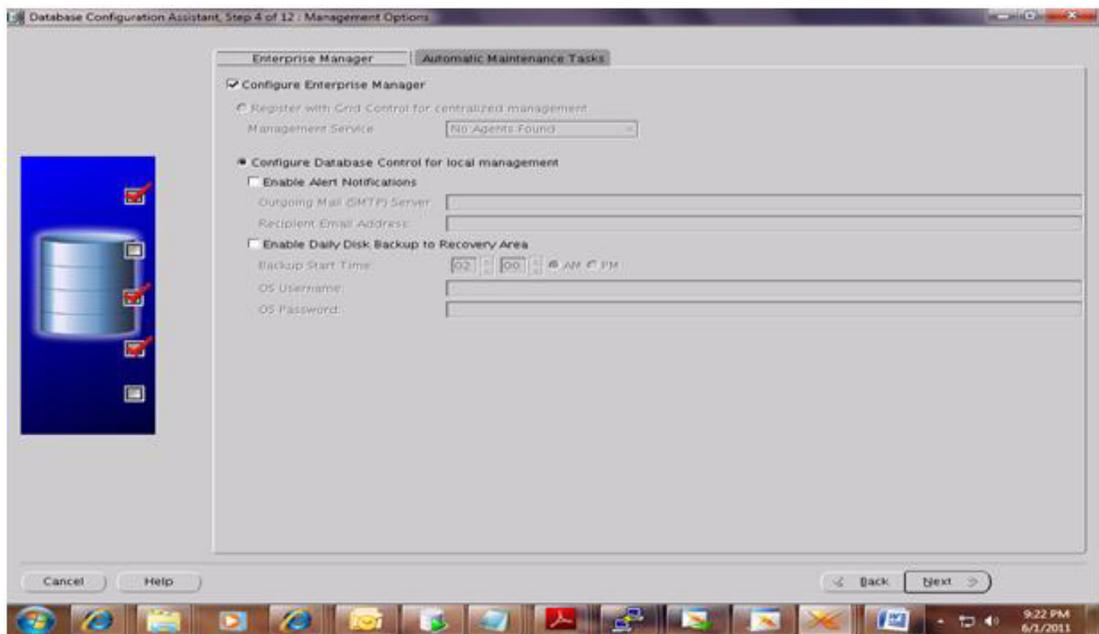
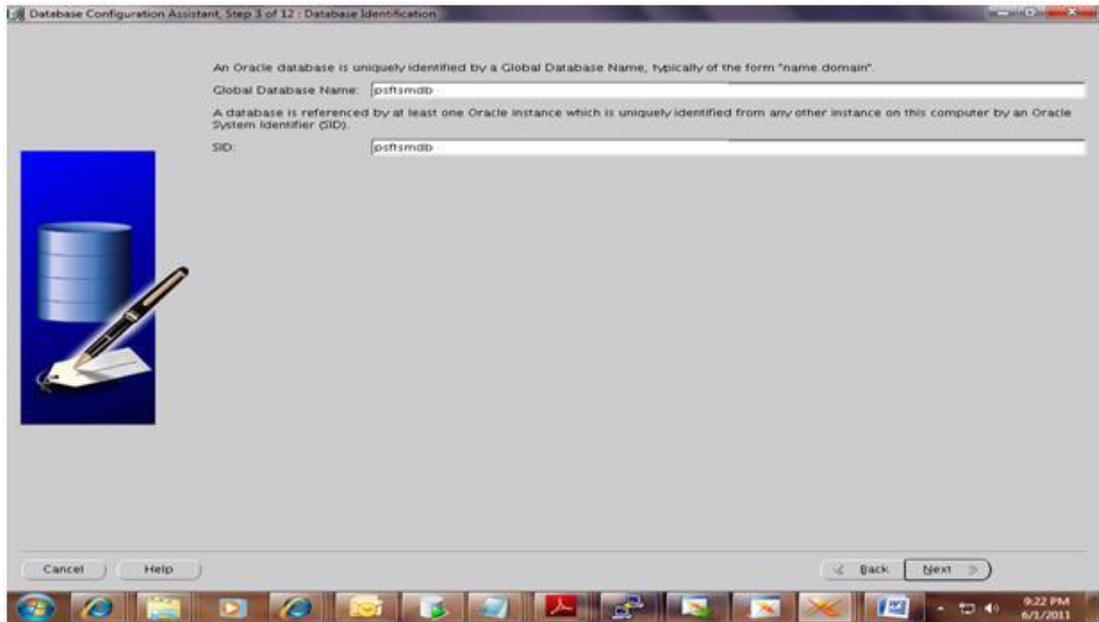


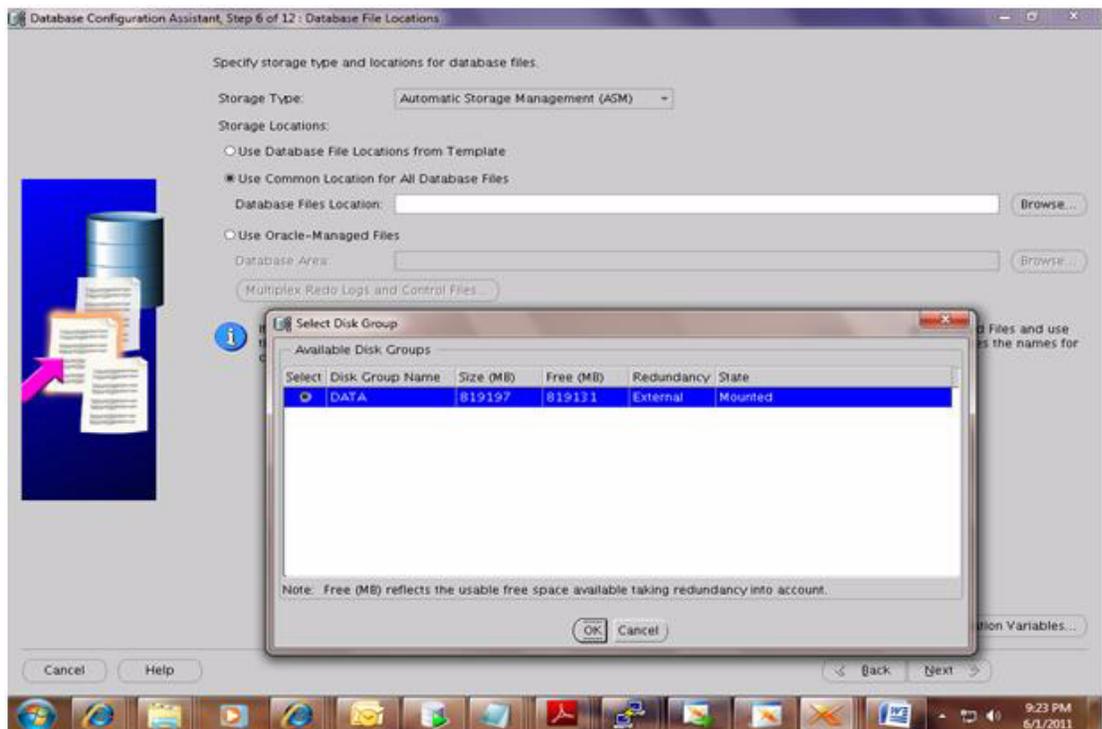
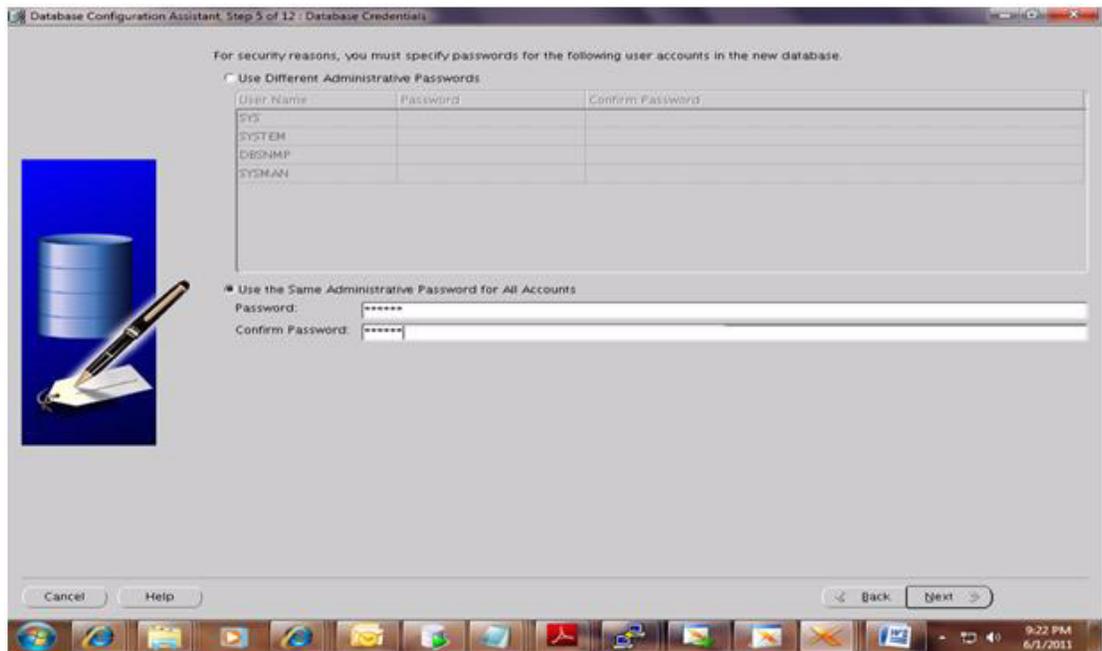


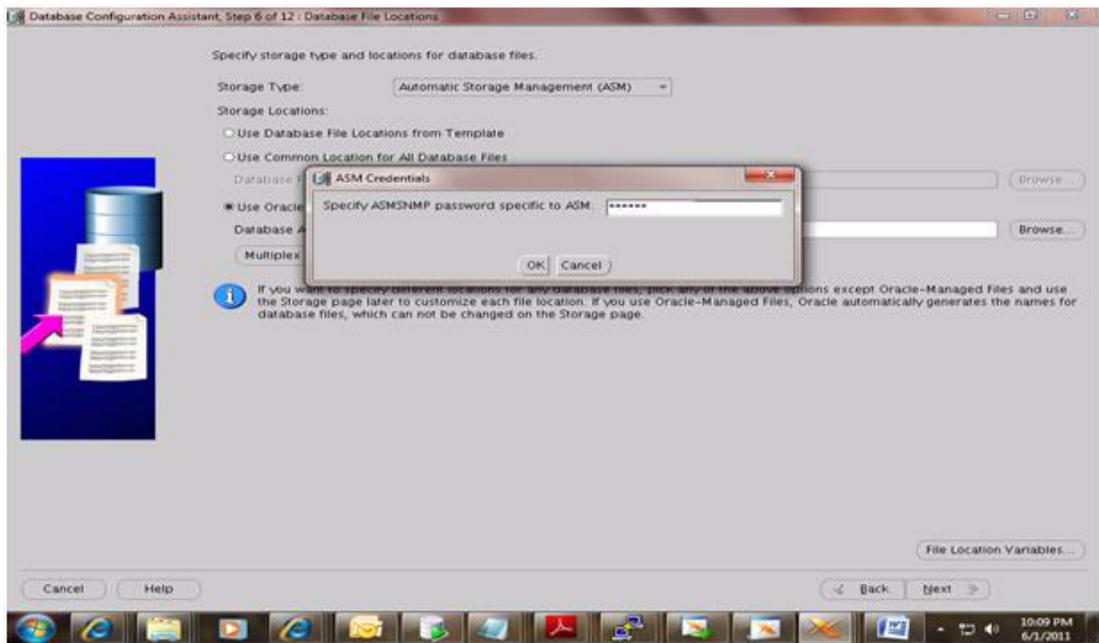
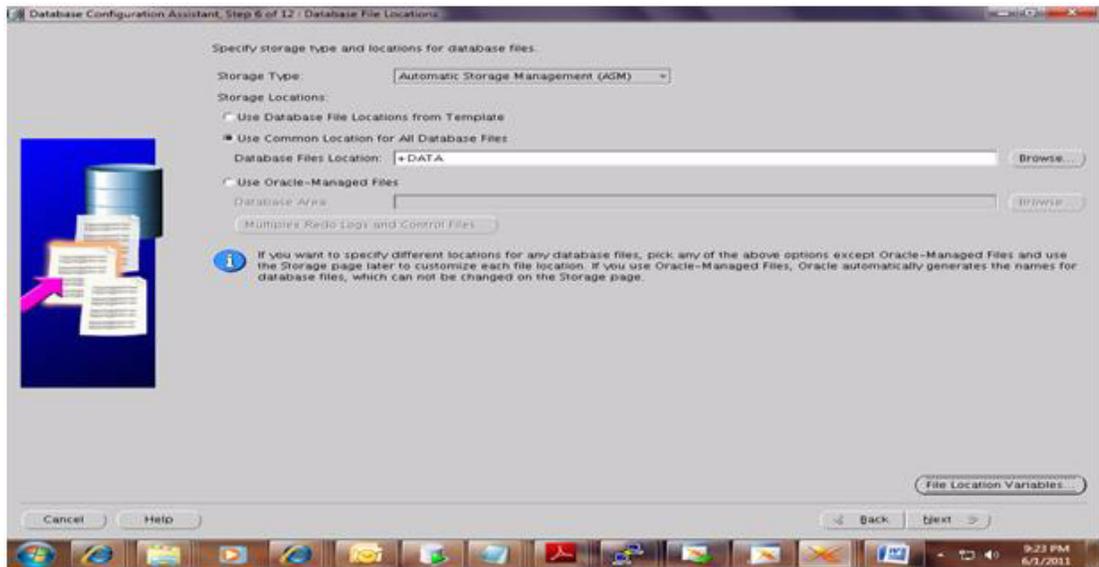


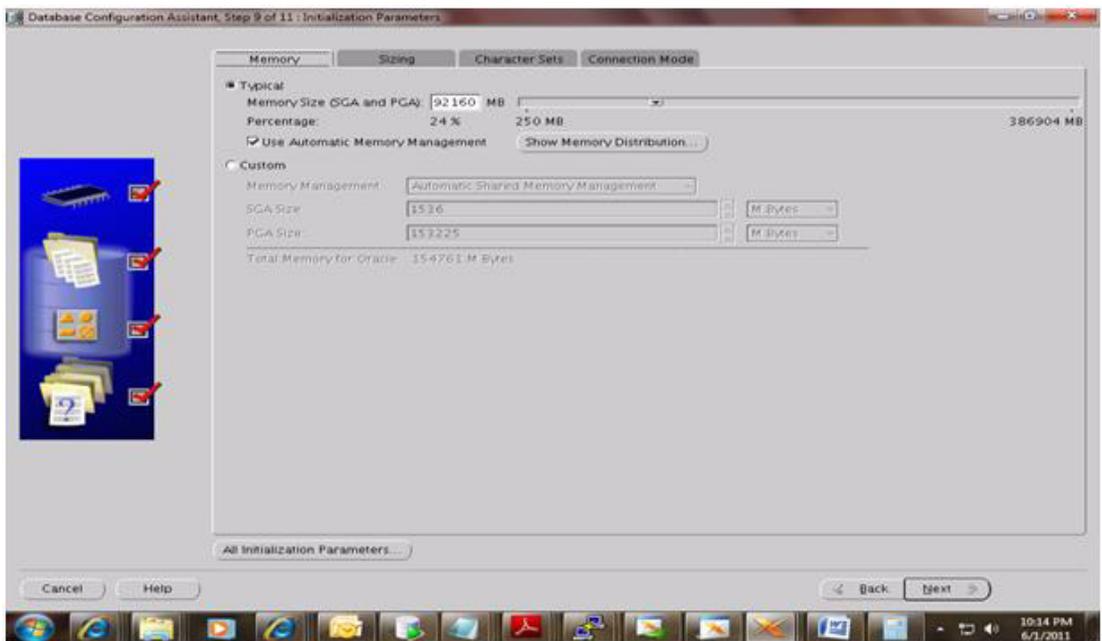
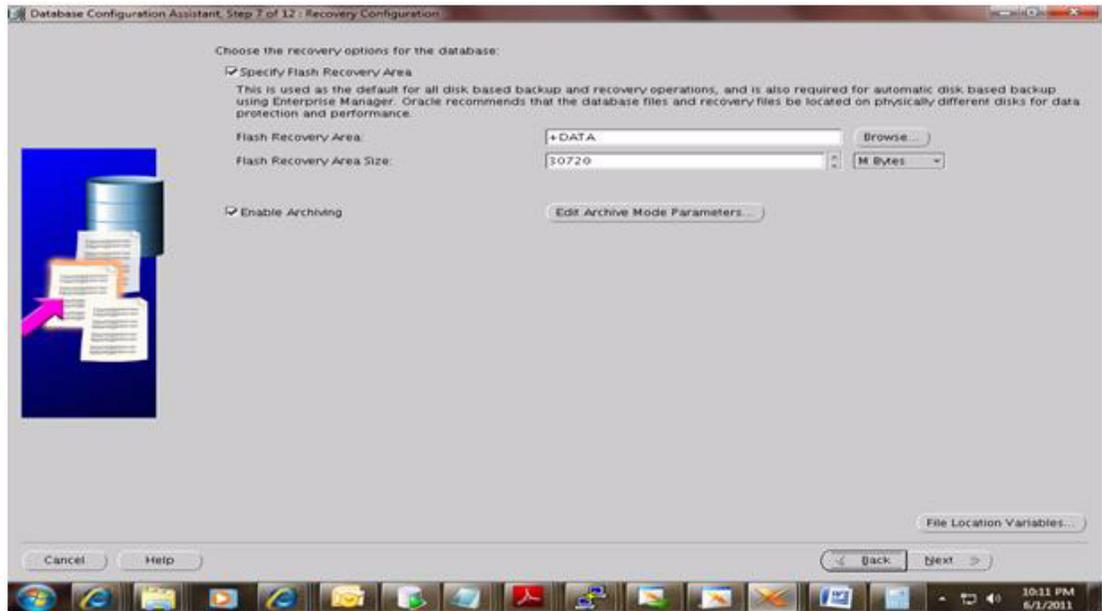


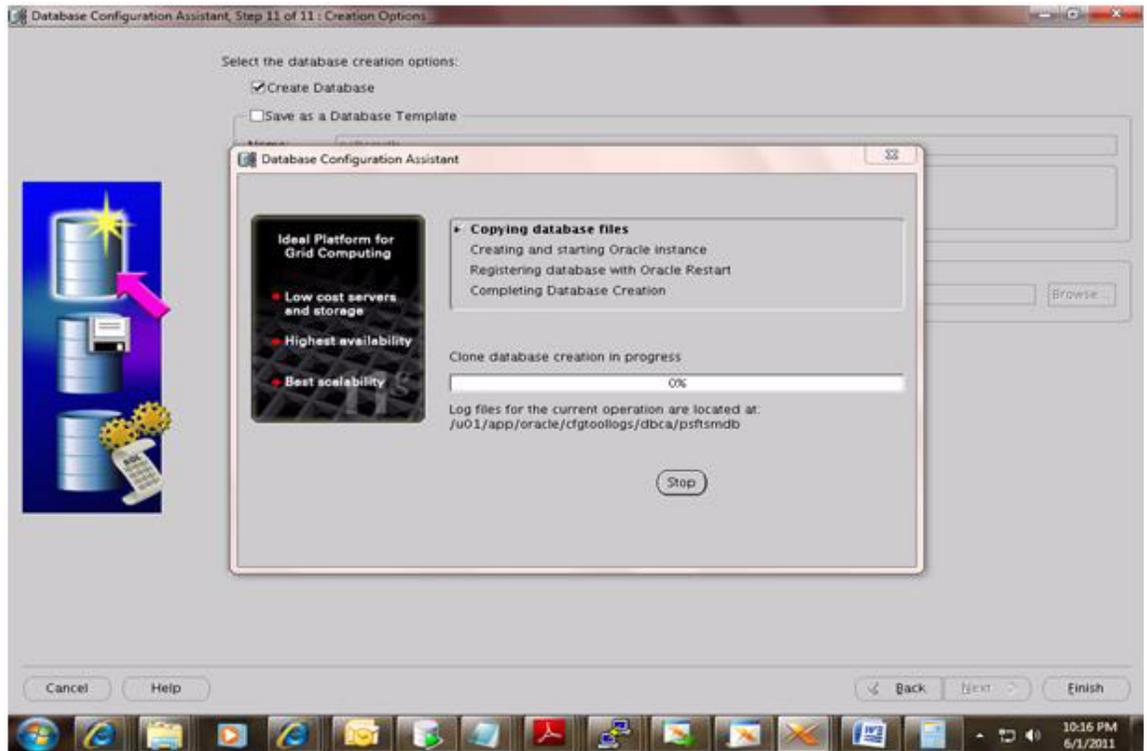
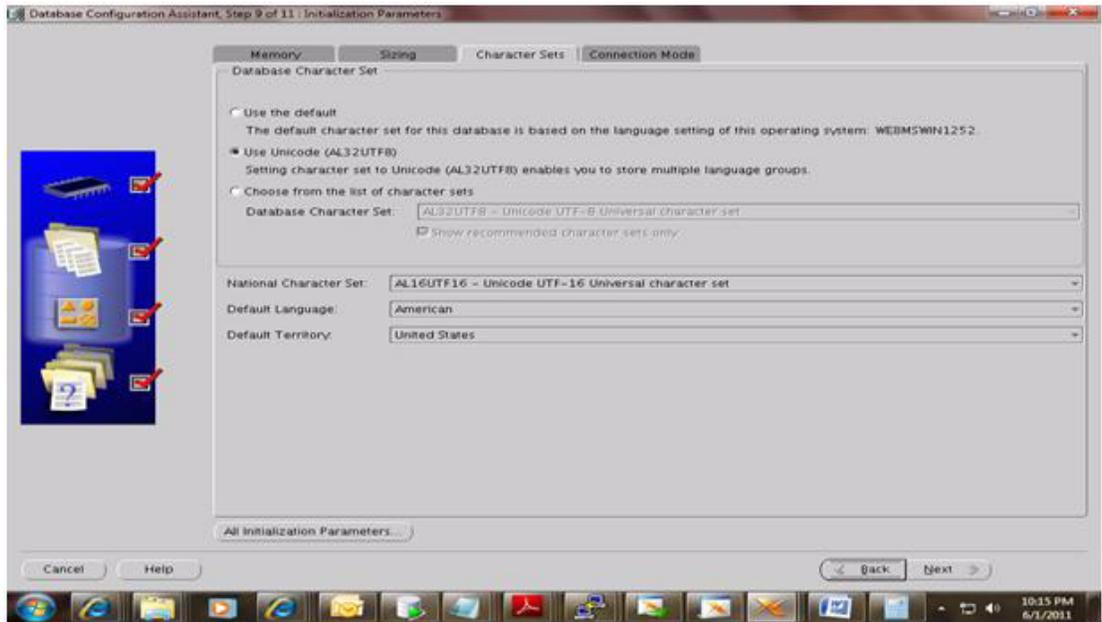


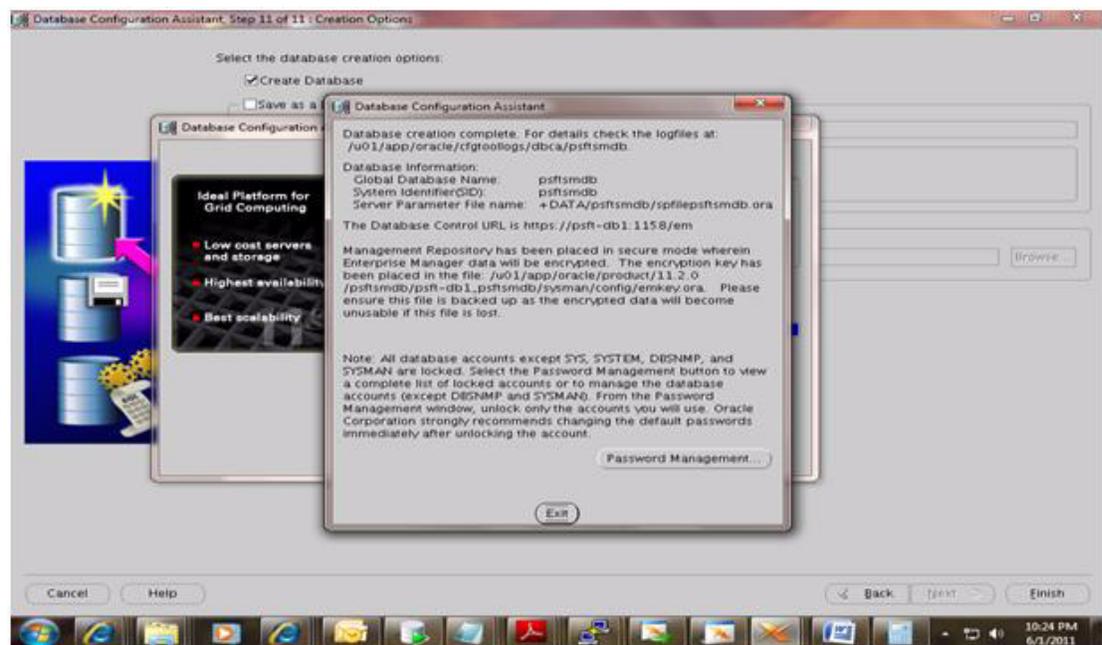
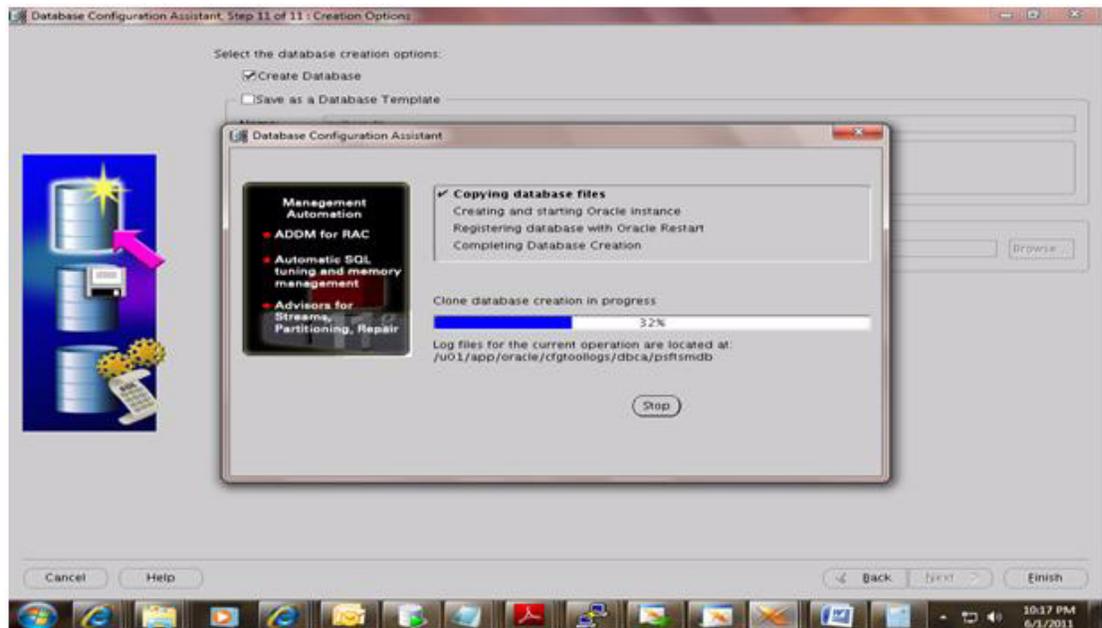












Oracle Tuxedo Installation on the Database Server

Log in to the Oracle PeopleSoft database server box as **psft** and follow the installation procedure shown below.

**Note**

Oracle Tuxedo installation was performed in console mode. The following listing shows the procedure captured during the Oracle Tuxedo installation on the Database Server.

```
[psoft@psft-appl ~]$ cd /u01/software/Tuxedo10gR3-linux
[psoft@psft-appl Tuxedo10gR3-linux]$ ls -ltr
total 83468
[psoft@psft-appl Tuxedo10gR3-linux]$ ./tuxedo10gR3_64_Linux_01_x86.bin -i
console
Preparing to install...
Extracting the JRE from the installer archive...
Unpacking the JRE...
Extracting the installation resources from the installer archive...
Configuring the installer for this system's environment...
Launching installer...
Preparing CONSOLE Mode Installation...
=====
==
Choose Locale...
-----
->1- English
CHOOSE LOCALE BY NUMBER:
=====
==
Tuxedo 10gR3                      (created with InstallAnywhere by Macrovision)
-----
--
=====
==
Introduction
-----
InstallAnywhere will guide you through the Tuxedo 10gR3 installation.
It is strongly recommended that you quit all programs before continuing with
this installation.
Enter "next" to proceed to the next screen. Enter "back" to modify the previous
screen.
You may cancel this installation at any time by typing "quit".
WARNING: "Quitting" creates an incomplete Tuxedo 10gR3 installation. You must
re-install Tuxedo 10gR3. For more information, see "Preparing to Install the
Oracle Tuxedo System" in the Tuxedo 10gR3 Installation Guide.
PRESS <ENTER> TO CONTINUE:
=====
==
Choose Install Set
-----
```

Please choose the Install Set to be installed by this installer.

- >1- Full Install
- 2- Server Install
- 3- Full Client Install
- 4- Jolt Client Install
- 5- ATMI Client Install
- 6- CORBA Client Install
- 7- Customize...

ENTER THE NUMBER FOR THE INSTALL SET, OR PRESS <ENTER> TO ACCEPT THE DEFAULT :

=====

Choose Oracle Home

- 1- Create new Oracle Home
- 2- Use existing Oracle Home

Enter a number:

Enter a number: 1

Specify a new Oracle Home directory: /u01/psoft/bea/tuxedo10gR3

=====

Choose Product Directory

- 1- Modify Current Selection (/u01/psoft/bea/tuxedo10gR3/tuxedo10gR3)
- 2- Use Current Selection (/u01/psoft/bea/tuxedo10gR3/tuxedo10gR3)

Enter a number: 1

Specify Product Installation Directory: /u01/psoft/bea/tuxedo10gR3

Install Samples (Y/N): Y

- 1- Modify Current Selection (/u01/psoft/bea/tuxedo10gR3)
- 2- Use Current Selection (/u01/psoft/bea/tuxedo10gR3)

Enter a number: 2

Install Samples (Y/N): Y

=====

Pre-Installation Summary

Please Review the Following Before Continuing:

Product Name:

Tuxedo 10gR3

Install Folder:

/u01/psoft/bea/tuxedo10gR3

Link Folder:

/home/psoft

Disk Space Information (for Installation Target):

Required: 195,536,693 bytes

Available: 291,352,813,568 bytes

PRESS <ENTER> TO CONTINUE:

=====
 ==

Ready To Install

InstallAnywhere is now ready to install Tuxedo 10gR3 onto your system at the following location:

/u01/psoft/bea/tuxedo10gR3

PRESS <ENTER> TO INSTALL:

=====
 ==

Installing...

[=====|=====|=====|=====]

[-----|-----|-----|-----]

=====
 ==

Configure tlisten Service

Password:

Verify Password:

Password Accepted! Press "Enter" to continue.

=====
 ==

SSL Installation Choice.

Would you like to install SSL Support?

->1- Yes

2- No

ENTER THE NUMBER FOR YOUR CHOICE, OR PRESS <ENTER> TO ACCEPT THE DEFAULT:

: 2

=====
 ==

Installation Complete

Congratulations. Tuxedo 10gR3 has been successfully installed to:

/u01/psoft/bea/tuxedo10gR3

PRESS <ENTER> TO EXIT THE INSTALLER:

Oracle Tuxedo Patch Installation on the Database Server

Log in to the Oracle PeopleSoft database server as psoft and follow the installation procedure shown below.



Note

Oracle Tuxedo patch installation was performed in console mode. The following listing shows the procedure captured during the Oracle Tuxedo patch installation on the Database Server.

```
[psft@psft-app1 ~]$ export TUXDIR=/u01/psft/boa/tuxedo10gr3
[psft@psft-app1 ~]$ echo $TUXDIR
/u01/psft/boa/tuxedo10gr3

[psft@psft-app1 ~]$ echo $ORACLE_HOME
/u01/app/oracle/product/11.2.0/psft
[psft@psft-app1 ~]$ cd
/u01/software/Tuxedo10gr3-RP-linux-x86-64/p12746335_10300_Linux-x86-64/RP065
[psft@psft-app1 RP065]$ ls -ltr
total 10772
-r-xr-xr-- 1 psft oinstall      24347 Jul 23 10:54 uninstall
drwxr-xr-x 4 psft oinstall      4096 Jul 23 10:54 udataobj
-rw-r--r-- 1 psft oinstall      1360 Jul 23 10:54 README.txt
drwx----- 6 psft oinstall      4096 Jul 23 10:54 locale
drwx----- 2 psft oinstall      4096 Jul 23 10:54 lib
-r-xr-xr-- 1 psft oinstall     38729 Jul 23 10:54 install
drwx----- 2 psft oinstall      4096 Jul 23 10:54 bin
-rwxrwxrwx 1 psft oinstall      4399 Sep  6 16:28 releasenotes.txt
-rwxrwxrwx 1 psft oinstall     15715 Sep  6 16:28 README.html
-rwxrwxrwx 1 psft oinstall      9566 Sep  6 16:28 patchlev
-rwxrwxrwx 1 psft oinstall 10842803 Sep  6 16:28 RP065.tar.Z
[psft@psft-app1 RP065]$ ./install
DIR=/u01/software/Tuxedo10gr3-RP-linux-x86-64/p12746335_10300_Linux-x86-64/RP065
rpreleasenote = SUSE LINUX Enterprise Server 10 (x86_64) x86 for AMD64, 64bits Tuxedo
portreleasenotes= SUSE LINUX Enterprise Server 10 (x86_64) x86 for AMD64, 64bits Tuxedo
Installing server and client files...
Enter owner for patch files:
psft
Enter group for patch files:
oinstall
The patch installation finished successfully.
```

Oracle PeopleTools 8.51 Installation on the Database Server

Log in to the Oracle PeopleSoft database server as psoft and follow the installation procedure shown below.



Note

Oracle PeopleTools installation was performed in console mode. The following listing shows the procedure captured during the Oracle PeopleTools installation on the Database Server.

```
[psft@psft-appl ~]$ cd /u01/software/PT851-CDS/cd1/Disk1/InstData
[psft@psft-appl InstData]$ ls -ltr
total 1341968
-rwxrwxrwx 1 psoft oinstall 2459194 Apr 2 2009 emocmutl.jar
-rwxrwxrwx 1 psoft oinstall 37267075 Aug 29 2010 setup.exe
-rwxrwxrwx 1 psoft oinstall 216005302 Aug 29 2010 setup.aix
-rwxrwxrwx 1 psoft oinstall 97811126 Aug 29 2010 setup.hp
-rwxrwxrwx 1 psoft oinstall 54885046 Aug 29 2010 setup.linux
-rwxrwxrwx 1 psoft oinstall 149486262 Aug 29 2010 setup.linux
-rwxrwxrwx 1 psoft oinstall 118717110 Aug 29 2010 setup.hp-ia64
-rwxrwxrwx 1 psoft oinstall 574358435 Aug 29 2010 Resource1.zip
-rwxrwxrwx 1 psoft oinstall 118 Aug 29 2010 MediaId.properties
-rwxrwxrwx 1 psoft oinstall 121731766 Aug 29 2010 setup.zlinux
[psft@psft-appl InstData]$ ./setup.linux -i console
Preparing to install...
Extracting the JRE from the installer archive...
Unpacking the JRE...
Extracting the installation resources from the installer archive...
Configuring the installer for this system's environment...
Launching installer...
Preparing CONSOLE Mode Installation...
=====
==
PeopleTools (created with InstallAnywhere)
-----
--
=====
==
Welcome
-----
InstallAnywhere will guide you through the installation of PeopleTools 8.51.
PRESS <ENTER> TO CONTINUE:
=====
==
Please enter your PeopleSoft license code []: zm7ky3w41m044u863q67okelms7t1f2
Press 1 for Next, 2 for Previous, 3 to Cancel or 5 to Redisplay [1] :
```

```

=====
==
Please select the Oracle database character set:
  ->1- Non-Unicode Database
      2- Unicode Database
To select an item enter its number, or 0 when you are finished [0] : 2
Please select the Oracle database character set:
  1- Non-Unicode Database
  ->2- Unicode Database
To select an item enter its number, or 0 when you are finished [0] :
Press 1 for Next, 2 for Previous, 3 to Cancel or 5 to Redisplay [1] :
=====
==
For Oracle please select the products to install:
  ->1- PeopleSoft Application Server
  ->2- PeopleSoft Batch Server
  ->3- PeopleSoft Database Server
  ->4- PeopleSoft Web Server
To select an item enter its number, or 0 when you are finished [0] :
Press 1 for Next, 2 for Previous, 3 to Cancel or 5 to Redisplay [1] :
=====
==
Please enter an installation location or press <ENTER> to accept the default
      (DEFAULT: /opt/PT8.51): /u01/psoft/pshome
Press 1 for Next, 2 for Previous, 3 to Cancel or 5 to Redisplay [1] :
=====
==
Provide your email address to be informed on security issues, install the
product and initiate configuration manager. Easier for you if you use your My
Oracle Support Email address/User Name. Visit
http://www.oracle.com/support/policies.html for details
Email address/ User Name (DEFAULT: ):
You have not provided an email address
      Do you wish to remain uninformed of critical security issues in your
      configuration. (Y/N): Y
Press 1 for Next, 2 for Previous, 3 to Cancel or 5 to Redisplay [1] :
=====
==
      Please enter the hub machine name: [PSEMHUB]:
      Please enter the hub port number: [80]:
Press 1 for Next, 2 for Previous, 3 to Cancel or 5 to Redisplay [1] :
=====
==
Please select the features to install:

```

```

->1- PeopleTools
->2- PeopleTools System Database
To select an item enter its number, or 0 when you are finished [0] :
Press 1 for Next, 2 for Previous, 3 to Cancel or 5 to Redisplay [1] :
=====
==
Pre-Install Summary
Please review the following before continuing:
PeopleTools will be installed in the following location: /u01/psoft/pshome
with the following features:
PeopleTools
PeopleTools System Database
The following PeopleSoft Servers were selected by you:
PeopleSoft Application Server
PeopleSoft Batch Server
PeopleSoft Database Server
PeopleSoft Web Server
Database type: Oracle
Environment Hub Configuration:
Hub machine name: PSEMHub
Hub port number: 80
Press 1 for Next, 2 for Previous, 3 to Cancel or 5 to Redisplay [1] :
=====
==
Installing...
-----

[=====|=====|=====|=====]
[----- Insert New Media -----]
    Please insert Disk2 or type its location.: /u01/software/PT851-CDS/cd2
-----|-----|-----|----- Insert New Media -----]
    Please insert Disk3 or type its location.: /u01/software/PT851-CDS/cd3
-----]
=====
==
Installation Complete
-----
Congratulations. PeopleTools has been successfully installed to:
    /u01/psoft/pshome
PRESS <ENTER> TO EXIT THE INSTALLER:

```

Oracle PeopleTools 8.51.11 Patch Installation on the Database Server

Log in to the Oracle PeopleSoft database server as psoft and follow the installation procedure shown below.



Note

Oracle PeopleTools patch installation was performed in console mode. The following listing shows the procedure captured during the Oracle PeopleTools patch installation on the Database Server.

```
[psoft@psft-app1 ~]$ cd /u01/software/85111-PATCH/cd85111/Disk1/InstData
[psoft@psft-app1 InstData]$ ls -ltr
total 1383984
-rwxrwxrwx 1 psoft oinstall  2459194 Apr  2  2009 emocmutl.jar
-rwxrwxrwx 1 psoft oinstall  37170092 Jun 30 12:09 setup.exe
-rwxrwxrwx 1 psoft oinstall 215908880 Jun 30 12:09 setup.aix
-rwxrwxrwx 1 psoft oinstall  97714704 Jun 30 12:09 setup.hp
-rwxrwxrwx 1 psoft oinstall  54788624 Jun 30 12:09 setup.linux
-rwxrwxrwx 1 psoft oinstall 149389840 Jun 30 12:09 setup.linux
-rwxrwxrwx 1 psoft oinstall 118620688 Jun 30 12:09 setup.hp-ia64
-rwxrwxrwx 1 psoft oinstall 618007113 Jun 30 12:09 Resource1.zip
-rwxrwxrwx 1 psoft oinstall      118 Jun 30 12:09 MediaId.properties
-rwxrwxrwx 1 psoft oinstall 121635344 Jun 30 12:09 setup.zlinux

[psoft@psft-app1 InstData]$ ./setup.linux -i console
Preparing to install...
Extracting the JRE from the installer archive...
Unpacking the JRE...
Extracting the installation resources from the installer archive...
Configuring the installer for this system's environment...

Launching installer...
Preparing CONSOLE Mode Installation...
=====
==
PeopleTools                                     (created with InstallAnywhere)
-----
--
=====
==
Welcome
-----
InstallAnywhere will guide you through the installation of PeopleTools 8.51.11.
PRESS <ENTER> TO CONTINUE:
=====
==
```

```

Please enter your PeopleSoft license code []: zm7ky3w41m044u863q67okelms7t1f2
Press 1 for Next, 2 for Previous, 3 to Cancel or 5 to Redisplay [1] :
=====
==
Please select the Oracle database character set:
->1- Non-Unicode Database
   2- Unicode Database
To select an item enter its number, or 0 when you are finished [0] : 2
Please select the Oracle database character set:
   1- Non-Unicode Database
->2- Unicode Database
To select an item enter its number, or 0 when you are finished [0] :
Press 1 for Next, 2 for Previous, 3 to Cancel or 5 to Redisplay [1] :
=====
==
For Oracle please select the products to install:
->1- PeopleSoft Application Server
->2- PeopleSoft Batch Server
->3- PeopleSoft Database Server
->4- PeopleSoft Web Server
To select an item enter its number, or 0 when you are finished [0] :
Press 1 for Next, 2 for Previous, 3 to Cancel or 5 to Redisplay [1] :
=====
==
Please enter an installation location or press <ENTER> to accept the default
(DEFAULT: /opt/PT8.51.11): /u01/psoft/pshome
Press 1 for Next, 2 for Previous, 3 to Cancel or 5 to Redisplay [1] :
=====
==
Provide your email address to be informed on security issues, install the
product and initiate configuration manager. Easier for you if you use your My
Oracle Support Email address/User Name. Visit
http://www.oracle.com/support/policies.html for details
Email address/ User Name (DEFAULT: ):
You have not provided an email address
Do you wish to remain uninformed of critical security issues in your
configuration. (Y/N): Y
Press 1 for Next, 2 for Previous, 3 to Cancel or 5 to Redisplay [1] :
=====
==
Please select the features to install:
->1- PeopleTools
->2- PeopleTools System Database
To select an item enter its number, or 0 when you are finished [0] :

```

```

Press 1 for Next, 2 for Previous, 3 to Cancel or 5 to Redisplay [1] :
=====
==
Pre-Install Summary
Please review the following before continuing:
PeopleTools will be installed in the following location: /u01/psoft/pshome with
the following features:
PeopleTools
PeopleTools System Database
The following PeopleSoft Servers were selected by you:
PeopleSoft Application Server
PeopleSoft Batch Server
PeopleSoft Database Server
PeopleSoft Web Server
Database type: Oracle
Environment Hub Configuration:
Hub machine name:
Hub port number:
Press 1 for Next, 2 for Previous, 3 to Cancel or 5 to Redisplay [1] :
=====
==
Installing...
-----

[=====|=====|=====|=====|=====]
[-----|-----|-----|-----]
=====
==
Installation Complete
-----
Congratulations. PeopleTools has been successfully installed to:
    /u01/psoft/pshome
PRESS <ENTER> TO EXIT THE INSTALLER:

```

Oracle PeopleSoft HRMS 9.1 Installation on the Database Server

Log in to the Oracle PeopleSoft database server as psoft and follow the installation procedure shown below.



Note

Oracle PeopleSoft HRMS application installation was performed in console mode. The following listing shows the procedure captured during the Oracle PeopleSoft HRMS application installation on the Database Server.

```
[psoft@psft-appl ~]$ cd
/u01/software/HRMS91featurepack-dec2010/V23382-01/Disk1/InstData
[psoft@psft-appl InstData]$ ls -ltr
-rwxrwxrwx 1 psoft oinstall 54824825 Nov 2 2010 setup.linux
-rwxrwxrwx 1 psoft oinstall 97750905 Nov 2 2010 setup.hp
-rwxrwxrwx 1 psoft oinstall 41059115 Nov 2 2010 setup.exe
-rwxrwxrwx 1 psoft oinstall 215945081 Nov 2 2010 setup.aix
-rwxrwxrwx 1 psoft oinstall 9637753 Nov 2 2010 setup.zlinux
-rwxrwxrwx 1 psoft oinstall 149426041 Nov 2 2010 setup.linux
-rwxrwxrwx 1 psoft oinstall 118656889 Nov 2 2010 setup.hp-ia64
-rwxrwxrwx 1 psoft oinstall 595646325 Nov 2 2010 sesource1.zip
-rwxrwxrwx 1 psoft oinstall 118 Nov 2 2010 MediaId.properties
psoft@psft-appl:/u01/software/HRMS91featurepack-dec2010/V23382-01/Disk1/Inst
Data
[psoft@psft-appl InstData]$ ./setup.linux -i console
Preparing to install...
Extracting the JRE from the installer archive...
Unpacking the JRE...
Extracting the installation resources from the installer archive...
Configuring the installer for this system's environment...
Launching installer...
Preparing CONSOLE Mode Installation...
=====
==
HR (created with InstallAnywhere)
-----
--
=====
==
Welcome
-----
InstallAnywhere will guide you through the installation of PeopleSoft Human
Resources Management System 9.1: FP - Dec 2010 .
PRESS <ENTER> TO CONTINUE:
=====
==
Please enter your PeopleSoft license code []: 117feffff8ffffebfb197c32sm64u
Press 1 for Next, 2 for Previous, 3 to Cancel or 5 to Redisplay [1] :
=====
==
Please select the Oracle database character set:
->1- Non-Unicode Database
2- Unicode Database
To select an item enter its number, or 0 when you are finished [0] : 2
```

Please select the Oracle database character set:

- 1- Non-Unicode Database
- >2- Unicode Database

To select an item enter its number, or 0 when you are finished [0] :

Press 1 for Next, 2 for Previous, 3 to Cancel or 5 to Redisplay [1] :

=====

For Oracle please select the products to install:

- >1- PeopleSoft Application Server
- >2- PeopleSoft Batch Server
- >3- PeopleSoft Database Server
- >4- PeopleSoft Web Server

To select an item enter its number, or 0 when you are finished [0] :

Press 1 for Next, 2 for Previous, 3 to Cancel or 5 to Redisplay [1] :

=====

Please enter an installation location or press <ENTER> to accept the default
(DEFAULT: /opt/PT9.1): /u01/psoft/pshome

Press 1 for Next, 2 for Previous, 3 to Cancel or 5 to Redisplay [1] :

=====

Please select the features to install:

- >1- PeopleSoft HR Database
- >2- PeopleSoft HR Demo Database
- >3- PeopleSoft Absence Management
- >4- PeopleSoft Benefits Administration
- >5- PeopleSoft Candidate Gateway
- >6- PeopleSoft Currency Conversion
- >7- PeopleSoft Directory Interface
- >8- PeopleSoft Enterprise Components
- >9- PeopleSoft Global Payroll Argentina
- >10- PeopleSoft Global Payroll Australia
- >11- PeopleSoft Global Payroll Brazil
- >12- PeopleSoft Global Payroll China
- >13- PeopleSoft Global Payroll Core
- >14- PeopleSoft Global Payroll France
- >15- PeopleSoft Global Payroll Germany
- >16- PeopleSoft Global Payroll Hong Kong
- >17- PeopleSoft Global Payroll India
- >18- PeopleSoft Global Payroll Italy
- >19- PeopleSoft Global Payroll Japan
- >20- PeopleSoft Global Payroll Malaysia

- >21- PeopleSoft Global Payroll Mexico
- >22- PeopleSoft Global Payroll Netherlands
- >23- PeopleSoft Global Payroll New Zealand
- >24- PeopleSoft Global Payroll Singapore
- >25- PeopleSoft Global Payroll Spain
- >26- PeopleSoft Global Payroll Switzerland
- >27- PeopleSoft Global Payroll Thailand
- >28- PeopleSoft Global Payroll UK
- >29- PeopleSoft Global Payroll United States
- >30- PeopleSoft HRMS Portal Pack
- >31- PeopleSoft Human Resources
- >32- PeopleSoft Pay/Bill Management
- >33- PeopleSoft Payroll Interface
- >34- PeopleSoft Payroll Interface for ADP
- >35- PeopleSoft Payroll for North America
- >36- PeopleSoft Pension Administration
- >37- PeopleSoft Recruit Workforce/Ltd TAM
- >38- PeopleSoft Shared Components
- >39- PeopleSoft Stock Administration
- >40- PeopleSoft Succession Planning
- >41- PeopleSoft Talent Acquisition Mgr
- >42- PeopleSoft Time and Labor
- >43- PeopleSoft eBenefits
- >44- PeopleSoft eCompensation
- >45- PeopleSoft eCompensation Mgr Desktop
- >46- PeopleSoft eDevelopment
- >47- PeopleSoft ePay
- >48- PeopleSoft ePerformance
- >49- PeopleSoft eProfile
- >50- PeopleSoft eProfile Manager Desktop

To select an item enter its number, or 0 when you are finished [0] :
Press 1 for Next, 2 for Previous, 3 to Cancel or 5 to Redisplay [1] :

=====
==

Pre-Install Summary

Please review the following before continuing:

HR will be installed in the following location: /u01/psoft/pshome with the following features:

- PeopleSoft HR Database
- PeopleSoft HR Demo Database
- PeopleSoft Absence Management
- PeopleSoft Benefits Administration

PeopleSoft Candidate Gateway
PeopleSoft Currency Conversion
PeopleSoft Directory Interface
PeopleSoft Enterprise Components
PeopleSoft Global Payroll Argentina
PeopleSoft Global Payroll Australia
PeopleSoft Global Payroll Brazil
PeopleSoft Global Payroll China
PeopleSoft Global Payroll Core
PeopleSoft Global Payroll France
PeopleSoft Global Payroll Germany
PeopleSoft Global Payroll Hong Kong
PeopleSoft Global Payroll India
PeopleSoft Global Payroll Italy
PeopleSoft Global Payroll Japan
PeopleSoft Global Payroll Malaysia
PeopleSoft Global Payroll Mexico
PRESS <ENTER> TO CONTINUE:
PeopleSoft Global Payroll Netherlands
PeopleSoft Global Payroll New Zealand
PeopleSoft Global Payroll Singapore
PeopleSoft Global Payroll Spain
PeopleSoft Global Payroll Switzerland
PeopleSoft Global Payroll Thailand
PeopleSoft Global Payroll UK
PeopleSoft Global Payroll United States
PeopleSoft HRMS Portal Pack
PeopleSoft Human Resources
PeopleSoft Pay/Bill Management
PeopleSoft Payroll Interface
PeopleSoft Payroll Interface for ADP
PeopleSoft Payroll for North America
PeopleSoft Pension Administration
PeopleSoft Recruit Workforce/Ltd TAM
PeopleSoft Shared Components
PeopleSoft Stock Administration
PeopleSoft Succession Planning
PeopleSoft Talent Acquisition Mgr
PeopleSoft Time and Labor
PeopleSoft eBenefits
PRESS <ENTER> TO CONTINUE:
PeopleSoft eCompensation
PeopleSoft eCompensation Mgr Desktop

```

PeopleSoft eDevelopment
PeopleSoft ePay
PeopleSoft ePerformance
PeopleSoft eProfile
PeopleSoft eProfile Manager Desktop
The following PeopleSoft Servers were selected by you:
PeopleSoft Application Server
PeopleSoft Batch Server
PeopleSoft Database Server
PeopleSoft Web Server
Database type: Oracle

Press 1 for Next, 2 for Previous, 3 to Cancel or 5 to Redisplay [1] :
=====
=
Installing...
-----

[=====|=====|=====|=====]

[-----|-----|-----|-----]
=====
==
Installation Complete
-----

Congratulations. PeopleSoft Human Resources Management System 9.1: FP - Dec
2010 has been successfully installed to:
    /u01/psft/pshome
PRESS <ENTER> TO EXIT THE INSTALLER:
psft@psft-appl:/u01/software/HRMS91featurepack-dec2010/V23382-01/Disk1/Inst
Data
[psft@psft-appl InstData]$ exit
exit

```

Oracle Microfocus Server Express 5.1wp4 Installation on the Database Server

Log in to the DB server box as root user.

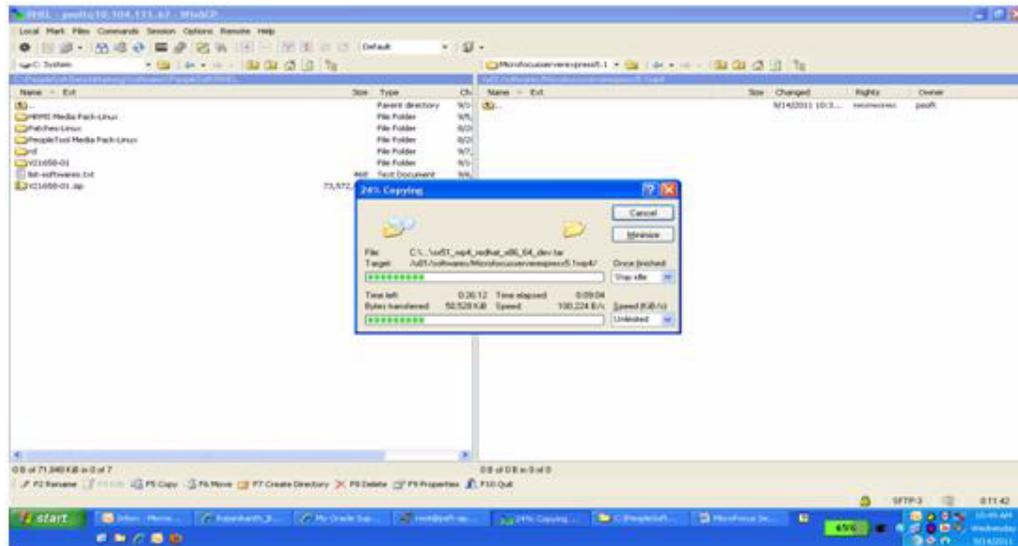
Create a directory (if it does not exist) where it is required to install the Micro Focus Server Express 5.1 WP4.

For example:

```
Mkdir /u01/products/mf/svexp-51_wp4-64bit
```

Transfer the downloaded software to the above folder. It is tar file:

```
sx51_wp4_redhat_x86_64_dev.tar
```



Extract the above tar file using the command:

```
[root@psft-app1 svrexpress-51_wp4-64bit]# pwd
/u01/products/mf/svrexpress-51_wp4-64bit
[root@psft-app1 svrexpress-51_wp4-64bit]# ls -ltr
total 204600
-rw-r--r-- 1 root root 209295360 Sep 14 11:55 sx51_wp4_redhat_x86_64_dev.tar
```

Execute the below command

```
$tar -xvf sx51_wp4_redhat_x86_64_dev.tar
```

List the files of the folder /u01/products/mf/svrexpress-51_wp4-64bit

```
[root@psft-app1 svrexpress-51_wp4-64bit]# pwd
/u01/products/mf/svrexpress-51_wp4-64bit
[root@psft-app1 svrexpress-51_wp4-64bit]# ls -ltr
total 204836
-r--r--r-- 1 root root 10455 Nov 20 2009 ADISCTRL
dr-xr-xr-x 10 root root 4096 Nov 20 2009 terminfo
-r-xr-xr-x 1 root root 12719 Nov 20 2009 install
dr-xr-xr-x 2 root root 4096 Nov 20 2009 xdb
dr-xr-xr-x 2 root root 4096 Nov 20 2009 aslmf
dr-xr-xr-x 6 root root 4096 Nov 20 2009 lmf
-r--r--r-- 1 root root 11949 Nov 20 2009 eslmf-mess
dr-xr-xr-x 2 root root 4096 Nov 20 2009 include
dr-xr-xr-x 17 root root 4096 Nov 20 2009 lang
dr-xr-xr-x 4 root root 4096 Nov 20 2009 es
dr-xr-xr-x 2 root root 4096 Nov 20 2009 dynload
```

```

dr-xr-xr-x  2 root root      4096 Nov 20  2009 deploy
dr-xr-xr-x  2 root root      4096 Nov 20  2009 dynload64
dr-xr-xr-x  2 root root      4096 Nov 20  2009 dialog
dr-xr-xr-x  2 root root      4096 Nov 20  2009 cpylib
dr-xr-xr-x  8 root root     28672 Nov 20  2009 lib
dr-xr-xr-x  6 root root      4096 Nov 20  2009 etc
dr-xr-xr-x  3 root root      4096 Nov 20  2009 snmp
dr-xr-xr-x  8 root root      4096 Nov 20  2009 src
dr-xr-xr-x 28 root root      4096 Nov 20  2009 demo
dr-xr-xr-x  6 root root      4096 Nov 20  2009 docs
dr-xr-xr-x  4 root root     12288 Nov 20  2009 bin
-rw-r--r--  1 root root 209295360 Sep 14 11:55 sx51_wp4_redhat_x86_64_dev.tar

```

Follow the installation procedure as shown below from the log captured while installing:

```

[root@psft-appl ~]# cd /u01/products/mf/svrexp-51_wp4-64bit
root@psft-appl:/u01/products/mf/svrexp-51_wp4-64bit
[root@psft-appl svrexp-51_wp4-64bit]# ./install
++ uname -s
+ test Linux = Linux
+ echocmd='echo -e'
+ SCCSid='@(#) install 5.1'
+ umask 000
+ DEFCOBDIR=/opt/microfocus/cobol
+ DEFBIN=/opt/microfocus/bin
+ case $0 in
++ pwd
++ dirname install
+ RELCOBDIR=/u01/products/mf/svrexp-51_wp4-64bit/.
++ command -v cobgetmsg
+ test . = .
++ echo
++ sed -e 's:/:/g'
+ for dir in '$RELCOBDIR' `echo $COBDIR | sed -e '\''s:/:/g'\''`
+ case ".$dir" in
+ test -x /u01/products/mf/svrexp-51_wp4-64bit/./bin/cobgetmsg
+ COBGETMSG=/u01/products/mf/svrexp-51_wp4-64bit/./bin/cobgetmsg
+ break
+ test ./u01/products/mf/svrexp-51_wp4-64bit/./bin/cobgetmsg = .
+ GETMSG='/u01/products/mf/svrexp-51_wp4-64bit/./bin/cobgetmsg -s2
-p/u01/products/mf/svrexp-51_wp4-64bit/. -e install.lng'
+ /u01/products/mf/svrexp-51_wp4-64bit/./bin/cobgetmsg -s2
-p/u01/products/mf/svrexp-51_wp4-64bit/. -e install.lng 1:1

```

```

+ test '!' -w /etc/passwd
+ cd /u01/products/mf/svrexp-51_wp4-64bit/.
++ pwd
+ BASE=/u01/products/mf/svrexp-51_wp4-64bit
+ COBDIR=/u01/products/mf/svrexp-51_wp4-64bit
+ test '!' -f /u01/products/mf/svrexp-51_wp4-64bit/docs/env.txt
+ '[' -f /u01/products/mf/svrexp-51_wp4-64bit/etc/mfreg.dat ']'
+ unset COBPATH
+ unset COBDATA
+ COBSW=
+ export COBSW
+ /u01/products/mf/svrexp-51_wp4-64bit/./bin/cobgetmsg -s2
-p/u01/products/mf/svrexp-51_wp4-64bit/. -e install.lng 30 'Micro Focus Server
Express' 5.1

```

This script will install Micro Focus Server Express 5.1 on this computer.

```

+ /u01/products/mf/svrexp-51_wp4-64bit/./bin/cobgetmsg -s2
-p/u01/products/mf/svrexp-51_wp4-64bit/. -e install.lng 31 readme.txt
/u01/products/mf/svrexp-51_wp4-64bit/docs

```

The readme.txt file included in this delivery contains details of new features, enhancements and any restrictions of which you should be aware. This file is located in :

```

/u01/products/mf/svrexp-51_wp4-64bit/docs

```

It is strongly recommend to read this file once the installation is complete.

```

+ cont
+ yorn 1:4
+ YN=b
+ '[' b '!=' n -a b '!=' no -a b '!=' N -a b '!=' NO -a b '!=' y -a b '!=' yes
-a b '!=' Y -a b '!=' YES -a b '!=' Yes -a b '!=' No ']'
+ /u01/products/mf/svrexp-51_wp4-64bit/./bin/cobgetmsg -s2
-p/u01/products/mf/svrexp-51_wp4-64bit/. -e install.lng 1:4
Do you wish to continue (y/n): + read YN
y
+ '[' y = y -o y = yes -o y = Yes -o y = Y -o y = YES ']'
+ return 1
+ res=1
+ '[' 1 '!=' 1 ']'
+ test '!' -f /tmp/mf_lic_acpt
+ sep
+ echo -e

```

```

+ echo -e
-----
---
-----
---
+ /u01/products/mf/svrex-51_wp4-64bit/./bin/cobgetmsg -s2
-p/u01/products/mf/svrex-51_wp4-64bit/. -e install.lng 40,41
Before installing and using this software product you must
agree to be bound by the terms and conditions of the end user
license agreement ("License Agreement") which accompanies this product.
Please take this time to read the License Agreement. If you are not in
agreement with the terms and conditions of the License Agreement, please
return the product to your Account Representative and your money will
be refunded. If you require a replacement copy of the License
Agreement, please contact your Account Representative before proceeding
with the install process.

+ yorn 42
+ YN=b
+ '[' b '!=' n -a b '!=' no -a b '!=' N -a b '!=' NO -a b '!=' y -a b '!=' yes
-a b '!=' Y -a b '!=' YES -a b '!=' Yes -a b '!=' No ']'
+ /u01/products/mf/svrex-51_wp4-64bit/./bin/cobgetmsg -s2
-p/u01/products/mf/svrex-51_wp4-64bit/. -e install.lng 42
Do you agree to the terms of the License Agreement? (y/n): + read YN
y
+ '[' y = y -o y = yes -o y = Yes -o y = Y -o y = YES ']'
+ return 1
+ clk_ans=1
+ '[' 1 '!=' 1 ']'
+ '[' '' '!=' noplatformcheck ']'
++ uname -s
+ osname=Linux
+ '[' .Linux = . ']'
++ uname -r
+ oslevel=2.6.18-238.el5
+ '[' .2.6.18-238.el5 = . ']'
+ grep 'Linux 2.6.18-238.el5'
/u01/products/mf/svrex-51_wp4-64bit/docs/env.txt
+ rc=1
+ '[' 1 '!=' 0 ']'
++ sed -n '/^Operating System/,/^$/p'
/u01/products/mf/svrex-51_wp4-64bit/docs/env.txt
++ sed -n '3,/^$/p'
+ builtos='Linux 2.6.9-11.ELsmp x86_64
Red Hat Enterprise Linux AS release 4 (Nahant Update 1)'

```

```

++ sed -n '/^Operating System$/,$/p'
/u01/products/mf/svrexp-51_wp4-64bit/docs/env.txt
++ grep -v '^$'
++ grep -v '^Operating System'
++ grep -v '^-----'
+ compatos='Linux 2.6.9-11.ELsmp x86_64
Red Hat Enterprise Linux AS release 4 (Nahant Update 1)
Linux 2.6.9-67.ELsmp i686
Red Hat Enterprise Linux ES release 4 (Nahant Update 6)
Linux 2.6.18-164.el5 x86_64
Red Hat Enterprise Linux Server release 5.4 (Tikanga)
Linux 2.6.18-164.el5 i686
Red Hat Enterprise Linux Server release 5.4 (Tikanga)'
+ sep
+ echo -e
+ echo -e
-----
---
-----
---
+ /u01/products/mf/svrexp-51_wp4-64bit/./bin/cobgetmsg -s2
-p/u01/products/mf/svrexp-51_wp4-64bit/. -e install.lng 50,51,52 'Linux
2.6.9-11.ELsmp x86_64
Red Hat Enterprise Linux AS release 4 (Nahant Update 1)' Linux 2.6.18-238.el5

```

Micro Focus Install

This product was not built or tested on this version
of the Operating System.

This product was built on Operating System:

```

Linux 2.6.9-11.ELsmp x86_64
Red Hat Enterprise Linux AS release 4 (Nahant Update 1)
and you are installing it on Operating System:
Linux 2.6.18-238.el5
+ '[' -f /etc/SuSE-release ']'
+ /u01/products/mf/svrexp-51_wp4-64bit/./bin/cobgetmsg -s2
-p/u01/products/mf/svrexp-51_wp4-64bit/. -e install.lng 53 'Linux
2.6.9-11.ELsmp x86_64
Red Hat Enterprise Linux AS release 4 (Nahant Update 1)
Linux 2.6.9-67.ELsmp i686
Red Hat Enterprise Linux ES release 4 (Nahant Update 6)
Linux 2.6.18-164.el5 x86_64
Red Hat Enterprise Linux Server release 5.4 (Tikanga)
Linux 2.6.18-164.el5 i686

```

Red Hat Enterprise Linux Server release 5.4 (Tikanga)'

Any product issues you report will only be corrected if they can be reproduced on one of our systems running:

Linux 2.6.9-11.ELsmp x86_64

Red Hat Enterprise Linux AS release 4 (Nahant Update 1)

Linux 2.6.9-67.ELsmp i686

Red Hat Enterprise Linux ES release 4 (Nahant Update 6)

Linux 2.6.18-164.el5 x86_64

Red Hat Enterprise Linux Server release 5.4 (Tikanga)

Linux 2.6.18-164.el5 i686

Red Hat Enterprise Linux Server release 5.4 (Tikanga)

+ yorn 2

+ YN=b

+ '[' b '!=' n -a b '!=' no -a b '!=' N -a b '!=' NO -a b '!=' y -a b '!=' yes -a b '!=' Y -a b '!=' YES -a b '!=' Yes -a b '!=' No ']'

+ /u01/products/mf/svrexpr-51_wp4-64bit/./bin/cobgetmsg -s2 -p/u01/products/mf/svrexpr-51_wp4-64bit/. -e install.lng 2

Please confirm that you want to continue with this installation (y/n): + read YN

y

+ '[' y = y -o y = yes -o y = Yes -o y = Y -o y = YES ']'

+ return 1

+ decision=1

+ '[' 1 '!=' 1 ']'

+ builtchip=x86_64

+ compatchip=i686

++ uname -m

+ chipname=x86_64

+ '[' .x86_64 = . ']'

+ test x86_64 '!=' x86_64 -a x86_64 '!=' i686

+ export COBDIR

+ cd /u01/products/mf/svrexpr-51_wp4-64bit

+ sep

+ echo -e

+ echo -e

+ /u01/products/mf/svrexpr-51_wp4-64bit/./bin/cobgetmsg -s2 -p/u01/products/mf/svrexpr-51_wp4-64bit/. -e install.lng 60

When you press return you will be shown details of the reference environment (and any compatibility environments).

```

Please press return when you are ready: + read ready
+ echo -e
+ more docs/env.txt
This product is certified on the following reference environment:
The command(s) used to gather the information is given following each entry.

```

Operating System

```

-----
Linux 2.6.9-11.ELsmp x86_64
Red Hat Enterprise Linux AS release 4 (Nahant Update 1)
uname -s
uname -r
uname -m
cat /etc/redhat-release

```

C Compiler

```

-----
cc gcc version 3.4.6 20060404 (Red Hat 3.4.6-9)
gcc -v 2>&1 | tail -1

```

C++ Compiler

```

-----
/usr/bin/g++ gcc version 3.4.6 20060404 (Red Hat 3.4.6-9)
g++ -v 2>&1 | tail -1

```

Assembler

```

-----
as GNU assembler version 2.15.92.0.2 (x86_64-redhat-linux) using BFD version
2.15.92.0.2 20040927
as -v 2>&1 < /dev/null

```

Linker

```

-----
ld GNU ld version 2.15.92.0.2 20040927
ld -V 2>&1 | head -1

```

Supported versions of Java

```

-----
Java version = 1.4.2_03
Java vendor = Sun Microsystems Inc.
Java OS name = Linux
Java OS arch = i386
--More-- (20%)

```

```

Java OS version = 2.6.9-11.ELsmp
Java version = 1.5.0_07
Java vendor = Sun Microsystems Inc.
Java OS name = Linux
Java OS arch = i386
Java OS version = 2.6.9-11.ELsmp
Java version = 1.5.0_07
Java vendor = Sun Microsystems Inc.
Java OS name = Linux
Java OS arch = amd64
Java OS version = 2.6.9-11.ELsmp
Java version = 1.6.0_15
Java vendor = Sun Microsystems Inc.
Java OS name = Linux
Java OS arch = i386
Java OS version = 2.6.9-11.ELsmp
Java version = 1.6.0_15
Java vendor = Sun Microsystems Inc.
Java OS name = Linux
Java OS arch = amd64
Java OS version = 2.6.9-11.ELsmp

```

```

$JAVA_HOME/bin/java -classpath $COBDIR/lib WhatJava

```

Unicode

Unicode mapping tables must be installed for J2EE and Web Services to function correctly. These tables are required for converting between any combination of UTF-16/UCS-2, UTF-8 and other installed locales.

COBOL/J2EE Connectivity

COBOL/J2EE connectivity is supported on this Reference Environment with the following Application Server products :

- o JBoss 4.0.2
- o Oracle 10.1.2.0
- o Oracle 10.1.3.0
- o BEA WebLogic 8.1
- More-- (45%)
- o BEA WebLogic 9.0
- o IBM WebSphere 6.0
- o IBM WebSphere 6.1
- o IBM WebSphere 7.0

See the on-disk readme, \$COBDIR/docs/readme.txt, for further information.

This product is also certified on the following environment:

Operating System

Linux 2.6.9-67.ELsmp i686

Red Hat Enterprise Linux ES release 4 (Nahant Update 6)

uname -s

uname -r

uname -m

cat /etc/redhat-release

C Compiler

cc gcc version 3.4.6 20060404 (Red Hat 3.4.6-9)

cc -v 2>&1 | tail -1

C++ Compiler

/usr/bin/g++ gcc version 3.4.6 20060404 (Red Hat 3.4.6-9)

g++ -v 2>&1 | tail -1

Assembler

as GNU assembler version 2.15.92.0.2 (i386-redhat-linux) using BFD version 2.15.92.0.2 20040927

as -v 2>&1 < /dev/null

--More-- (63%)

Linker

ld GNU ld version 2.15.92.0.2 20040927

ld -V 2>&1 | head -1

This product is also certified on the following environment:

Operating System

Linux 2.6.18-164.el5 x86_64

Red Hat Enterprise Linux Server release 5.4 (Tikanga)

uname -s

uname -r

uname -m

cat /etc/redhat-release

C Compiler

```

-----
cc gcc version 4.1.2 20080704 (Red Hat 4.1.2-46)
gcc -v 2>&1 | tail -1
C++ Compiler
-----

/usr/bin/g++ gcc version 4.1.2 20080704 (Red Hat 4.1.2-46)
g++ -v 2>&1 | tail -1
Assembler
-----

as GNU assembler version 2.17.50.0.6-12.el5 (x86_64-redhat-linux) using BFD
version 2.17.50.0.6-12.el5 20061020
as -v 2>&1 < /dev/null
--More-- (80%)
Linker
-----

ld GNU ld version 2.17.50.0.6-12.el5 20061020
ld -V 2>&1 | head -1
-----
---
This product is also certified on the following environment:
Operating System
-----

Linux 2.6.18-164.el5 i686
Red Hat Enterprise Linux Server release 5.4 (Tikanga)
uname -s
uname -r
uname -m
cat /etc/redhat-release
C Compiler
-----

cc gcc version 4.1.2 20080704 (Red Hat 4.1.2-46)
gcc -v 2>&1 | tail -1
C++ Compiler
-----

/usr/bin/g++ gcc version 4.1.2 20080704 (Red Hat 4.1.2-46)
g++ -v 2>&1 | tail -1
Assembler
-----

as GNU assembler version 2.17.50.0.6-12.el5 (i386-redhat-linux) using BFD
version 2.17.50.0.6-12.el5 20061020
More-- (97%)
as -v 2>&1 < /dev/null
Linker

```

```

-----
ld GNU ld version 2.17.50.0.6-12.el5 20061020
ld -V 2>&1 | head -1
+ yorn 61
+ YN=b
+ '[' b '!=' n -a b '!=' no -a b '!=' N -a b '!=' NO -a b '!=' y -a b '!=' yes
-a b '!=' Y -a b '!=' YES -a b '!=' Yes -a b '!=' No ']'
+ /u01/products/mf/svrexp-51_wp4-64bit/./bin/cobgetmsg -s2
-p/u01/products/mf/svrexp-51_wp4-64bit/. -e install.lng 61
Please confirm your understanding of the above reference environment
details (y/n): + read YN
Y
+ '[' y = y -o y = yes -o y = Yes -o y = Y -o y = YES ']'
+ return 1
+ env_ans=1
+ '[' 1 '!=' 1 ']'
+ LD_LIBRARY_PATH=/u01/products/mf/svrexp-51_wp4-64bit/lib:
+ export LD_LIBRARY_PATH
+ SHLIB_PATH=/u01/products/mf/svrexp-51_wp4-64bit/lib:
+ export SHLIB_PATH
+ LIBPATH=/u01/products/mf/svrexp-51_wp4-64bit/lib:
+ export LIBPATH
+ bin/cobconvstrtest -s
+ case $? in
+ test '!' -f etc/cobver
+ trap 'trap 0; /u01/products/mf/svrexp-51_wp4-64bit/./bin/cobgetmsg -s2
-p/u01/products/mf/svrexp-51_wp4-64bit/. -e install.lng 5; exit 1' 2 3 14 15
+ set -e
+ trap '/u01/products/mf/svrexp-51_wp4-64bit/./bin/cobgetmsg -s2
-p/u01/products/mf/svrexp-51_wp4-64bit/. -e install.lng 6; exit 1' 0
+ cd /u01/products/mf/svrexp-51_wp4-64bit
+
LD_LIBRARY_PATH=/u01/products/mf/svrexp-51_wp4-64bit/lib:/u01/products/mf/svr
exp-51_wp4-64bit/lib:
+ export LD_LIBRARY_PATH
+ chmod 755 /u01/products/mf/svrexp-51_wp4-64bit
+ test -d /u01/products/mf/svrexp-51_wp4-64bit/lib
+ cd /u01/products/mf/svrexp-51_wp4-64bit/lib
+ SEARCHDIR=/usr/lib
+ SEARCHDIR2=/lib
+ SEARCHFILE=libc
+ test '!' -f /usr/lib/libc.a -a '!' -f /lib/libc.a
+ GCCINCDIR=
+ GCCLIBDIR=

```

```

+ GCCLIBDIR64=
+ BLTLIBDIR=/usr/lib/gcc/x86_64-redhat-linux/3.4.6
+ BLTLIBDIR32=/usr/lib/gcc/x86_64-redhat-linux/3.4.6/32
+ '[' -d /usr/lib/gcc/x86_64-redhat-linux/4.1.2 ']'
+ GCCINCDIR=/usr/lib/gcc/x86_64-redhat-linux/4.1.2/include
+ GCCLIBDIR=/usr/lib/gcc/x86_64-redhat-linux/4.1.2/32
+ GCCLIBDIR64=/usr/lib/gcc/x86_64-redhat-linux/4.1.2
+ '[' -f /u01/products/mf/svrexp-51_wp4-64bit/etc/cobopt ']'
+ '[' x./usr/lib/gcc/x86_64-redhat-linux/4.1.2/32 '!=' x. ']'
+ chmod 644 /u01/products/mf/svrexp-51_wp4-64bit/etc/cobopt
+ ed /u01/products/mf/svrexp-51_wp4-64bit/etc/cobopt
+ chmod 444 /u01/products/mf/svrexp-51_wp4-64bit/etc/cobopt
+ '[' -f /u01/products/mf/svrexp-51_wp4-64bit/etc/cobopt64 ']'
+ '[' x./usr/lib/gcc/x86_64-redhat-linux/4.1.2 '!=' x. ']'
+ chmod 644 /u01/products/mf/svrexp-51_wp4-64bit/etc/cobopt64
+ ed /u01/products/mf/svrexp-51_wp4-64bit/etc/cobopt64
+ chmod 444 /u01/products/mf/svrexp-51_wp4-64bit/etc/cobopt64
+ '[' x./usr/lib/gcc/x86_64-redhat-linux/4.1.2/include '!=' x. ']'
+ '[' -f /u01/products/mf/svrexp-51_wp4-64bit/demo/c-cobol/ccob1.sh ']'
+ chmod 755 /u01/products/mf/svrexp-51_wp4-64bit/demo/c-cobol/ccob1.sh
+ '[' x. = x. ']'
+ ed /u01/products/mf/svrexp-51_wp4-64bit/demo/c-cobol/ccob1.sh
+ chmod 555 /u01/products/mf/svrexp-51_wp4-64bit/demo/c-cobol/ccob1.sh
+ set +e
+ trap '' 0
+ grep '^Red Hat .* 4 ' /etc/issue
+ '[' 1 -eq 0 ']'
+ grep '^Red Hat .* 4 ' /etc/issue
+ '[' 1 -eq 0 ']'
+ '[' x. = x. ']'
+ gcc_search_path_val64='$GCC_LIB:/usr/lib64:/usr/lib'
+ '[' x. = x. ']'
+ gcc_excep_lib_val64=gcc_s
+ cp /u01/products/mf/svrexp-51_wp4-64bit/etc/cobopt64
/u01/products/mf/svrexp-51_wp4-64bit/etc/cobopt64.16241
+ chmod 644 /u01/products/mf/svrexp-51_wp4-64bit/etc/cobopt64
+ sed -e 's#GCC_SEARCH_PATH=.*#GCC_SEARCH_PATH=$GCC_LIB:/usr/lib64:/usr/lib#'
-e 's#GCC_EXCEP_LIB=.*#GCC_EXCEP_LIB=gcc_s#'
/u01/products/mf/svrexp-51_wp4-64bit/etc/cobopt64.16241
+ chmod 444 /u01/products/mf/svrexp-51_wp4-64bit/etc/cobopt64
+ rm -f /u01/products/mf/svrexp-51_wp4-64bit/etc/cobopt64.16241
+ '[' x. = x. ']'
+ gcc_search_path_val='$GCC_LIB:/usr/lib:/lib'

```

```

+ '[' x. = x. ']'
+ gcc_excep_lib_val=gcc_s
+ cp /u01/products/mf/svrexp-51_wp4-64bit/etc/cobopt
/u01/products/mf/svrexp-51_wp4-64bit/etc/cobopt.16241
+ chmod 644 /u01/products/mf/svrexp-51_wp4-64bit/etc/cobopt
+ sed -e 's#GCC_SEARCH_PATH=.*#GCC_SEARCH_PATH=$GCC_LIB:/usr/lib:/lib#' -e
's#GCC_EXCEP_LIB=.*#GCC_EXCEP_LIB=gcc_s#'
/u01/products/mf/svrexp-51_wp4-64bit/etc/cobopt.16241
+ chmod 444 /u01/products/mf/svrexp-51_wp4-64bit/etc/cobopt
+ rm -f /u01/products/mf/svrexp-51_wp4-64bit/etc/cobopt.16241
+ cd /u01/products/mf/svrexp-51_wp4-64bit
+ set_java_version
+ sep
+ echo -e
+ echo -e
-----
---
-----
---
+ yorn 10
+ YN=b
+ '[' b '!=' n -a b '!=' no -a b '!=' N -a b '!=' NO -a b '!=' y -a b '!=' yes
-a b '!=' Y -a b '!=' YES -a b '!=' Yes -a b '!=' No ']'
+ /u01/products/mf/svrexp-51_wp4-64bit/bin/cobgetmsg -s2
-p/u01/products/mf/svrexp-51_wp4-64bit/. -e install.lng 10
Do you want to make use of COBOL and Java working together? (y/n): + read YN
n
+ '[' n = y -o n = yes -o n = Yes -o n = Y -o n = YES ']'
+ '[' n = n -o n = no -o n = No -o n = N -o n = NO ']'
+ return 0
+ test 0 -eq 1
+ /u01/products/mf/svrexp-51_wp4-64bit/bin/cobgetmsg -s2
-p/u01/products/mf/svrexp-51_wp4-64bit/. -e install.lng 11
/u01/products/mf/svrexp-51_wp4-64bit/bin/java_setup
Skipping Java setup
Should you want to use Java with COBOL later on
as super user run the command
/u01/products/mf/svrexp-51_wp4-64bit/bin/java_setup
to select the version of Java you want to use.
+ cd /u01/products/mf/svrexp-51_wp4-64bit/lib
+ return 0
+ test -d /u01/products/mf/svrexp-51_wp4-64bit/lmf
+ sep
+ echo -e

```

```

+ echo -e
-----
---
-----
---
+ /u01/products/mf/svrexp-51_wp4-64bit/./bin/cobgetmsg -s2
-p/u01/products/mf/svrexp-51_wp4-64bit/. -e install.lng 90
This product is protected using the Micro Focus License Management
Facility (LMF). Please refer to the Development System Licensing Guide
for information relating to the installation of the licensing system
and licenses.
+ mkdir -p /var/mfaslmf
+ chmod 777 /var/mfaslmf
+ adminidir=
+ /u01/products/mf/svrexp-51_wp4-64bit/./bin/cobgetmsg -s2
-p/u01/products/mf/svrexp-51_wp4-64bit/. -e install.lng 91
If you do not have LMF installed or want to upgrade to the latest version,
we it is recommended to install it now.
+ yorn 92
+ YN=b
+ '[' b '!=' n -a b '!=' no -a b '!=' N -a b '!=' NO -a b '!=' y -a b '!=' yes
-a b '!=' Y -a b '!=' YES -a b '!=' Yes -a b '!=' No ']'
+ /u01/products/mf/svrexp-51_wp4-64bit/./bin/cobgetmsg -s2
-p/u01/products/mf/svrexp-51_wp4-64bit/. -e install.lng 92
Would you like to install LMF now? (y/n): + read YN
y
+ '[' y = y -o y = yes -o y = Yes -o y = Y -o y = YES ']'
+ return 1
+ lmf_ans=1
+ case "$lmf_ans" in
+ export COBDIR
+
LD_LIBRARY_PATH=/u01/products/mf/svrexp-51_wp4-64bit/lib:/u01/products/mf/svr
exp-51_wp4-64bit/lib:/u01/products/mf/svrexp-51_wp4-64bit/lib:
+ export LD_LIBRARY_PATH
+
PATH=/u01/products/mf/svrexp-51_wp4-64bit/bin:/usr/kerberos/sbin:/usr/kerbero
s/bin:/usr/local/sbin:/usr/local/bin:/sbin:/bin:/usr/sbin:/usr/bin:/root/bin
+ export PATH
++ pwd
+ thisd=/u01/products/mf/svrexp-51_wp4-64bit/lib
+ cd /u01/products/mf/svrexp-51_wp4-64bit/lmf
+ sh lmfinstall

```

Enter the directory name where you wish to install License Manager

```

(Press Enter for default directory /opt/microfocus/mflmf)
/u01/products/mf/mflmf-svrex-51_wp4-64bit
/u01/products/mf/mflmf-svrex-51_wp4-64bit does not exist
do you wish to create it ? (y/n)
y
Empty database created ok
Do you want only superuser to be able to access the License Admin System? (y/n)
y
It is recommended that you let license manager autostart at boot time
Do you want license manager to be automatically started at boot time? (y/n)
y
LMF installation complete
+ cd /u01/products/mf/svrex-51_wp4-64bit/lib
+ '[' -f /tmp/lminstalldir ']'
++ cat /tmp/lminstalldir
+ adminidir=/u01/products/mf/mflmf-svrex-51_wp4-64bit
+ lminstallok=1
+ /u01/products/mf/svrex-51_wp4-64bit/./bin/cobgetmsg -s2
-p/u01/products/mf/svrex-51_wp4-64bit/. -e install.lng 94 mfllicense

Please consult the Development Licensing Guide for detailed information
on how to install licenses.
This may be done by running the mfllicense tool.
+ cd /u01/products/mf/svrex-51_wp4-64bit
+ sep
+ echo -e
+ echo -e
-----
---
-----
---
+ sh ./aslmf/aslmfinstall
To run your applications you need a deployment license installed using Apptack.
See your Deployment Licensing Guide for details.
Installing Apptack...
Access permissions on directory /var/mfaslmf have changed on this release
Write access permission has been removed except for superuser use
Apptack installation complete
+ modnum=0
+ '[' -d /u01/products/mf/svrex-51_wp4-64bit/dynload64 ']'
+ modnum=1
+ '[' -d /u01/products/mf/svrex-51_wp4-64bit/dynload ']'
++ expr 1 + 2
+ modnum=3

```

```

+ sep
+ echo -e
+ echo -e
-----
---
-----
---
+ case $modnum in
+ /u01/products/mf/svrexp-51_wp4-64bit/./bin/cobgetmsg -s2
-p/u01/products/mf/svrexp-51_wp4-64bit/. -e install.lng 111,112
This product can be used in either 32-bit or 64-bit modes.
Please enter either 32 or 64 to set the system default mode: + read mod
64
+ '[' 64 '!=' 32 -a 64 '!=' 64 ']'
+ /u01/products/mf/svrexp-51_wp4-64bit/bin/cobmode -s 64
+ /u01/products/mf/svrexp-51_wp4-64bit/./bin/cobgetmsg -s2
-p/u01/products/mf/svrexp-51_wp4-64bit/. -e install.lng 114 64
System default COBMODE has been set to 64.
+ '[' -f /u01/products/mf/svrexp-51_wp4-64bit/docs/html/asdocs.tar ']'
+ cat
+ '[' -f /u01/products/mf/svrexp-51_wp4-64bit/bin/es_install ']'
+ /u01/products/mf/svrexp-51_wp4-64bit/bin/es_install
-----
---
Installing documentation. Please wait...
-----
---
Enterprise Server provides a scalable, managed and high-performance
transactional environment for the deployment of COBOL applications
and services, COBOL/J2EE applications and direct COBOL Web Services.

Your Enterprise Server requires configuration. You can either do it now
or later. To do it now you need to know the alphanumeric user ID of the
Enterprise Server System Administrator.
To do it later, enter the following commands whilst logged in as root :
/u01/products/mf/svrexp-51_wp4-64bit/bin/eslminstall
/u01/products/mf/svrexp-51_wp4-64bit/bin/casperm

Do you wish to configure Enterprise Server now? (y/n): n
+ '[' -d /u01/products/mf/svrexp-51_wp4-64bit/src/enterpriseserver/xa ']'
+ chmod 777 /u01/products/mf/svrexp-51_wp4-64bit/src/enterpriseserver/xa
+ '[' '' = configureopenldap ']'
++ /u01/products/mf/svrexp-51_wp4-64bit/./bin/cobgetmsg
-p/u01/products/mf/svrexp-51_wp4-64bit/. mfinfo.lng 3
+ lang=en

```

```

+ test .en = .ja
+ '[' -f /u01/products/mf/svrexp-51_wp4-64bit/xdb/xdb.tar ']'
+ sep
+ echo -e
+ echo -e
-----
---
-----
---
+ /u01/products/mf/svrexp-51_wp4-64bit/./bin/cobgetmsg -s2
-p/u01/products/mf/svrexp-51_wp4-64bit/. -e install.lng 120
XDB is a fully-functional ANSI-compliant relational database
management system, providing support for SQL data access for
development purposes.

+ yorn 121
+ YN=b
+ '[' b !=' n -a b !=' no -a b !=' N -a b !=' NO -a b !=' y -a b !=' yes
-a b !=' Y -a b !=' YES -a b !=' Yes -a b !=' No ']'
+ /u01/products/mf/svrexp-51_wp4-64bit/./bin/cobgetmsg -s2
-p/u01/products/mf/svrexp-51_wp4-64bit/. -e install.lng 121
Do you want to install XDB? (y/n): + read YN
n
+ '[' n = y -o n = yes -o n = Yes -o n = Y -o n = YES ']'
+ '[' n = n -o n = no -o n = No -o n = N -o n = NO ']'
+ return 0
+ xdb_ans=0
+ '[' 0 -eq 1 ']'
+ /u01/products/mf/svrexp-51_wp4-64bit/./bin/cobgetmsg -s2
-p/u01/products/mf/svrexp-51_wp4-64bit/. -e install.lng 122 'sh
/u01/products/mf/svrexp-51_wp4-64bit/xdb/xdb_install'
Skipping XDB install.
Should you want to install XDB later on, run the following command
as the root user :
  sh /u01/products/mf/svrexp-51_wp4-64bit/xdb/xdb_install
+ sep
+ echo -e
+ echo -e
-----
---
-----
---
+ /u01/products/mf/svrexp-51_wp4-64bit/./bin/cobgetmsg -s2
-p/u01/products/mf/svrexp-51_wp4-64bit/. -e install.lng 130
/u01/products/mf/svrexp-51_wp4-64bit LD_LIBRARY_PATH
(remember to set COBDIR to /u01/products/mf/svrexp-51_wp4-64bit,

```

```
include /u01/products/mf/svrexp-51_wp4-64bit/lib in LD_LIBRARY_PATH
and include /u01/products/mf/svrexp-51_wp4-64bit/bin on your PATH)
+ /u01/products/mf/svrexp-51_wp4-64bit/bin/services
+ /u01/products/mf/svrexp-51_wp4-64bit/./bin/cobgetmsg -s2
-p/u01/products/mf/svrexp-51_wp4-64bit/. -e install.lng 140,141
WARNING: Any executables (whether a Run-Time System or an application)
must be relinked using this new release. Otherwise, the results of
running the older executables with this new release are undefined.
```

Installation completed successfully.
The COBOL system is ready to use.

Change the dot profile of the psoft user with the following values:

```
COBDIR=/psft_app/products/mf/svrexp-51_wp4-64bit
export COBDIR
add /$COBDIR/lib to the LD_LIBRARY_PATH variable
add /$COBDIR/bin to the PATH variable
```

Installing Serial and License Codes

1. Login to the 10.104.111.67 server using telnet from command prompt. User should be root.

```
cd /u01/products/mf/mflmf-svrexp-51_wp4-64bit
./mflmadm
```



2. Press F2 key to enter the serial number and license key.

```

root@psft-app1:/u01/products/mf/mflmf/svexp-51_wp4-64bit
Micro Focus License Administration Services
Main Screen
Product Details: Name
                  Version
License Key:
Enter new license key, then press Enter (or ESC to abort)
Serial No: 71000000000000000000000000000000
License No: 00000000000000000000000000000000
F1=help F2=key F3=clear Tab/F6=ok Enter=accept Escape x
License Key: Serial No
              License No
F1=help F2=key F3=install F4=uninstall F5=browse F6=more F7=refresh Escape x

```

3. Press Enter.

```

root@psft-app1:/u01/products/mf/mflmf/svexp-51_wp4-64bit
Micro Focus License Administration Services
Main Screen
Product Details: Name      Server Express 64-bit Model 1
                  Version
License Details: Seat/Process  Seat
                  Units        0001
                  Duration      Unlimited
                  Type          DCH
Issuing Details: Issue Point   37624
                  Issuer       P
                  Foundry      M
                  Key Version   01
License Key:  Serial No
              License No
F1=help F2=key F3=install F4=uninstall F5=browse F6=more F7=refresh Escape x

```

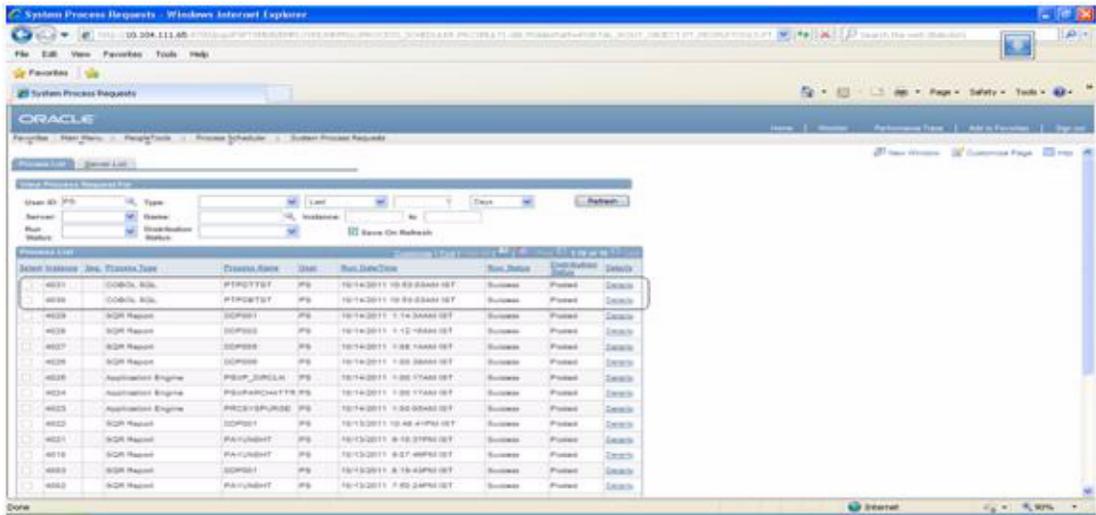
4. Press the F3 key to install the license.

```

root@psft-app1:/u01/products/mf/mflmf/svexp-51_wp4-64bit
Micro Focus License Administration Services
Main Screen
Product Details: Name      Server Express 64-bit Model 1
                  Version
License Details: Seat/Process  Seat
                  Units        0001
License added to database
Note that the license database cannot be moved, copied,
or restored without reloading the license keys.
Press any key to continue..
F1=help F2=key F3=install F4=uninstall F5=browse F6=more F7=refresh Escape x

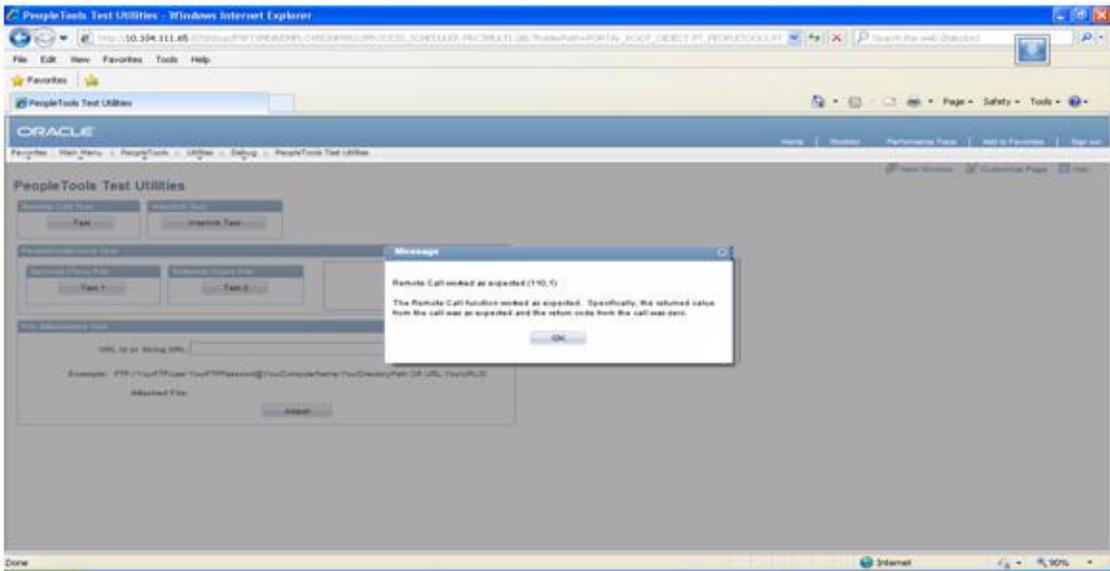
```

5. Open another session as root user; go to the directory /u01/products/mf/mflmf-svexp-51_wp4-64bit



Test the Remote Call Utility from PIA

1. From PeopleTools, go to utilities->debug->peopletools test utilities.
2. Click on Test.



Troubleshooting Common Installation Problems

Troubleshooting Oracle WebLogic Problems

For installation issues, review these tips:

- You may need up to 800 MB of space to install Oracle WebLogic. If there is not enough space, the installer displays an error message with information about the space limitation. You will need to exit the installation process and create some space under your Home directory before restarting installation.
- The Oracle WebLogic installer uses the default system temporary space. It will stop and display an error message if the temporary space is not sufficient. Clean up the default system temporary space and try again. If you do not have the privileges needed to clean up that directory and need to proceed, as a workaround you can set aside a directory under your Home directory and use it as the temporary space. You can do this by setting `-Djava.io.tmpdir` in the command for launching the installer. For example, the following command will use the temp directory under your Home directory to launch the installer in console mode:

```
{JAVA_HOME}/bin/java -jar ./wls1032_generic.jar -mode=console
-Djava.io.tmpdir=?
~/temp -log=./logs/Wls1032Install.log
```

- If the installation fails, and if the directory that you specify for the Oracle WebLogic 10.3.2 installation is one in which other BEA products have been installed (BEA_HOME in previous releases; for example, c:\bea folder in Microsoft Windows), the registry.xml file in your existing BEA_HOME directory may be corrupted. Pick a different location for the Oracle WebLogic 10.3.2 installation directory and try the installation again.
- If you are installing on the Microsoft Windows operating system using GUI mode and the installation fails without any message, run the installer from the command prompt using console mode. It will show you more detailed error messages indicating the problem area.

The command to run on Microsoft Windows in console mode is:

```
%JAVA_HOME%\bin\java -jar wls1032_generic.jar -mode=console -log=logs?
\Wls1032Install.log
```

- If you encounter the following error message while running in console mode on a Microsoft Windows operating system, it means that the environment variable `_JAVA_OPTIONS` has been set in your system. This setting causes the Java process initiated by the Oracle WebLogic installer to fail.

ERROR: JVMPI, an experimental interface, is no longer supported.

Please use the supported interface: the JVM Tool Interface (JVM TI).

To resolve the problem, remove the environment variable `_JAVA_OPTIONS` from your system and rerun the installation.

- If you encounter the following error message while installing on a Linux operating system, there is a problem with access to the temporary directory:

```
*sys-package-mgr*: cannot write cache file
```

This message appears because the Oracle WebLogic installer creates a temporary directory (for example, on Linux it is `/var/tmp/wlstTemp`) that is shared by all users, and it is unable to differentiate between users.

As a result, access to the directory is blocked when the user accessing the directory is not the one who originally created the directory. The workaround for this problem is to remove the installation and install Oracle WebLogic again after manually adjusting the temporary directory permissions. A user with superuser privileges can use the following command to adjust the permissions:

```
chmod -R 777 /var/tmp/wlstTemp
```

For more information, search Oracle's BEA documentation for Oracle WebLogic http://docs.oracle.com/cd/E17904_01/wls.htm

- If you encounter the following error message while running Oracle PeopleSoft Pure Internet Architecture in-stalled on a Microsoft Windows or Linux operating system and you are using Oracle JRockit R28 or later, you can ignore the error message and continue.

[WARN] -XXnoJITInline has no effect. Please update your command line.

If you prefer to avoid seeing the error message:

- Make a backup copy of the file <PS_HOME>/webserv/<domain_name>/bin/setEnv.cmd (sh).
- Open setEnv.cmd (sh) in a text editor and remove the JVM option -XXnoJITInline.
- Save the file.

Troubleshooting Application Server Problems

For troubleshooting help, you can access a log file through the Oracle PeopleSoft Domain Administration menu. Possible errors you may encounter are listed below:

- Use PSADMIN PeopleSoft Domain Administration menu option 6 for the Edit configuration and log files menu to check for errors in
<PS_CFG_HOME>/appserv/<domain>/LOGS/APPSRV_mmdd.LOG and
<PS_CFG_HOME>/appserv/<domain>/LOGS/TUXLOG.mmddyy.
- If an Oracle PeopleSoft server such as PSAPPSRV fails, examine your configuration parameters. The failure of the PSAPPSRV process is often signaled by the message "Assume failed," which means that the process has failed to start. Check the SIGNON section for a misspelled or invalid database name, an invalid or unauthorized OprId setting, or a missing or invalid ConnectId or ServerName setting. Also make sure that the database connectivity is set correctly.
- If a WSL (or JSL) fails to start, try specifying another port number (the port may be in use already by another application server domain process).
- If you are unable to start the bulletin board liaison (BBL) process, check that Oracle Tuxedo is installed fully and that the directory really exists.
- If the installation includes more than one application server domain on a single machine, before booting the second domain, adjust the REN server configuration in one of these ways to avoid conflict:
 - Use PSADMIN to disable event notification (option 8 on the Quick Configure menu) for the second and subsequent application server domains.
 - Change default_http_port to a value other than 7180.

Also check that you do not have older Oracle Tuxedo releases (such as Oracle Tuxedo 6.4) prepended in your PATH or runtime library (LIBPATH, SHLIB_PATH or LD_LIBRARY_PATH, depending on your UNIX platform).

Troubleshooting Database Installation Problems

If your script has stopped running midway through (this can happen for a number of reasons), you need to edit the script and start again.

- To edit and restart the Data Mover Script (DMS):

Identify the record that was being imported (that is, determine IMPORT command was running) when the script stopped.



Note

When building a DMO database or a multilingual database, the SET START statement can be difficult to add because DMS used to load the database includes more than one IMPORT statement. You need to view the log files to determine the IMPORT section of the script on which DMS failed. If the failure occurred during the first import operation, add the SET START statement before the first IMPORT *; statement.

If the failure occurred during a subsequent import operation, comment out all preceding IMPORT *; statements and add the SET START statement before the IMPORT*; statement of the section in which the failure occurred. This step is very important. If you see any "unique index constraint" error messages in the Create Indexes step [[PLS EITHER DELETE OR CLARIFY]] your IMPORT script failed during a subsequent import operation, but the SET START statement was added to the first IMPORT command. In this situation, you can run the DMS in its originally generated form, with only one modification: In the first IMPORT section, change the statement IMPORT *; to REPLACE_DATA *;. This change will delete all the data in the tables and reimport it. This process will take some time to run, and you will need to separately create each of the indexes that failed.

Add the following line before the offending IMPORT command (the one being run when the failure occurred):

```
Set start <RECORD NAME>;
```

where <RECORD NAME> is the name of the record that failed. Make sure to review the DMS log file to see where the script failed and locate the last record that was imported successfully. The SET START command will begin the DMS import at the record name specified.



Note

You should change the name of the log file in the script before each attempt at running it. This change helps ensure that you have a separate log file for each attempt if you run the import operation more than once.

Example:

The script stops and a message similar to this one appears in the table:

```
Importing PSPNLFIELD
```

```
Rows inserted into PSPNLFIELD
```

```
3000
```

First drop the table in which rows have been partially inserted (for example, a record) by using the DROP TABLE command. Then restart the DMS at the record that failed using the SET START command and continue the DMS import operation. With Oracle PeopleSoft PeopleTools 8.4.0, this task can be accomplished in a single step.

Add the following lines before the offending IMPORT command (the one being run when the failure occurred):

```
SET START <RECORD NAME>;
```

```
DROP TABLE <RECORD NAME>;
```

where <RECORD NAME> is the name of the record that failed. Make sure to review the DMS log file to see where the script failed and locate the last record that was imported successfully. The SET START command will begin the DMS import operation at the record name specified, as shown in the following example:

```

Before
REM - PeopleTools System Database - US English
/
SET LOG ptengs.log;
SET INPUT ptengs.db;
SET COMMIT 30000;
SET NO VIEW;
SET NO SPACE;
SET NO TRACE;
SET UNICODE OFF;
IMPORT *;
After
REM - PeopleTools System Database - US English
/
SET LOG ptengs.log;
SET INPUT ptengs.db;
SET COMMIT 30000;
SET NO VIEW;
SET NO SPACE;
SET NO TRACE;
SET UNICODE OFF;
SET START PSPNLFIELD;
DROP TABLE PSPNLFIELD;
IMPORT *;

```

For the DROP Statement, for records with a rename without a leading PS, add PS_ to the beginning of the rename; otherwise the table will not be found.

Example:

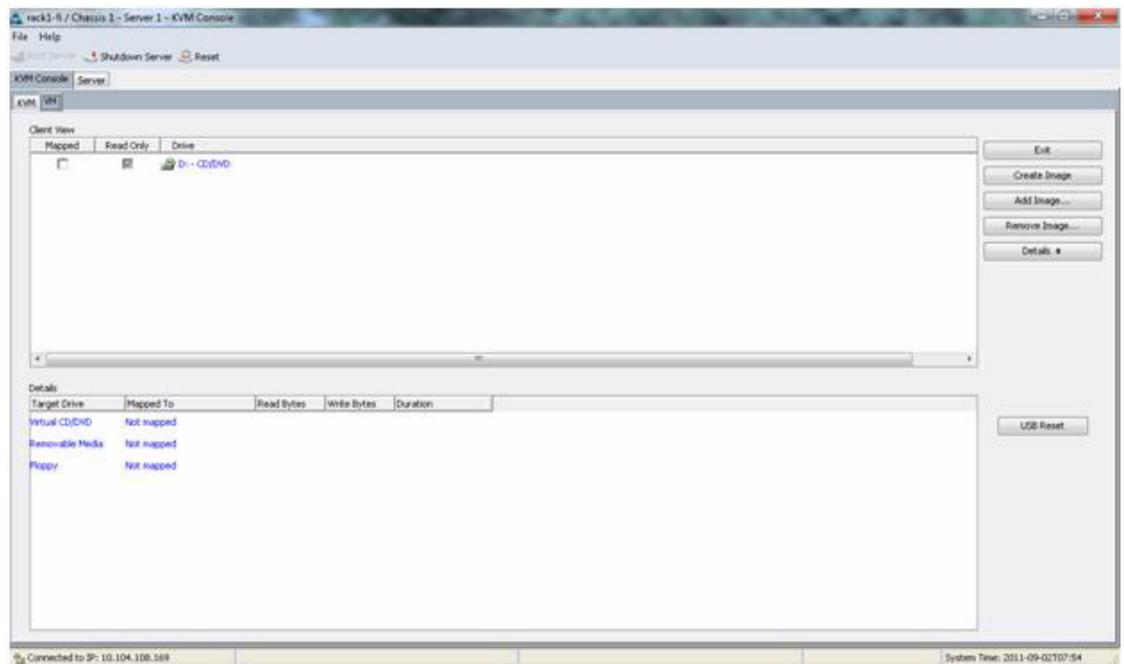
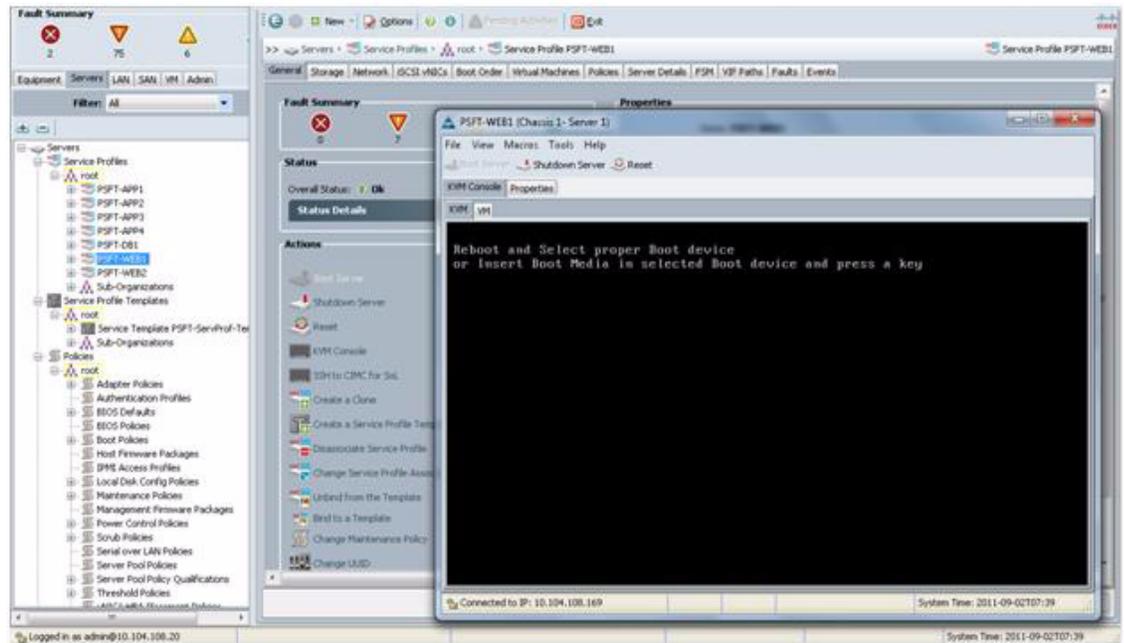
```
PS_<RECNAME>
```

Re-start the script (File, Run Script).

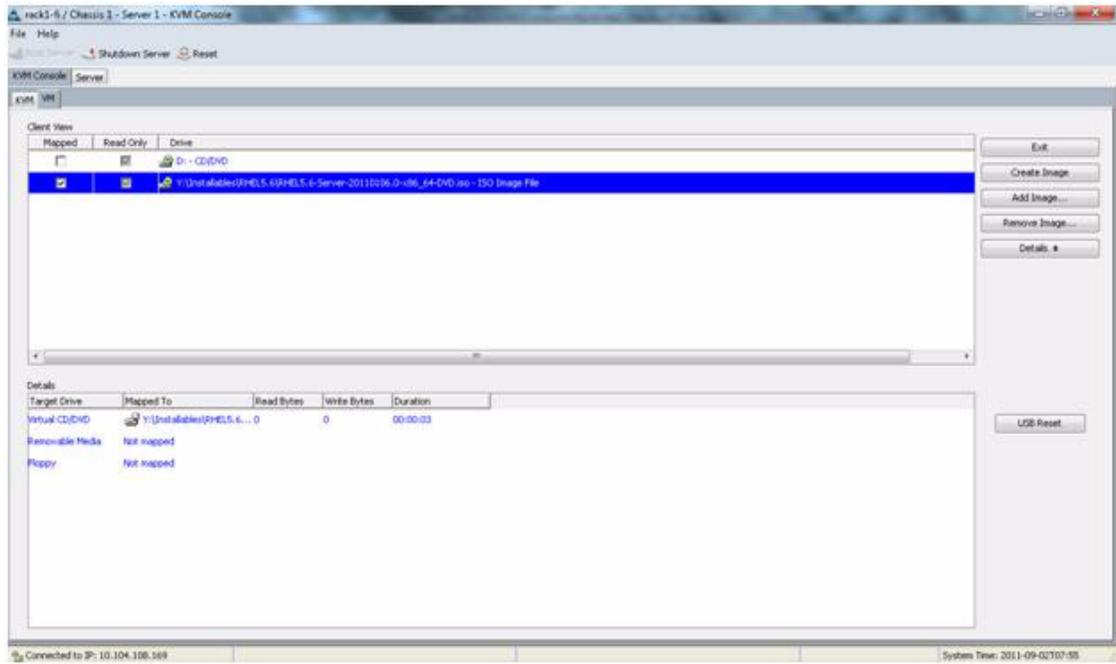
Installing Red Hat Enterprise Linux

To install Red Hat Enterprise Linux, do the following:

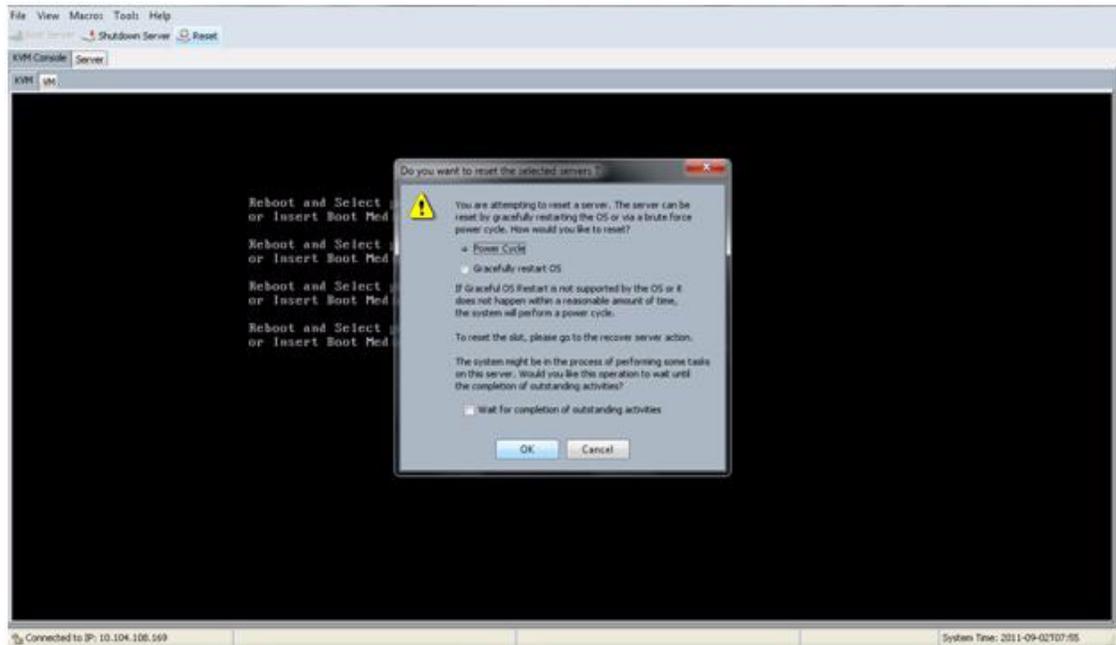
1. Log in to the Cisco Unified Computing System Manager.



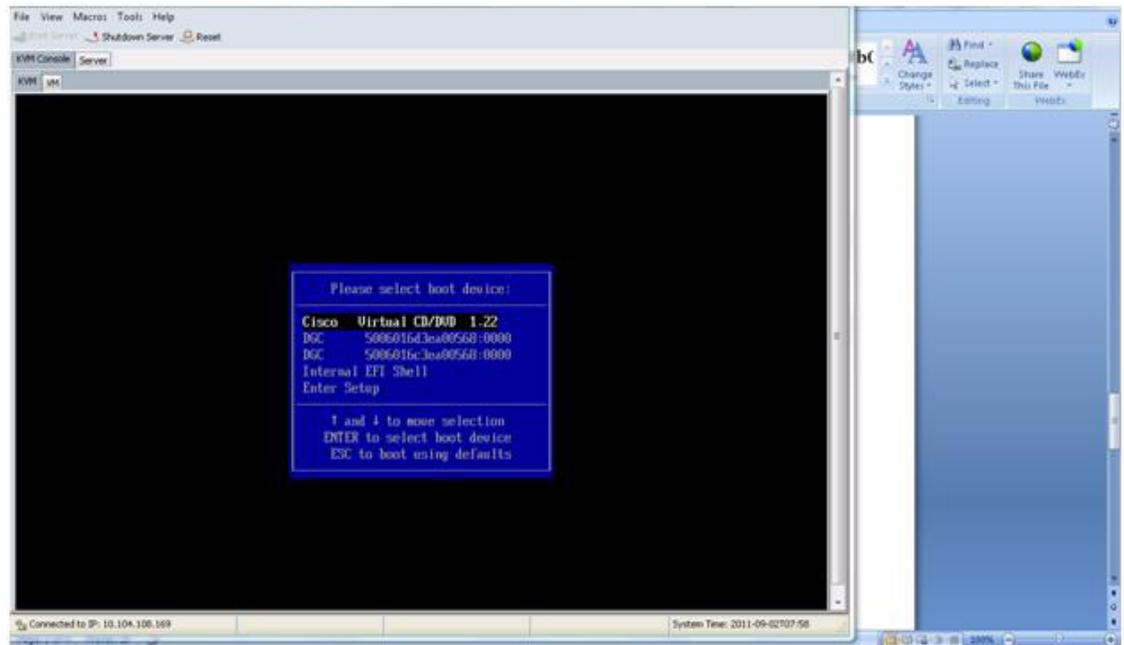
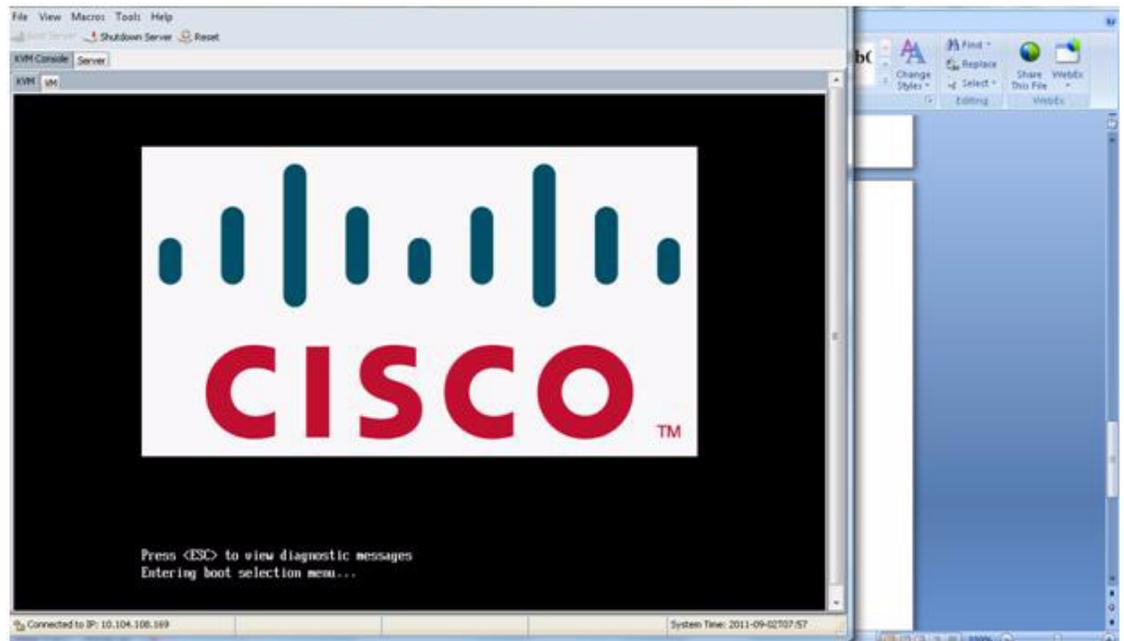
2. Add Image and Map it.



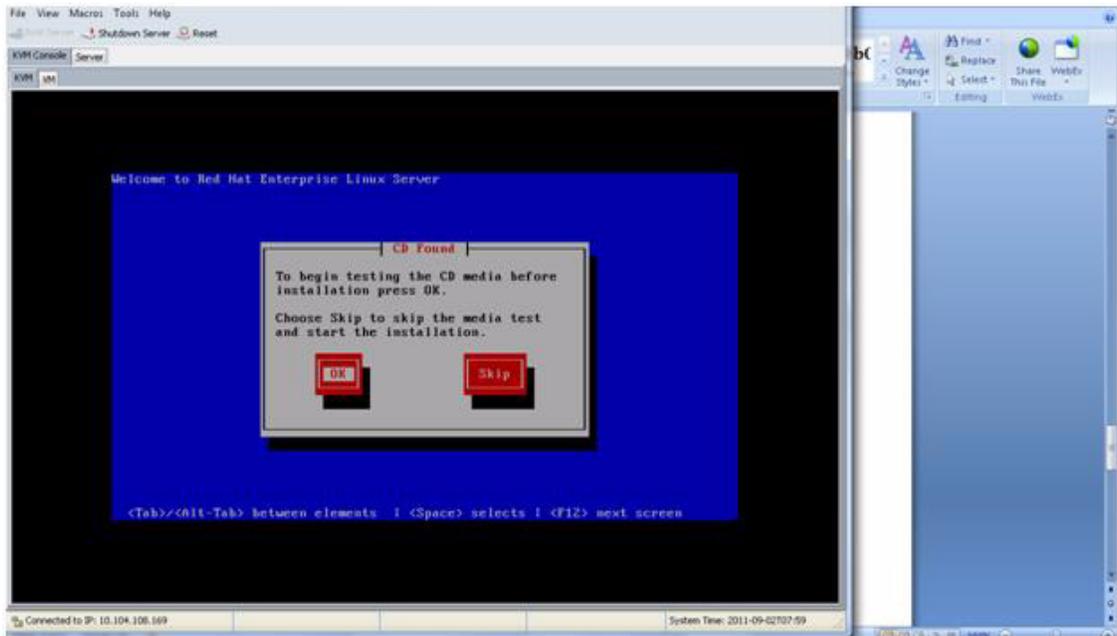
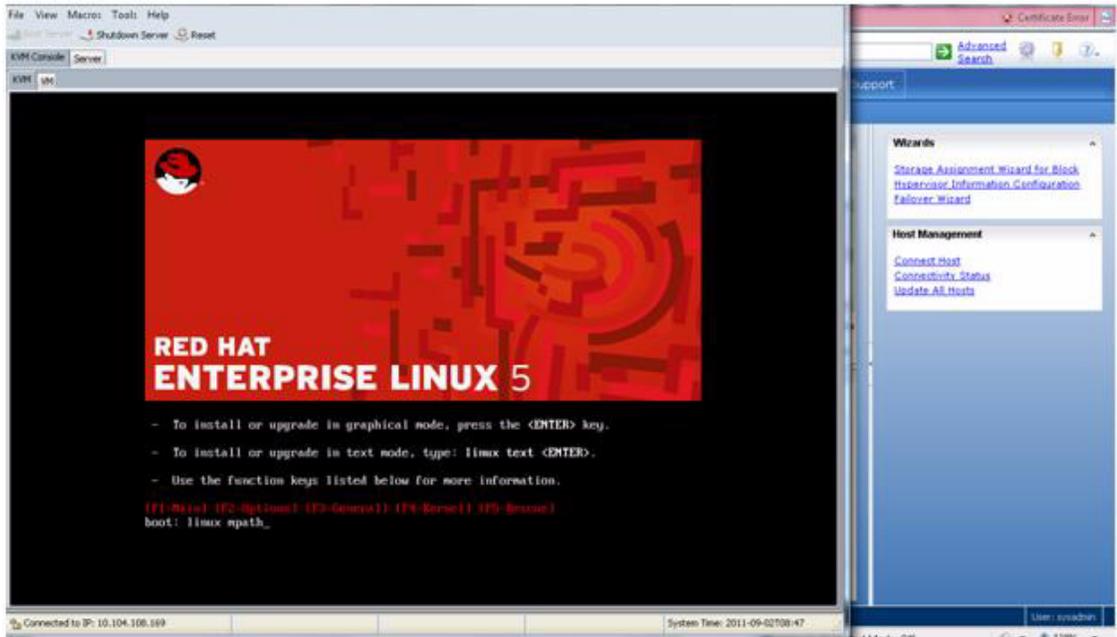
3. Click Reset to restart the server.

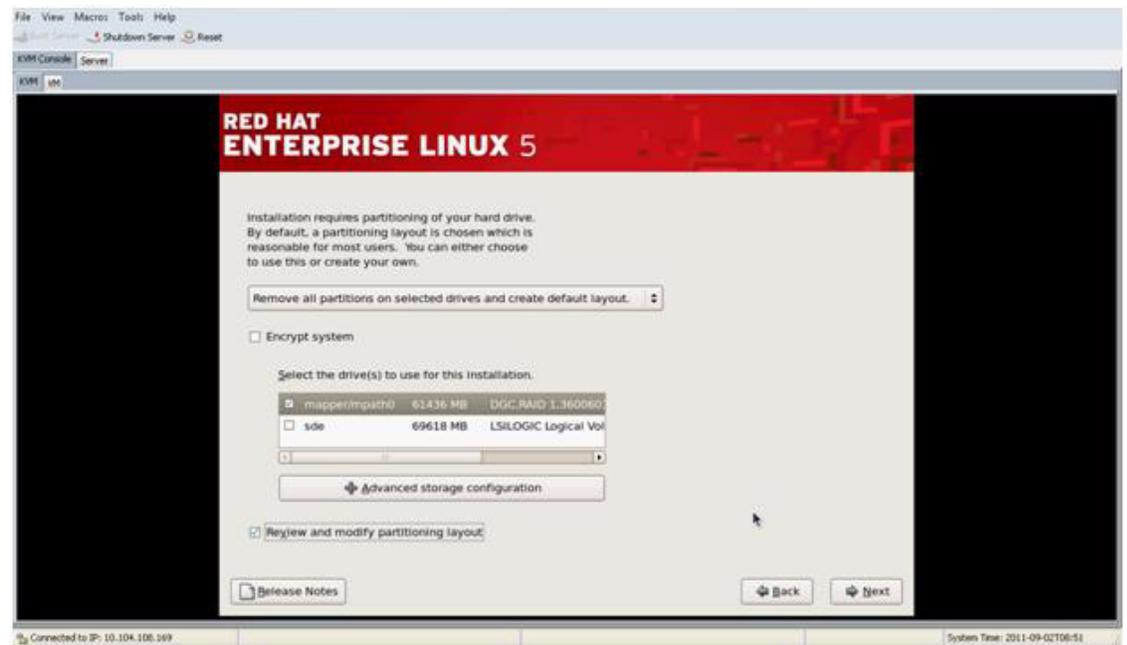
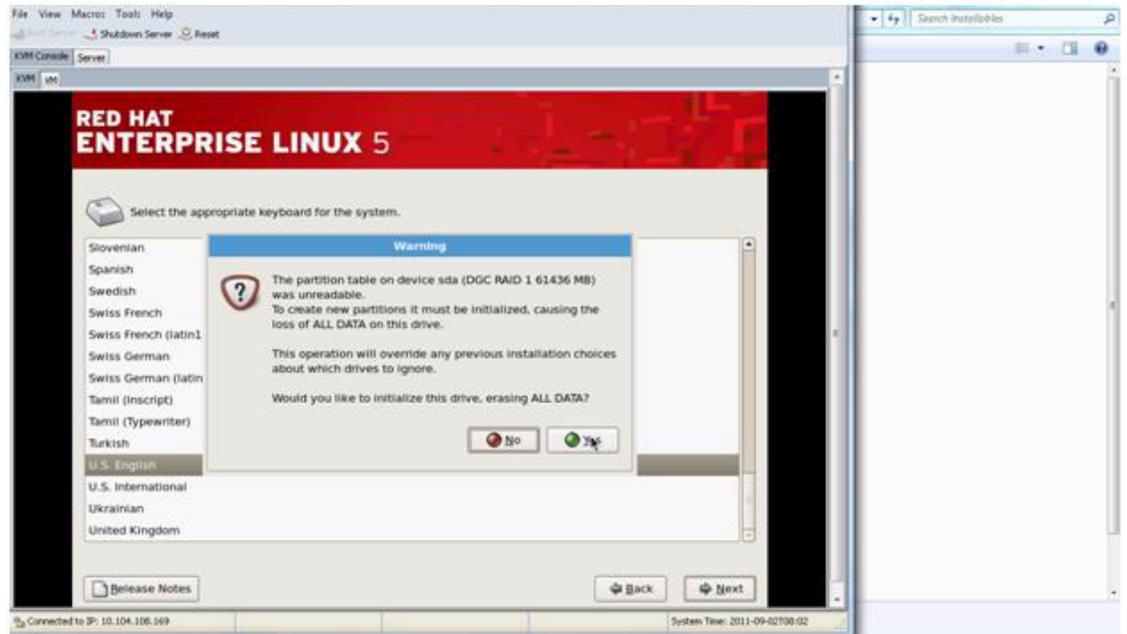


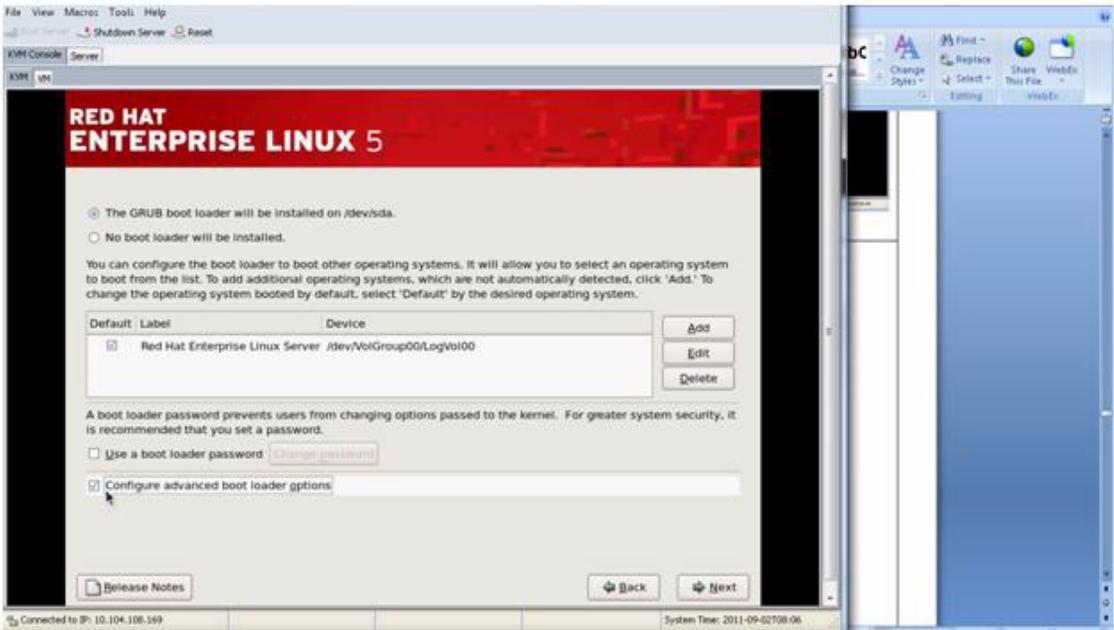
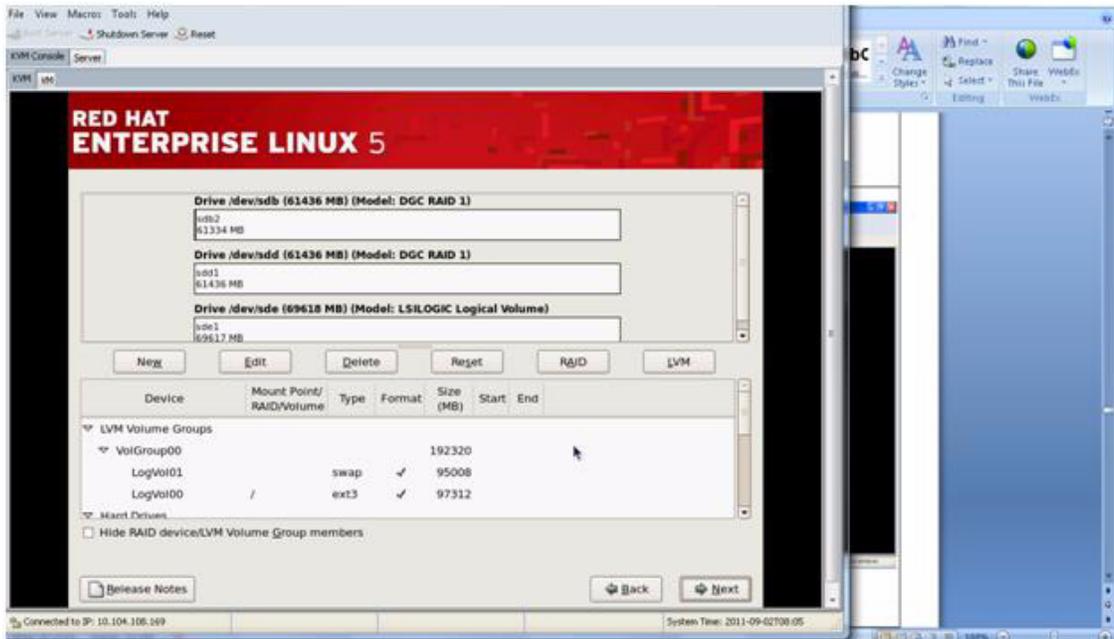
4. Press F6 to enter Boot media.

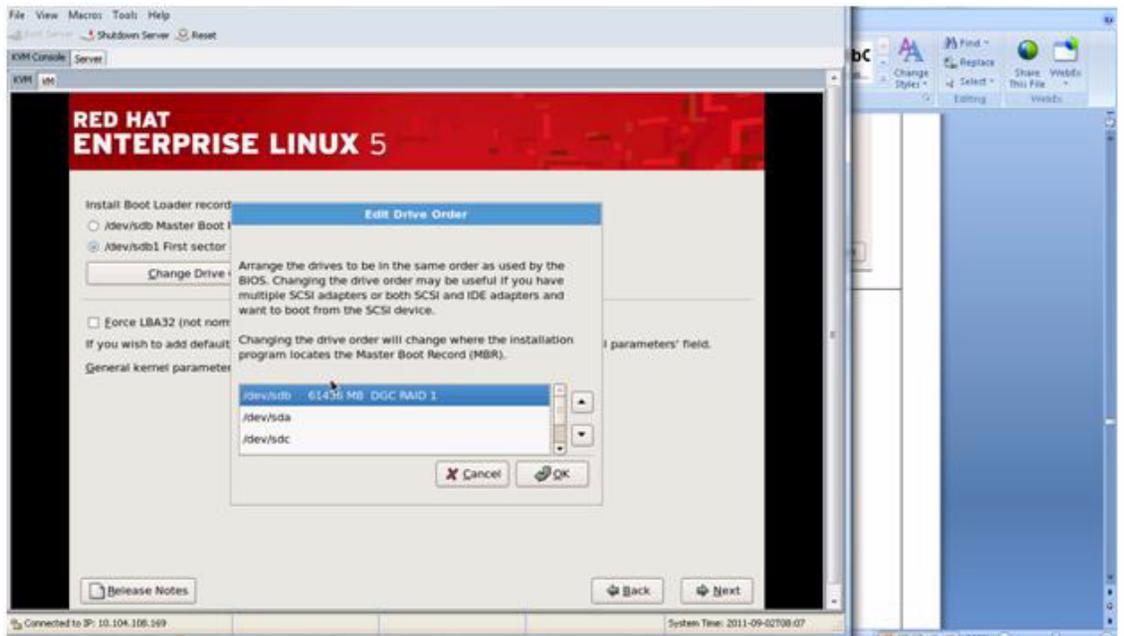
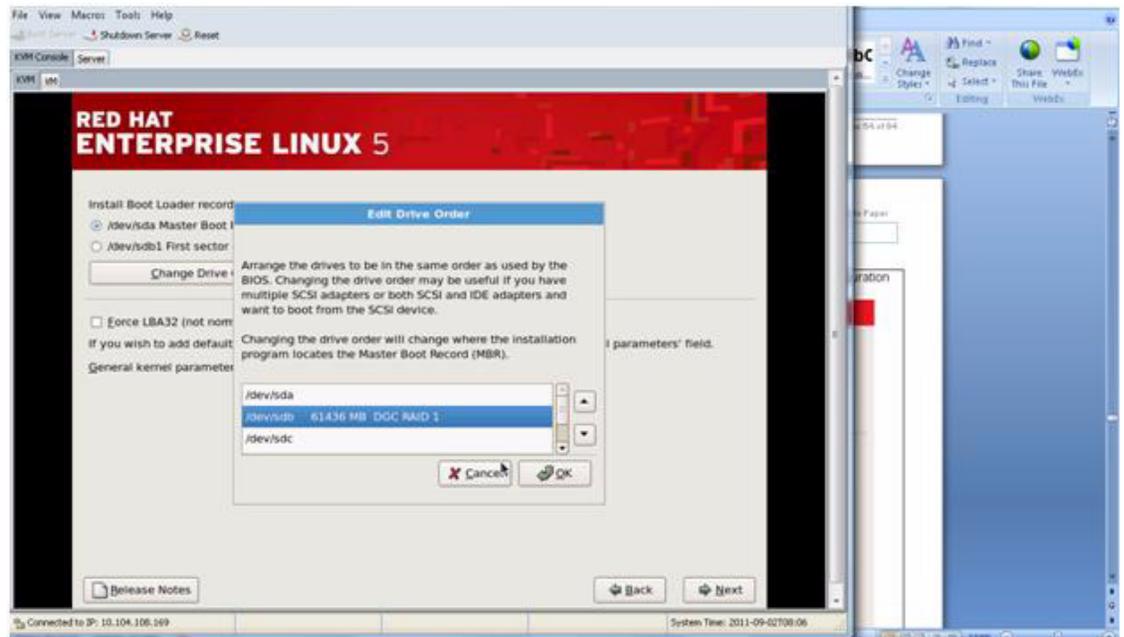


Note Remember to type linux mpath.

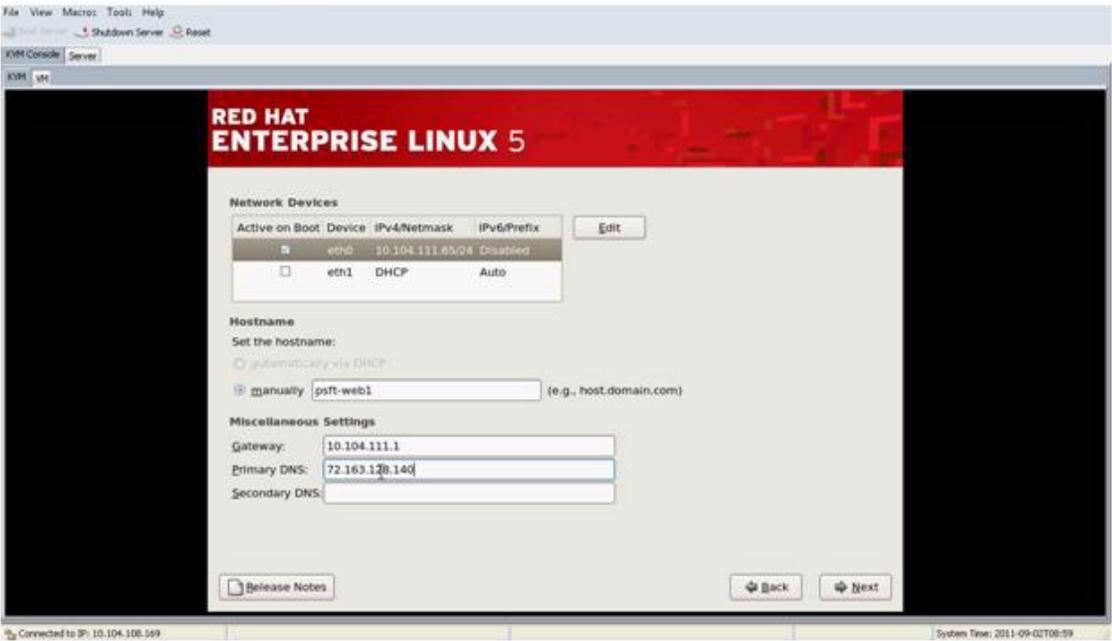
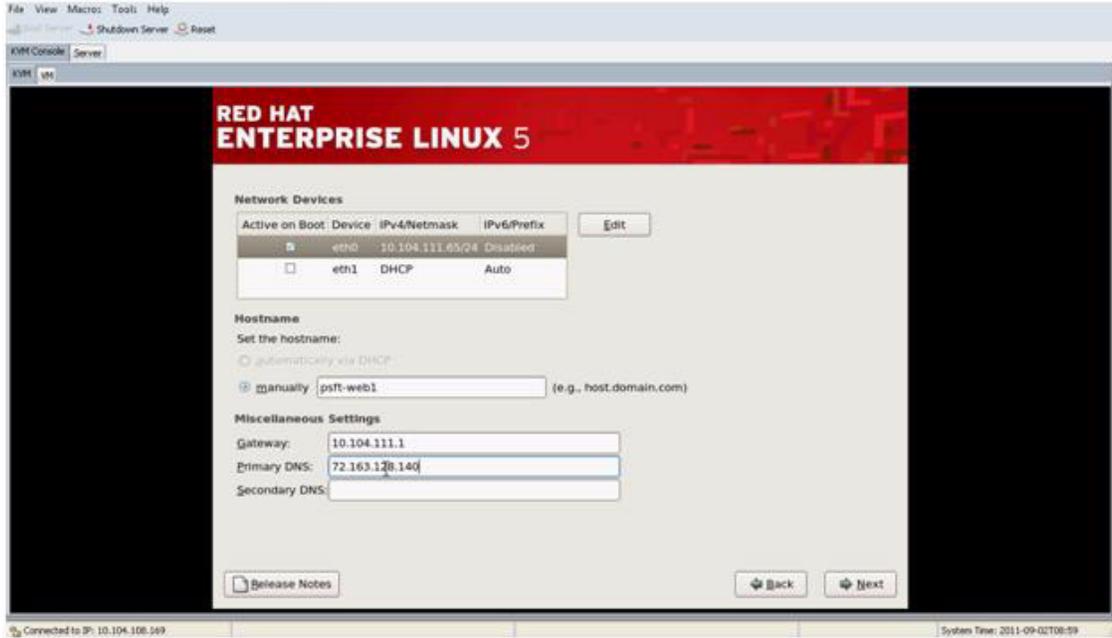


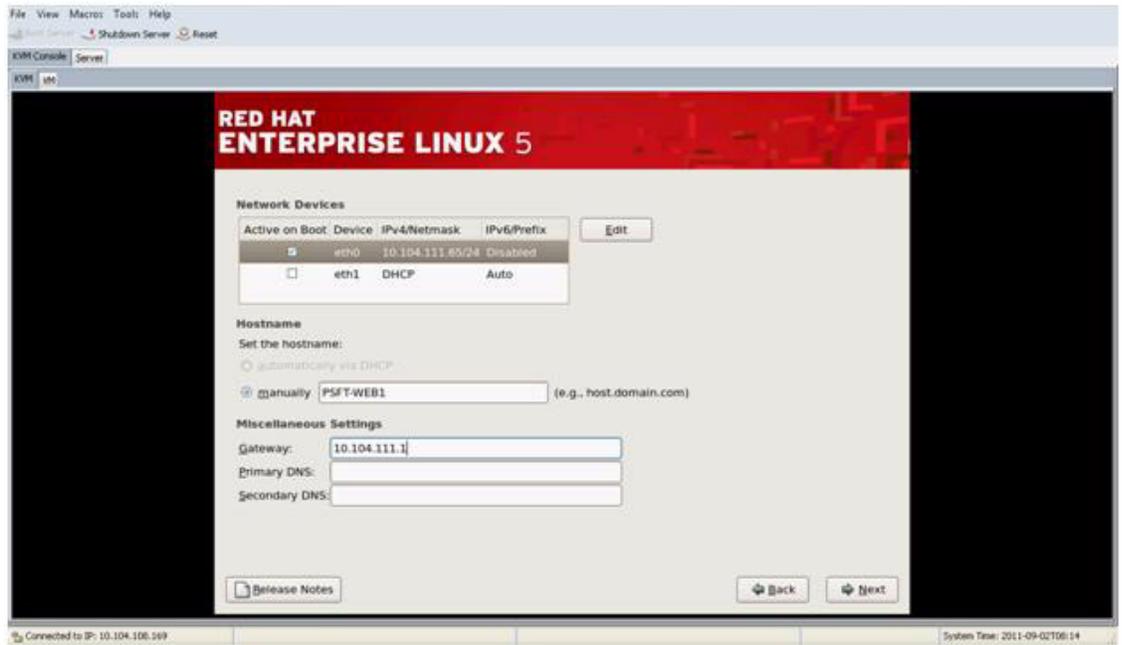


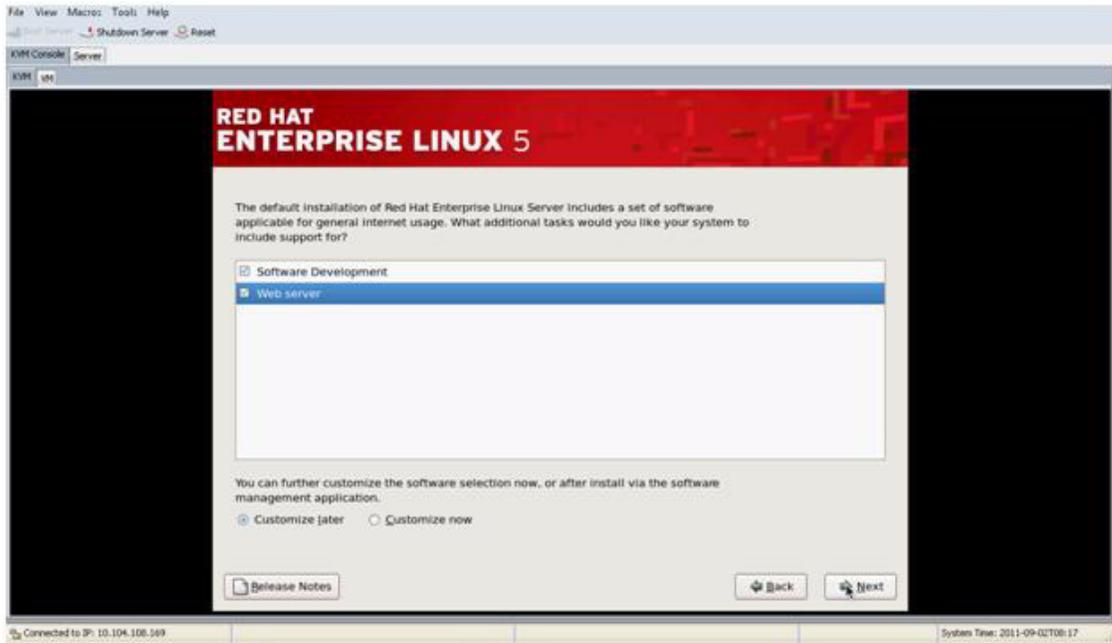
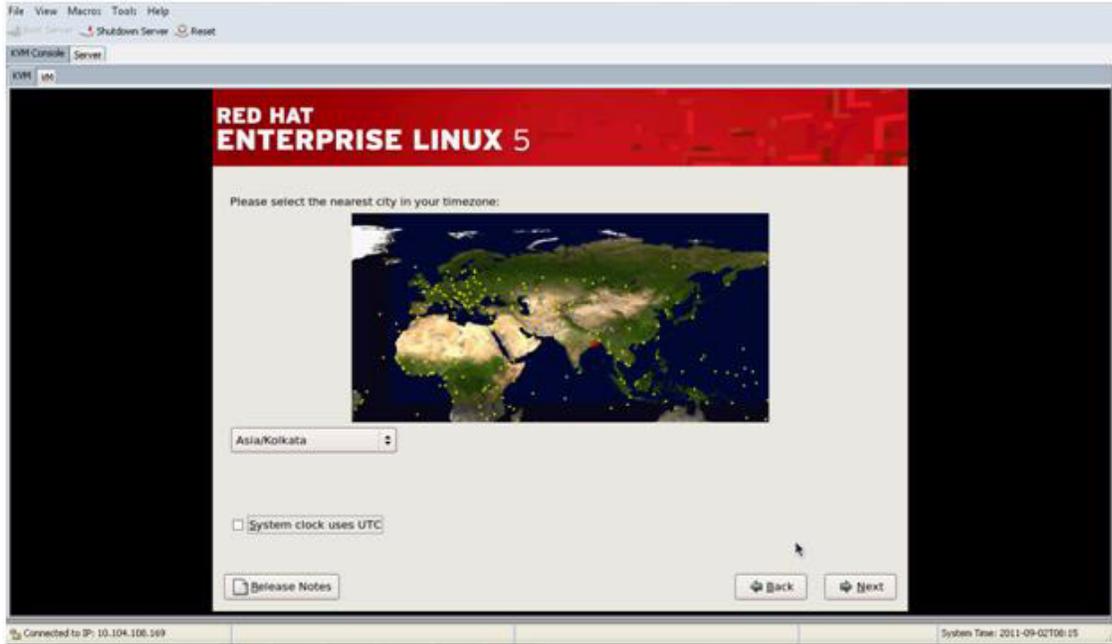




5. Gateway : 10.1xx.1xx.1.
6. Primary DNS : 7x.1xx.1xx.1xx.

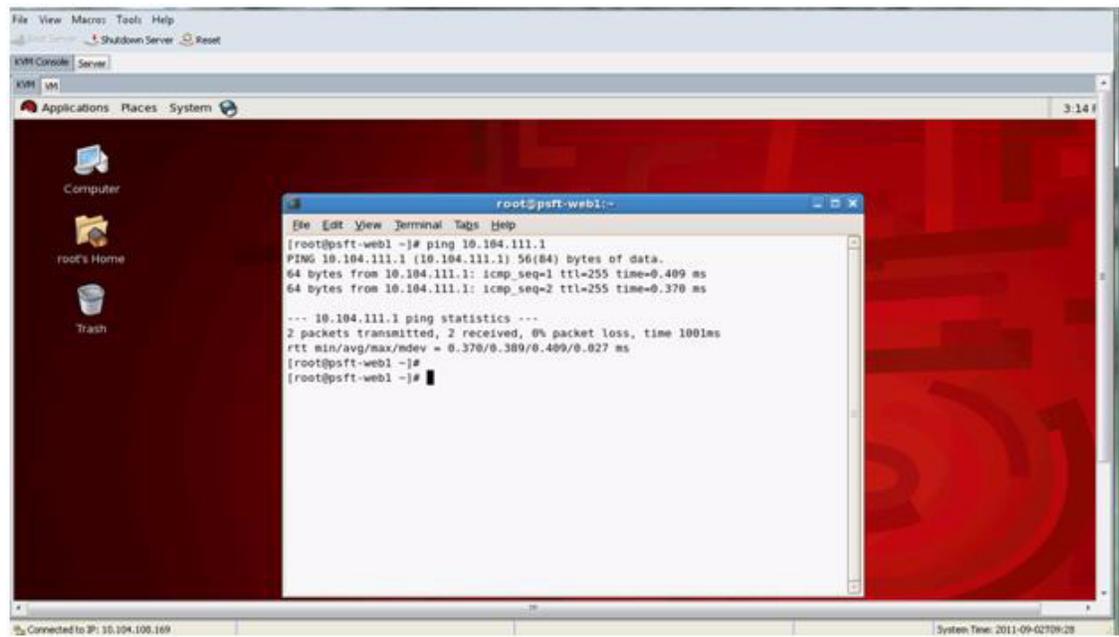












```
File View Macros Tools Help
Shutdown Server Reset
KVM Console Server
KVM VM
Applications Places System 3.14
Computer
root's Home
Trash
root@psft-web1:~
file Edit View Terminal Tabs Help
[root@psft-web1 ~]# ping 10.104.111.1
PING 10.104.111.1 (10.104.111.1): 56(84) bytes of data:
64 bytes from 10.104.111.1: icmp_seq=1 ttl=255 time=0.409 ms
64 bytes from 10.104.111.1: icmp_seq=2 ttl=255 time=0.370 ms

--- 10.104.111.1 ping statistics ---
2 packets transmitted, 2 received, 0% packet loss, time 1001ms
rtt min/avg/max/mdev = 0.370/0.389/0.409/0.027 ms
[root@psft-web1 ~]#
[root@psft-web1 ~]#
```

Connected to IP: 10.104.100.169 System Time: 2011-09-02 09:28

Cisco UCS Migration—Oracle PeopleSoft Solaris to RHEL

Hardware and Software

PeopleSoft Server Environment on Solaris Operating System

Figure 24 PeopleSoft SUN Solaris Deployment

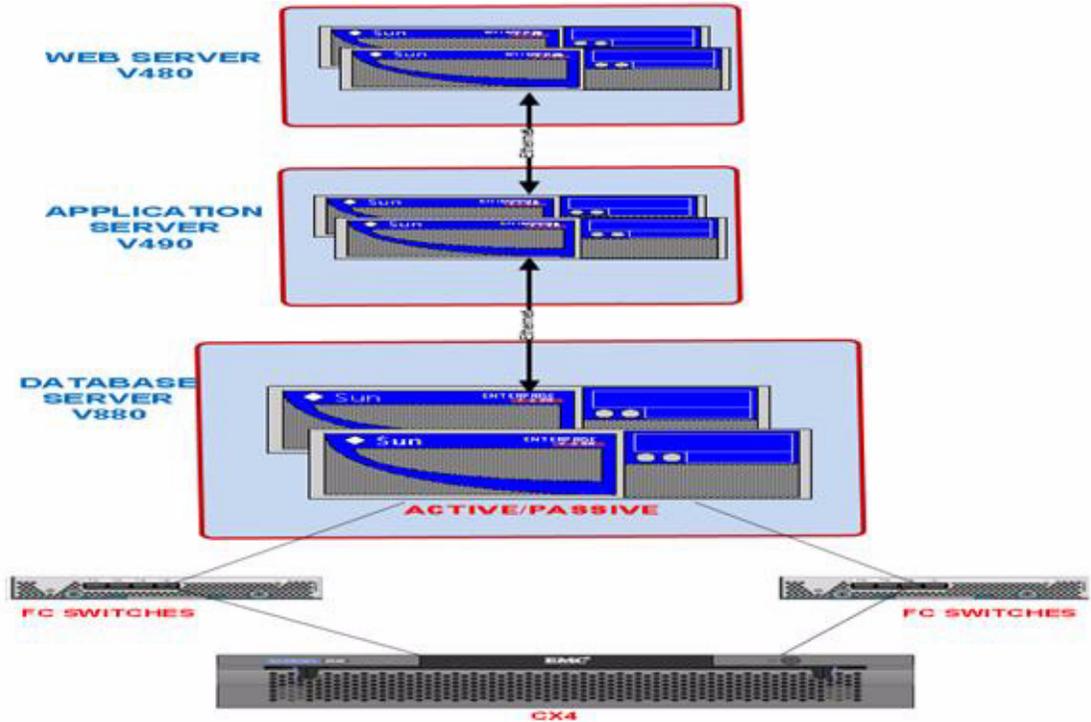


Table 35 Software

| Server Function | IP ADDRESS/ HOSTNAME | Qty | Server Model | CPU | Memory | Function/ Components | Comments |
|----------------------------|----------------------------|-----|----------------|-----------------------|--------|-----------------------|----------------------------|
| PeopleSoft Database Server | 10.104.111.19 sunsiebdb | 1 | Sun Fire V880 | 8XuSPARC III+ 900 MHz | 32GB | DB Server | PeopleSoft Database server |
| PeopleSoft Web Server | 10.104.111.99 ssr-savbu | 2 | Sun Fire V480R | 4XuSPARC III+ 1.2 GHz | 16GB | PeopleSoft Web Server | PeopleSoft Web Server |

PeopleSoft Server Environment on Cisco UCS RHEL Operating System

Figure 25 Cisco UCS—PeopleSoft Deployment

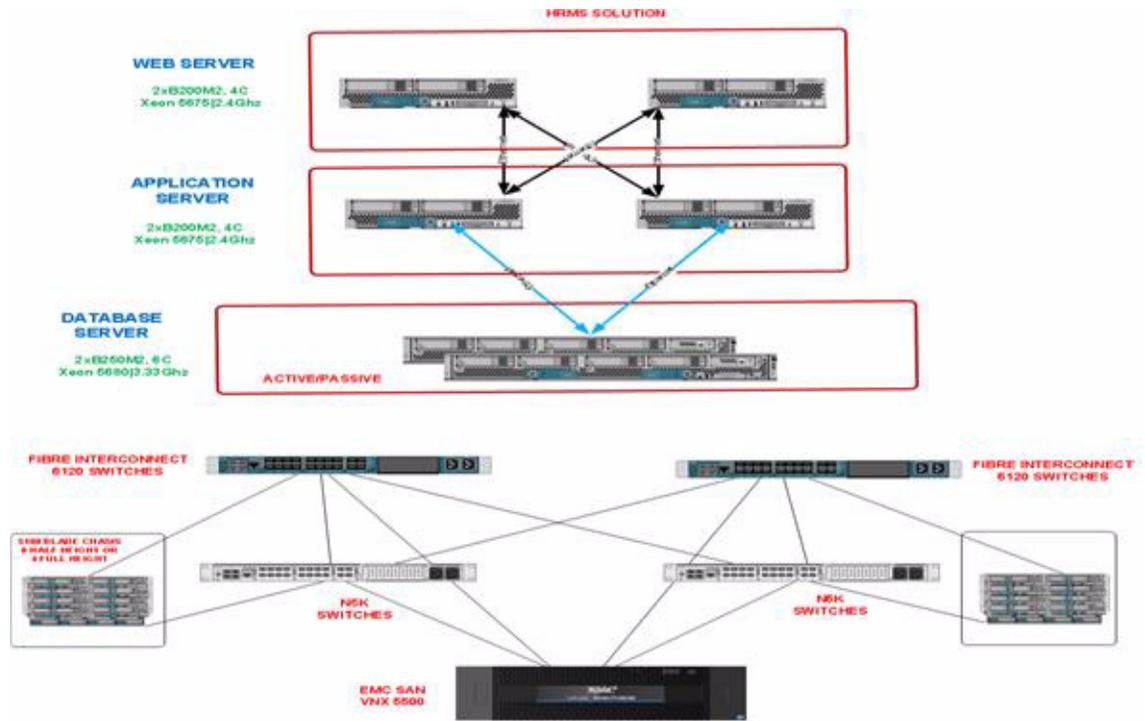


Table 36 Software

| Server Function | Qty | Server Model | CPU | Memory | Function/ Components | Comments |
|-------------------------------|-----|--------------|-----------------------------|--------|-------------------------------|-------------------------------|
| PeopleSoft Database Server | 1 | B250 M2 | 2x Intel® Xeon® 6C X5675 | 96 GB | DB Server | PeopleSoft Database server |
| PeopleSoft Web Server | 2 | B200 M2 | 2x Intel® Xeon® 4C 8T E5620 | 12GB | PeopleSoft Web Server | PeopleSoft Web Server |
| PeopleSoft Application Server | 2 | B200 M2 | 2x Intel® Xeon® 4C 8T E5620 | 24GB | PeopleSoft Application Server | PeopleSoft Application Server |

Table 37 *Supported Operating System*

| Operating System and Product | Minimum Patch Level | Current Environment |
|-----------------------------------|--|---------------------|
| Solaris 10 | Oracle Solaris 10 9/10 s10s_u9wos_14a SPARC | Solaris 10 |
| Red Hat Enterprise Linux 5 | Linux X86-64 > 5.6 | RHEL 5.6 64-Bit |

Table 38 *Supported PeopleTools and Application Releases*

| Peopletools and Application Product | Operating System and Minimum Patch Level | Current Environment |
|--|--|--|
| Peopletools: 8.51 (Minimum People tools patch version supported is 8.51.02) | Oracle Solaris 10 9/10 s10s_u9wos_14a SPARC | Peopletools: 8.51 with patch 8.51.11 |
| Application: HRMS 9.1 feature pack December 2010 | | Application: HRMS 9.1 feature pack December 2010 |
| Microfocus Server Express: Microfocus Server Express 5.1 wrap pack4 | | Microfocus Server Express: Microfocus Server Express 5.1 wrap pack4 |
| PeopleTools 8.51 | RHEL 5.6 | PeopleTools 8.51.11 |
| HRMS Application 9.1 | RHEL 5.6 | HRMS 9.1 Dec 2010 |
| Microfocus Cobol server express 5.1 | RHEL 5.6 | Micro Focus Server Express 5.1 64-bit Wrap Pack 4 |

Table 39 **Supported Web Servers**

| Web Server and Product | Operating System and Minimum Patch Level | Current Environment |
|---|--|--|
| Oracle Weblogic 10.3.4.0.0 (JDK or Jrockit needs to be installed first) Sun Java 6 update 17 or higher 64 Bit JDK for Solaris SPARC java version "1.6.0_20" | Oracle Solaris 10 9/10 s10s_u9wos_14a SPARC | Oracle Weblogic 10.3.4.0.0 (JDK or Jrockit needs to be installed first) Sun Java 6 update 17 or higher 64 Bit JDK for Solaris SPARC I installed the jrockit version jrockit-jdk1.6.0_26-R28.1.4-4.0.1 |
| Weblogic 10g WebSphere JRE | RHEL 5.6 | Oracle Weblogic 10.3.4.0.0 Installed JROCKIT jrockit28.1.4 (p12706519_2814_Linux-x86-64.zip) java version "1.6.0_20" Java(TM) SE Runtime Environment (build 1.6.0_20-b02) Java HotSpot(TM) 64-Bit Server VM (build 16.3-b01, mixed mode) |

Table 40 **Supported Application Server (Tuxedo)**

| Web Server and Product | Operating System and Minimum Patch Level | Current Environment |
|---|--|---------------------------------|
| Oracle Tuxedo 10gR3 minimum patch level RP031 64-bit (the patch RP065 has been installed) | Oracle Solaris 10 9/10 s10s_u9wos_14a SPARC | Oracle Tuxedo 10.3.0.0 (64 Bit) |
| Tuxedo 10gR3 RP031 64-bit | RHEL 5.6 | Oracle Tuxedo 10.3.0.0 |

Table 41 **Supported Database Server**

| Database Server/Client and Product | Operating System and Minimum Patch Level | Current Environment |
|---|--|---------------------------------|
| Vendor and Product: Oracle 11g Enterprise Server Version: 11.2.0.1.0 Connectivity Software: Oracle 11g client Version: 11.1.0.6 or above | Oracle Solaris 10 9/10 s10s_u9wos_14a SPARC | Oracle 11g 11.2.0.1.0 (64 -Bit) |
| Oracle 11g Enterprise Server Version: 11.2.0.1.0 Connectivity Software: Oracle 11g client | RHEL 5.6 | Oracle 11.2.0.2.0 |

Installing Oracle PeopleSoft on Sun Solaris

This section details the sequence of the installation process for the PeopleSoft Enterprise Server.

Installing the Web Server

- Installation of JDK or jrockit jrockit-jdk1.6.0_26-R28.1.4-4.0.1 in Web Server box before doing the Web logic server installation.
- Installation of Oracle Weblogic 10.3.4.0 (64-bit mode) in web server box.
- Installation of peopletools 8.51 in web server box.
- Installation of Peopletools patch 8.51.11 in WebServer box.

Installing the Application Server

- Installation of Oracle Client 11.2.0.1.0 in Application Server box.
- Installation of Oracle Tuxedo 10.3.0.0 in Application Server box.
- Installation of Oracle Tuxedo Patch RP061 in Application Server box.
- Installation of Peopletools 8.51 in Application Server box.
- Installation of Peopletools Patch 8.51.11 in Application Server box.
- Installation of HRMS9.1 feature pack December 2010 in Application server box.

Installing the Database Server

- Installation of Oracle Server 11.2.0.1.0 binaries in Database Server box
- Creation of Oracle/PeopleSoft database in Database Server box.
- Running PeopleSoft Delivered Scripts on Oracle Database in Database Server box.
- Running Datamover Setup to load PeopleSoft delivered data in Database Server box.

The Configuration Sequence

- Configure Application Server in Application Server box.
- Configure Web Server in Web Server box.
- Configure Process Scheduler Server in Application Server box.
- Configure Report Nodes in PIA.

Installing Oracle PeopleSoft on Cisco UCS RHEL 5.6

See [Cisco UCS Migration—Oracle PeopleSoft Solaris to RHEL](#).

Migrating Solaris to Linux

Oracle provides many options to migrate their PeopleSoft environment from one operating system to another. Two very successful methods that the Oracle PeopleSoft production shops have adopted are:

- Import and export: Data was imported into the appropriate tier according to performance characteristics and the significance of the data. After the data was imported, a team validated the data.
- Transportable Tablespaces: The Oracle Transportable Tablespaces (TTS) feature allows users to move a non-system tablespace across Oracle databases. It provides an efficient and much faster way to move bulk data between databases than an export-and-import. Transporting a tablespace requires only the copying of data files from the source to the destination and then integrating the tablespace structural information called the metadata.

The following points detail the actual steps involved in migrating a PeopleSoft Applications Database on SUN Solaris to UCS RHEL 5.6 utilizing the Oracle Transportable Tablespace option:

- Determine if source (Solaris) and target platforms (Red Hat Linux) are supported.
- Determine the Endian format of source
- Determine the support for the target platform
- Install the Oracle Database 11g Release 2(11.2) Software
- Purge recycle bin
- Verify objects in the SYSTEM or SYSAUX tablespaces
- Create a directory for data pump use
- Perform self-containment check and resolve violations
- Create database shell on target system
- Verify database options and components used in the source database are installed on the target database
- Create target database from the structure of the source database
- Create metadata required for Transportable Tablespaces
- Drop user tablespaces
- Export source database metadata
- Ready the source database for transport
- Export tablespaces from source database
- Convert and make source datafiles available to target database
- Copy data pump dump files to target system
- Import tablespaces into target database
- Make user tablespaces read/write on target database
- Import source database metadata into target database
- Fix sequence values
- Compile invalid objects

In the following section the points described above are elaborated on at a much deeper technical level that would help the PeopleSoft Database Administrators. The actual flows involved in migrating a PeopleSoft Applications Database on SUN Solaris to Cisco UCS RHEL 5.6 utilizing the Oracle Transportable Tablespace option are demonstrated.

Prerequisites

The following prerequisites are verified and perform the cross-platform tablespace transport operation.

Determine if Source (solaris) and Target Platforms (RHEL) are supported

Determined if XTTS (Cross-platform transportable tablespace) is supported for both the source and target platforms, and determined the endian form (Little or Big) of each platform.

Determine the Endian Format of the source.

```
SQL> select d.platform_name, endian_format from v$transportable_platform tp,
v$database d where tp.platform_name = d.platform_name;
```

| PLATFORM_NAME | ENDIAN_FORMAT |
|-------------------------|---------------|
| Solaris[tm] OE (64-bit) | Big |

Determine support for the target platform:

```
SQL> select platform_name, endian_format from v$transportable_platform;
```

| PLATFORM_NAME | ENDIAN_FORMAT |
|-----------------------------------|---------------|
| Solaris[tm] OE (32-bit) | Big |
| Solaris[tm] OE (64-bit) | Big |
| Microsoft Windows IA (32-bit) | Little |
| Linux IA (32-bit) | Little |
| AIX-Based Systems (64-bit) | Big |
| HP-UX (64-bit) | Big |
| HP Tru64 UNIX | Little |
| HP-UX IA (64-bit) | Big |
| Linux IA (64-bit) | Little |
| HP Open VMS | Little |
| Microsoft Windows IA (64-bit) | Little |
| IBM zSeries Based Linux | Big |
| Linux x86 64-bit | Little |
| Apple Mac OS | Big |
| Microsoft Windows x86 64-bit | Little |
| Solaris Operating System (x86) | Little |
| IBM Power Based Linux | Big |
| HP IA Open VMS | Little |
| Solaris Operating System (x86-64) | Little |
| Apple Mac OS (x86-64) | Little |

**Note**

The Target Endian was made Big similar to the source using a datafile conversion (described in a subsequent section).

Install the Oracle Database 11g Release 2(11.2) Software

Oracle 11gR2 software was installed on target same as source system. Some of the parameters shown below are Kernel level settings for both Solaris and Cisco UCS RHEL server setup.

Target

Release 11.2.0.1.0

Physical Memory:Allocated 396193228 kB,

Swap Space: 31031288 kB

Disk: 1.5 GB - 3.5 GB of disk space for Oracle software

Kernel:2.6.18-238.el5

SELinux: was disabled

Oracle base "/u01/app/oracle"

Oracle home"/u01/app/oracle/product/11.2.0/psftsmdb"

Solaris Kernel Setting

Controls the maximum number of shared memory segments, in pages

kernel.shmall = 4294967296

fs.aio-max-nr = 1048576

fs.file-max = 6815744

kernel.shmmax = 64424509440

kernel.shmmni = 4096

kernel.sem = 250 32000 100 128

net.ipv4.ip_local_port_range = 9000 65500

net.core.rmem_default = 262144

net.core.rmem_max = 4194304

net.core.wmem_default = 262144

net.core.wmem_max = 1048576

Preparing the Source System

Purge recyclebin

Recyclebin was purged before export to improve the export/import performance and to reduce required storage.

```
SQL> purge dba_recyclebin;
```

Verify objects in the SYSTEM or SYSAUX tablespaces

- SYSTEM-owned objects residing in the SYSTEM or SYSAUX tablespaces
- Verified that no application specific objects are there in the tablespaces owned by SYSTEM.
- User-owned tables residing in the SYSTEM or SYSAUX tablespaces

Run the script shown below to verify if any user objects exist in SYSTEM or SYSAUX so that they can be moved separately.

```
SQL> @tts_system_user_obj.sql
```

Confirmed no user specific objects are found in SYSTEM or SYSAUX

Gather information from the Source

The following information was gathered from the source database and used throughout this process. Following scripts are provided in the Appendix:

```
SQL> connect system/<password>
```

To drop tablespaces in the target database prior to the transport process.

```
SQL> @cr_tts_drop_ts.sql
```

To set all tablespaces to be transported to READ ONLY mode.

```
SQL> @cr_tts_tsro.sql
```

To set all tablespaces to READ WRITE mode after the transport process.

```
SQL> @cr_tts_tsrw.sql
```

To create GRANT commands to be run on the target database to give privileges that are not handled by Data Pump.

```
SQL> @cr_tts_sys_privs.sql
```

To reset the proper starting value for sequences on the target database.

```
SQL> @cr_tts_create_seq.sql
```

To Create Data Pump parameters files for;

- XTTS export (dp_ttsexp.par)
- XTTS import (dp_ttsimp.par)
- Test tablespace metadata-only export (dp_tsmeta_exp_TESTONLY.par)

```
SQL> @cr_tts_parfiles.sql
```

Create a directory for data pump use;

```
SQL> connect system/<password>
```

```
SQL> create directory PUMP_DIR as '/solcrm/dump';
SQL> !mkdir /solcrm/dump
```

Perform self-containment check and resolve violations

Ensured that all object references from the transportable set are contained in the transportable set. For example, the base table of an index must be in the transportable set, index-organized tables and their overflow tables must both be in the transportable set, and a scoped table and its base table must be together in the transportable set.

```
SQL> @tts_check.sql
```



Note

After performing this step, no DDL changes are to be made to the source database. DDL changes made to the database after the source database metadata export will not be reflected in the target database unless handled manually.

Creating the Target System

Created database shell on target system.

The target database shell was created using DBCA.

When creating the target database, the following was taken care of:

- Created user tablespaces same as source with smaller sizes as placeholder which are dropped in the process later.
 - Edited the CreateDBFiles.sql script created during template creation, and changed the datafile size for all permanent tablespaces to 1M. For example...
 - CREATE SMALLFILE TABLESPACE "USERS" LOGGING DATAFILE SIZE 250M ...
 - Changed to
 - CREATE SMALLFILE TABLESPACE "USERS" LOGGING DATAFILE SIZE 1M ...
- The sizes of the SYSTEM, SYSAUX, UNDO, and temporary tablespaces made same as the source database.
- The sizes of log files and number of members per log file group in the new target database made same as source database.
- Verified that the source and target database have the same character set and national character set.

```
SQL> select * from database_properties
where property_name like '%CHARACTERSET';

Source :
NLS_CHARACTERSET : AL32UTF8
NLS_NCHAR_CHARACTERSET : AL16UTF16

Target :
NLS_CHARACTERSET: AL32UTF8
NLS_NCHAR_CHARACTERSET: AL16UTF16
```

- Verified the database options and components used in the source database are installed on the target database.
 - Query V\$OPTION to get currently installed database options.
 - Query DBA_REGISTRY to get currently installed database components.

Created the target database from the structure of the source database

Launched DBCA and clicked Next to continue to the Operations window. On the Operations window, selected Manage Templates and clicked Next to continue to the Template Management window. Selected from an existing database (structure only) and followed the remaining windows to create a template of the existing source database.

Created database link and directory for Data Pump

On the target database, created a database link from the target system to the source system and a directory for Data Pump use.

```
SQL> connect system/<password>
SQL> create database link ttslink using 'mig';
SQL> create directory PUMP_DIR as '/solcrm/dump';
SQL> !mkdir /solcrm/dump
```

Created metadata required for XTTS

Ran Data Pump on the target system to import database metadata necessary for the transportable import.

```
$ impdp system/password DIRECTORY= PUMP_DIR LOGFILE=dp_userimp.log
NETWORK_LINK=mig FULL=y INCLUDE=USER,ROLE,ROLE_GRANT,PROFILE
```

Drop user tablespaces

Dropped the placeholder tablespaces in the target database that were created when the target database was initially created by DBCA. Tablespace USERS was default permanent tablespace and so changed the database default permanent tablespace.

```
SQL> select property_value from database_properties where
property_name='DEFAULT_PERMANENT_TABLESPACE';
PROPERTY_VALUE
-----
USERS

SQL> alter database default tablespace SYSTEM;
Database altered.

Dropped all user tablespaces, running the tts_drop_ts.sql
SQL> @tts_drop_ts.sql
```

Export Source Database Metadata

Exported all metadata from the source database. Made sure no DDL is performed after this step.

```
$ expdp system/password DIRECTORY= PUMP_DIR LOGFILE=dp_fullexp_meta.log
DUMPFILE=dp_full.dmp FULL=y CONTENT=METADATA_ONLY
EXCLUDE=USER,ROLE,ROLE_GRANT,PROFILE
```

Perform the Transport

Make sure that the Source database is ready for transport and then Disconnect the Users and Restrict Access to Source Database.

```
SQL> alter system enable restricted session;
SQL> alter system disconnect session '<SID>,<SERIAL#>';
```

Make All User Tablespaces READ ONLY

```
SQL> @tts_tsro.sql
```

Gather Sequence Information

Proper sequence starting values need to be captured from the source database which is used to recreate sequences in the target database with the correct starting values.

```
SQL> @cr_tts_create_seq.sql
```

Transport the User Tablespaces

To perform the tablespace transport, do the following;

Export Tablespaces from Source Database

Exported the user tablespace metadata from the source database.

```
$ expdp system/password PARFILE=dp_ttsexp.par
```

Convert and Make Source Datafiles Available to Target Database

When the source tablespaces were placed in READ ONLY mode, the datafiles were made available to the target database.



Note

As Endian was different on source and target, the datafile conversion was made on the target

Also the datafiles were converted into ASM format on target.

1. Transferred the original datafiles to a staging area on the target system
Location: solcrm/dump (NFS mount point shared between both systems.)
2. Ran RMAN CONVERT DATAFILE on the target system to convert the datafiles to the new endian format and place the converted copy in the final destination on the target system. The datafiles of all tablespaces being transported were specified.

```
RMAN> CONVERT DATAFILE
'/solcrm/dump/SBL_DATA_16.dbf',
'/solcrm/dump/sbl_data_81_3.dbf',
'/solcrm/dump/sbl_data_81_4.dbf',
'/solcrm/dump/sbl_data_81_1.dbf',
'/solcrm/dump/sbl_data_81.dbf',
'/solcrm/dump/sbl_data_81_2.dbf',
```

```

'/solcrm/dump/sbl_indx_81_3.dbf',
'/solcrm/dump/sbl_indx_81_1',
'/solcrm/dump/sbl_indx_81.dbf',
'/solcrm/dump/sbl_indx_81_2.dbf',
'/solcrm/dump/sbl_indx_81_4.dbf',
'/solcrm/dump/SBL_IND_16.dbf',
'/solcrm/dump/users01.dbf'
FROM PLATFORM 'Solaris[tm] OE (64-bit)'
PARALLELISM 4
DB_FILE_NAME_CONVERT '/solcrm/dump/', '+DATA/psftsmdb/' ;

```

Run script cr_rman_df_convert.sql

Moving the Datafiles

NFS mount is already shared between source and target. Converted ASM files are within the NFS mountpoint only.

Copy Data Pump Dump Files to Target System

Copy the dump to the target system in the shared folder solcrm/dump which is also used by the target.

Importing Tablespaces into the Target Database

Import the user tablespaces into the target database:



Note

The dp_ttsimp.par file contains a list of datafiles to be transported into the target database. The contents of the file were generated from the source database, including datafile names. The datafile paths specified in the file must be changed to reflect the location where the datafiles exist on the target database.

```

$ impdp system/password PARFILE=dp_ttsimp.par
Parfile look like, modify the ASM path of datafiles
directory=PUMP_DIR
dumpfile=dp_tts.dmp
logfile=dp_ttsimp.log
transport_datafiles= '+DATA/psftsmdb/aaapp.dbf',
'+DATA/psftsmdb/aalarge.dbf',
'+DATA/psftsmdb/adapp.dbf',
'+DATA/psftsmdb/amapp.dbf',
'+DATA/psftsmdb/avapp.dbf',
'+DATA/psftsmdb/bdapp.dbf',
'+DATA/psftsmdb/bnapp.dbf',
'+DATA/psftsmdb/bnlarge.dbf',

```

'+DATA/psftsmdb/ccapp.dbf',
'+DATA/psftsmdb/coapp.dbf',
'+DATA/psftsmdb/cuaudit.dbf',
'+DATA/psftsmdb/cularg1.dbf',
'+DATA/psftsmdb/cularg2.dbf',
'+DATA/psftsmdb/cularg3.dbf',
'+DATA/psftsmdb/cularge.dbf',
'+DATA/psftsmdb/diapp.dbf',
'+DATA/psftsmdb/dtapp.dbf',
'+DATA/psftsmdb/eoapp.dbf',
'+DATA/psftsmdb/eobfapp.dbf',
'+DATA/psftsmdb/eocfapp.dbf',
'+DATA/psftsmdb/eocmapp.dbf',
'+DATA/psftsmdb/eocmlrg.dbf',
'+DATA/psftsmdb/eocmwrk.dbf',
'+DATA/psftsmdb/eocuapp.dbf',
'+DATA/psftsmdb/eoculrg.dbf',
'+DATA/psftsmdb/eodsapp.dbf',
'+DATA/psftsmdb/eodslrg.dbf',
'+DATA/psftsmdb/eoecapp.dbf',
'+DATA/psftsmdb/eoecrlrg.dbf',
'+DATA/psftsmdb/eoecwrk.dbf',
'+DATA/psftsmdb/eoeiapp.dbf',
'+DATA/psftsmdb/eoeilrg.dbf',
'+DATA/psftsmdb/eoewapp.dbf',
'+DATA/psftsmdb/eoewlrg.dbf',
'+DATA/psftsmdb/eoewrk.dbf',
'+DATA/psftsmdb/eoiuapp.dbf',
'+DATA/psftsmdb/eoiulrg.dbf',
'+DATA/psftsmdb/eoiuwrk.dbf',
'+DATA/psftsmdb/eolarge.dbf',
'+DATA/psftsmdb/eoltapp.dbf',
'+DATA/psftsmdb/eoppapp.dbf',
'+DATA/psftsmdb/eopplrg.dbf',
'+DATA/psftsmdb/eotpapp.dbf',
'+DATA/psftsmdb/eotplrg.dbf',
'+DATA/psftsmdb/epapp.dbf',
'+DATA/psftsmdb/eplarge.dbf',

```

'+DATA/psftsmdb/erapp.dbf',
'+DATA/psftsmdb/erlarge.dbf',
'+DATA/psftsmdb/erwork.dbf',
'+DATA/psftsmdb/faapp.dbf',
'+DATA/psftsmdb/falarge.dbf',
'+DATA/psftsmdb/fgapp.dbf',
'+DATA/psftsmdb/fglarge.dbf',
'+DATA/psftsmdb/fsapp.dbf',
'+DATA/psftsmdb/giapp.dbf',
'+DATA/psftsmdb/gpapp.dbf',
'+DATA/psftsmdb/gpdeapp.dbf',
'+DATA/psftsmdb/hpapp.dbf',
'+DATA/psftsmdb/hrapp.dbf',
'+DATA/psftsmdb/hrapp1.dbf',
'+DATA/psftsmdb/hrapp2.dbf',
'+DATA/psftsmdb/hrapp3.dbf',
'+DATA/psftsmdb/hrapp4.dbf',
'+DATA/psftsmdb/hrapp5.dbf',
'+DATA/psftsmdb/hrapp6.dbf',
'+DATA/psftsmdb/hrapp7.dbf',
'+DATA/psftsmdb/hrimage.dbf',
'+DATA/psftsmdb/hrlarg1.dbf',
'+DATA/psftsmdb/hrlarge.dbf',
'+DATA/psftsmdb/hrsapp.dbf',
'+DATA/psftsmdb/hrsarch.dbf',
'+DATA/psftsmdb/hrslarge.dbf',
'+DATA/psftsmdb/hrswork.dbf',
'+DATA/psftsmdb/hrwork.dbf',
'+DATA/psftsmdb/htapp.dbf',
'+DATA/psftsmdb/inapp.dbf',
'+DATA/psftsmdb/paapp.dbf',
'+DATA/psftsmdb/palarge.dbf',
'+DATA/psftsmdb/pcapp.dbf',
'+DATA/psftsmdb/pclarge.dbf',
'+DATA/psftsmdb/piapp.dbf',
'+DATA/psftsmdb/pilarge.dbf',
'+DATA/psftsmdb/piwork.dbf',
'+DATA/psftsmdb/poapp.dbf',

```

```

'+DATA/psftsmdb/psdefault.dbf',
'+DATA/psftsmdb/psimage.dbf',
'+DATA/psftsmdb/psimgr.dbf',
'+DATA/psftsmdb/psindex.dbf',
'+DATA/psftsmdb/pswork.dbf',
'+DATA/psftsmdb/ptamsg.dbf',
'+DATA/psftsmdb/ptapp.dbf',
'+DATA/psftsmdb/ptappe.dbf',
'+DATA/psftsmdb/ptaudit.dbf',
'+DATA/psftsmdb/ptcmstar.dbf',
'+DATA/psftsmdb/ptlock.dbf',
'+DATA/psftsmdb/ptprc.dbf',
'+DATA/psftsmdb/ptrjwk.dbf',
'+DATA/psftsmdb/ptrpts.dbf',
'+DATA/psftsmdb/pttbl.dbf',
'+DATA/psftsmdb/pttlrg.dbf',
'+DATA/psftsmdb/pttree.dbf',
'+DATA/psftsmdb/ptwork.dbf',
'+DATA/psftsmdb/pvapp.dbf',
'+DATA/psftsmdb/py0lrg.dbf',
'+DATA/psftsmdb/pyapp.dbf',
'+DATA/psftsmdb/pylarge.dbf',
'+DATA/psftsmdb/pywork.dbf',
'+DATA/psftsmdb/saapp.dbf',
'+DATA/psftsmdb/sacapp.dbf',
'+DATA/psftsmdb/salarge.dbf',
'+DATA/psftsmdb/srapp.dbf',
'+DATA/psftsmdb/stapp.dbf',
'+DATA/psftsmdb/stlarge.dbf',
'+DATA/psftsmdb/stwork.dbf',
'+DATA/psftsmdb/users01.dbf',
'+DATA/psftsmdb/tlapp.dbf',
'+DATA/psftsmdb/tllarge.dbf',
'+DATA/psftsmdb/tlwork.dbf',
'+DATA/psftsmdb/waapp.dbf;

```

Perform post-transport actions on the target database.

Make user tablespaces READ WRITE on the target database.

```
SQL> @tts_tsrw.sql
```

Importing the Source Database Metadata into the Target Database

After the tablespaces were imported into the target database, the remaining database metadata from the source database was imported.

```
$ impdp system/password DIRECTORY= PUMP_DIR LOGFILE=dp_fullimp.log
DUMPFIL=dp_full.dmp FULL=y
```

Reviewed the tts_dpnet_fullimp.log file for errors. No errors were found.

Create System Privileges in Target Database

```
SQL> @tts_sys_privs.sql
```

Fix Sequence Values

Sequences may have values in the target database that do not match the source database because the sequences were referenced after the dictionary export was created. The supported method of resetting a sequence to a different starting value is to drop and recreate the sequence. The script tts_create_seq.sql, created in an earlier step in phase 3, IS be used to drop and recreate sequences based on the values in the source database.

```
SQL> @tts_create_seq.sql
```

```
SQL> @tts_create_seq.sql
```

Compile Invalid Objects

```
SQL> @?/rdbms/admin/utlpr.sql
```

Compiled all invalid objects

When the transport process is finished, it is verified that the target database is complete and functional. The target database is now open and available.

Migrating the Oracle Web and Application Layer

There are not many tools available to migrate application code from Solaris to Red Hat Enterprise Linux. Since the test runs had been done and a listing of all patches applied to the PeopleSoft application on Solaris environment, it was decided to do a fresh install and reapply all the patches, bringing the application to the current required patch level.

For deploying PeopleSoft on Cisco UCS Server and RHEL, please refer to the “PeopleSoft Deployment Guide on Cisco UCS.”

Post Migration Activities

The following are the post migration activities that need to be performed after the database migration from SOLARIS to Cisco UCS RHEL servers:

1. Update the DB name from PSHRSOL to PSFTSMDB. The result is as follows:

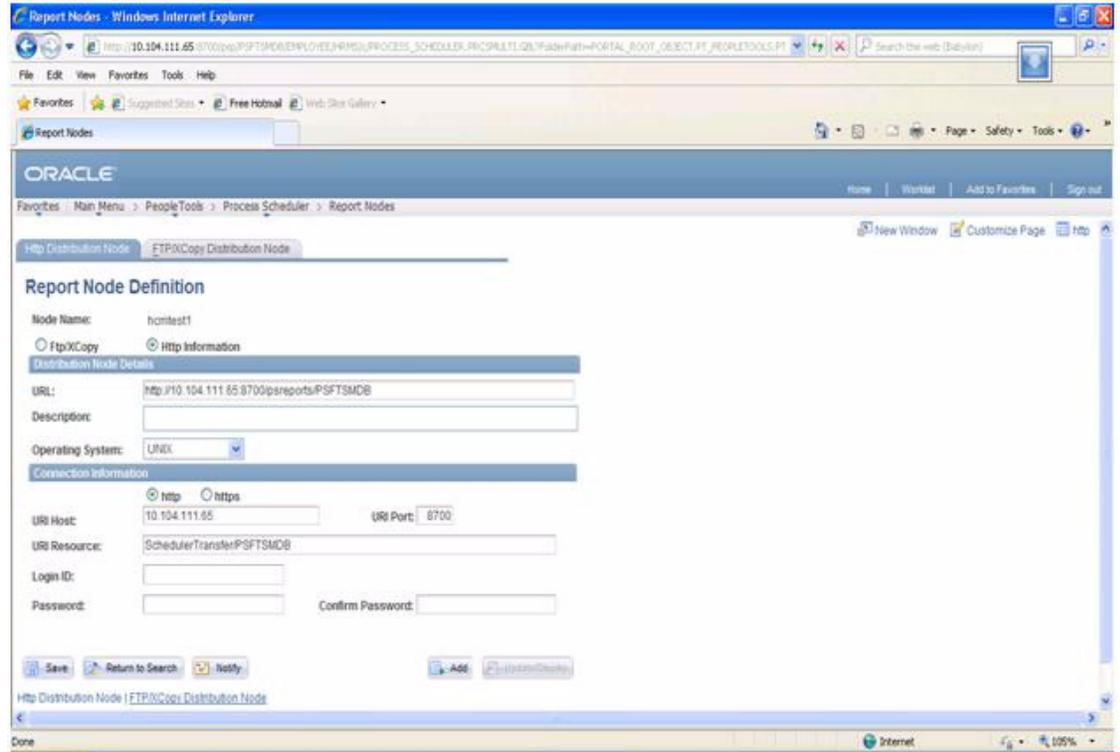
```
SQL> select * from ps.psdowner;
DBNAME    OWNERID
```

 PSFTSMDB SYSADM

2. Change the report nodes configuration as shown below:

Login to the application using PS user credentials. Go to the navigation

Peopletools->process scheduler->report nodes and change the settings as shown below.



Validating the Migrated Environment

A production shop environment was simulated by writing top 25 business (critical) scripts and checking the response time matches or exceed the old setup. The same scripts were used to check the data integrity.

SQL Scripts Used for Migration

Some of the scripts that were called and used in this migration activity are listed below:

TTS_SYSTEM_USER_OBJ.sql

```
select
    owner, segment_name, segment_type
from dba_segments
where tablespace_name in ('SYSTEM', 'SYSAUX') and
owner not in ('SYS', 'SYSTEM', 'DBSNMP', 'SYSMAN', 'OUTLN', 'MDSYS', 'ORDSYS',
'EXFSYS', 'DMSYS', 'WMSYS', 'WKSYS', 'CTXSYS', 'ANONYMOUS', 'XDB', 'WKPROXY',
'ORDPLUGINS', 'DIP', 'SI_INFORMTN_SCHEMA', 'OLAPSYS', 'MDDATA', 'WK_TEST',
'MGMT_VIEW', 'TMSYS');
```

```

CR_TTS_DROP_TS.sql
set heading off feedback off trimspool on
linesize 500
spool tts_drop_ts.sql
prompt /* ===== */
prompt /* Drop user tablespaces */
prompt /* ===== */
select 'DROP TABLESPACE ' || tablespace_name || ' INCLUDING CONTENTS AND
DATAFILES;' from dba_tablespaces
where tablespace_name not in ('SYSTEM','SYSAUX')
and contents = 'PERMANENT';
spool off

```

```

CR_TTS_TSRO.sql
set heading off feedback off trimspool on
linesize 500
spool tts_tsro.sql
prompt /* ===== */
prompt /* Make all user tablespaces READ ONLY */
prompt /* ===== */
select 'ALTER TABLESPACE ' || tablespace_name || ' READ ONLY;' from
dba_tablespaces
where tablespace_name not in ('SYSTEM','SYSAUX')
and contents = 'PERMANENT';
spool off

```

```

CT_TTS_TSRW.sql
set heading off feedback off trimspool on
linesize 500
spool tts_tsrw.sql
prompt /* ===== */
prompt /* Make all user tablespaces READ WRITE */
prompt /* ===== */
select 'ALTER TABLESPACE ' || tablespace_name || ' READ WRITE;' from
dba_tablespaces
where tablespace_name not in ('SYSTEM','SYSAUX')
and contents = 'PERMANENT';
spool off

```

```

CT_TTS_SYS_PRIVS.sql
set heading off feedback off trimspool on
escape off
set long 1000 linesize 1000

```

```

col USERDDL format A150
spool tts_sys_privs.sql
prompt /* ===== */
prompt /* Grant privs */
prompt /* ===== */
select 'grant '||privilege||' on "'|| owner||'".'||table_name||'" to
"'||grantee||'";
decode(grantable,'YES',' with grant option ')|| decode(hierarchy,'YES',' with
hierarchy option ')||
';
from dba_tab_privs where owner in
('SYS', 'SYSTEM', 'DBSNMP', 'SYSMAN', 'OUTLN', 'MDSYS',
'ORDSYS', 'EXFSYS', 'DMSYS', 'WMSYS', 'WKSYS', 'CTXSYS',
'ANONYMOUS', 'XDB', 'WKPROXY', 'ORDPLUGINS', 'DIP',
'SI_INFORMTN_SCHEMA', 'OLAPSYS', 'MDDATA', 'WK_TEST',
'MGMT_VIEW', 'TMSYS')
and grantee in (select username from dba_users where username not in
('SYS', 'SYSTEM', 'DBSNMP', 'SYSMAN', 'OUTLN', 'MDSYS',
'ORDSYS', 'EXFSYS', 'DMSYS', 'WMSYS', 'WKSYS', 'CTXSYS',
'ANONYMOUS', 'XDB', 'WKPROXY', 'ORDPLUGINS', 'DIP',
'SI_INFORMTN_SCHEMA', 'OLAPSYS', 'MDDATA', 'WK_TEST',
'MGMT_VIEW', 'TMSYS')
);
spool off

```

CR_TTS_CREATE_SEQS.sql

```

set heading off feedback off trimspool on
escape off
set long 1000 linesize 1000 pagesize 0
col SEQDDL format A300
spool tts_create_seq.sql
prompt /* ===== */
prompt /* Drop and create sequences */
prompt /* ===== */
select regexp_replace(
dbms_metadata.get_ddl('SEQUENCE',sequence_name,sequence_owner),
'^.*(CREATE SEQUENCE.*CYCLE).*$',
'DROP SEQUENCE "'||sequence_owner||'".'||sequence_name
||'";'||chr(10)||'\1;') SEQDDL from dba_sequences
where sequence_owner not in ('SYS', 'SYSTEM', 'DBSNMP', 'SYSMAN', 'OUTLN',
'MDSYS',
'ORDSYS', 'EXFSYS', 'DMSYS', 'WMSYS', 'WKSYS', 'CTXSYS',
'ANONYMOUS', 'XDB', 'WKPROXY', 'ORDPLUGINS', 'DIP',

```

```
'SI_INFORMTN_SCHEMA', 'OLAPSYS', 'MDDATA', 'WK_TEST',
'MGMT_VIEW', 'TSMSYS');
spool off
```

CR_TTS_PAR_FILES.sql

```
REM
REM Create TTS Data Pump export and import PAR files
REM
set feedback off trimspool on
set serveroutput on size 1000000
REM
REM Data Pump parameter file for TTS export
REM
spool dp_ttsexp.par
declare
tsname varchar(30);
i number := 0;
begin
dbms_output.put_line('directory=PUMP_DIR');
dbms_output.put_line('dumpfile=dp_tts.dmp');
dbms_output.put_line('logfile=dp_ttsexp.log');
dbms_output.put_line('transport_full_check=no');
dbms_output.put('transport_tablespaces=');
for ts in
(select tablespace_name from dba_tablespaces
where tablespace_name not in ('SYSTEM','SYSAUX')
and contents = 'PERMANENT'
order by tablespace_name)
loop
if (i!=0) then
dbms_output.put_line(tsname||',');
end if;
i := 1;
tsname := ts.tablespace_name;
end loop;
dbms_output.put_line(tsname);
dbms_output.put_line('');
end;
/
spool off
REM
REM Data Pump parameter file for TTS import
```

```

REM
spool dp_ttsimp.par
declare
fname varchar(513);
i number := 0;
begin
dbms_output.put_line('directory=PUMP_DIR');
dbms_output.put_line('dumpfile=dp_tts.dmp');
dbms_output.put_line('logfile=dp_ttsimp.log');
dbms_output.put('transport_datafiles=+DATA/ucssmdb/');
for df in
(select file_name from dba_tablespaces a, dba_data_files b
where a.tablespace_name = b.tablespace_name
and a.tablespace_name not in ('SYSTEM','SYSAUX')
and contents = 'PERMANENT'
order by a.tablespace_name)
loop
if (i!=0) then
dbms_output.put_line(''||'+DATA/ucssmdb'||fname||'',');
end if;
i := 1;
fname := df.file_name;
end loop;
dbms_output.put_line(''||'+DATA/ucssmdb'||fname||'');
dbms_output.put_line('');
end;
/
spool off
REM
REM Data Pump parameter file for tablespace metadata export
REM Only use this to estimate the TTS export time
REM
spool dp_tsmeta_exp_TESTONLY.par
declare
tsname varchar(30);
i number := 0;
begin
dbms_output.put_line('directory=PUMP_DIR');
dbms_output.put_line('dumpfile=dp_tsmeta_TESTONLY.dmp');
dbms_output.put_line('logfile=dp_tsmeta_exp_TESTONLY.log');
dbms_output.put_line('content=metadata_only');
dbms_output.put('tablespaces=');
for ts in

```

```

(select tablespace_name from dba_tablespaces
where tablespace_name not in ('SYSTEM','SYSAUX')
and contents = 'PERMANENT'
order by tablespace_name)
loop
if (i!=0) then
dbms_output.put_line(tsname||',');
end if;
i := 1;
tsname := ts.tablespace_name;
end loop;
dbms_output.put_line(tsname);
dbms_output.put_line('');
end;
/
spool off

```

TTS_CHECK.sql

```

declare
checklist varchar2(4000);
i number := 0;
begin
for ts in
(select tablespace_name
from dba_tablespaces
where tablespace_name not in ('SYSTEM','SYSAUX')
and contents = 'PERMANENT')
loop
if (i=0) then
checklist := ts.tablespace_name;
else
checklist := checklist||','||ts.tablespace_name;
end if;
i := 1; end loop;
dbms_tts.transport_set_check(checklist,TRUE,TRUE);
end;
/
select * from transport_set_violations;

```

CR_TTS_CR_SEQS.sql

```

set heading off feedback off trimspool on escape off
set long 1000 linesize 1000 pagesize 0

```

```

col SEQDDL format A300
spool tts_create_seq.sql
prompt /* ===== */
prompt /* Drop and create sequences */
prompt /* ===== */
select regexp_replace(
dbms_metadata.get_ddl('SEQUENCE',sequence_name,sequence_owner),
'^.*(CREATE SEQUENCE.*CYCLE).*$',
'DROP SEQUENCE "'||sequence_owner||'".'||sequence_name
||'";'||chr(10)||'\1;') SEQDDL from dba_sequences
where sequence_owner not in ('SYS', 'SYSTEM', 'DBSNMP', 'SYSMAN', 'OUTLN',
'MDSYS',
'ORDSYS', 'EXFSYS', 'DMSYS', 'WMSYS', 'WKSYS', 'CTXSYS',
'ANONYMOUS', 'XDB', 'WKPROXY', 'ORDPLUGINS', 'DIP',
'SI_INFORMTN_SCHEMA', 'OLAPSYS', 'MDDATA', 'WK_TEST',
'MGMT_VIEW', 'TMSYS');
spool off

```

CR_RMAN_DF_CONVERT.sql

```

REM
REM Create RMAN CONVERT DATAFILE script for cross platform TTS
REM Use for target system conversion only
REM
set feedback off trimspool on
set serveroutput on size 1000000
spool df_convert.rman
declare
fname varchar(513);
i number := 0;
begin
dbms_output.put_line('# Sample RMAN script to perform file conversion on all
user datafiles');
dbms_output.put_line('# Datafile names taken from DBA_DATA_FILES');
dbms_output.put_line('# Please review and edit before using');
dbms_output.put_line('CONVERT DATAFILE ');
for df in
(select substr(file_name,instr(file_name,'/',-1)+1) file_name
from dba_tablespaces a, dba_data_files b
where a.tablespace_name = b.tablespace_name
and a.tablespace_name not in ('SYSTEM','SYSAUX')
and contents = 'PERMANENT'
order by a.tablespace_name)
loop

```

```

if (i!=0) then
dbms_output.put_line(''/solcrm/dump/'||fname||'',');
end if;
i := 1;
fname := df.file_name;
end loop;
dbms_output.put_line(''/solcrm/dump/'||fname||'');
dbms_output.put_line('FROM PLATFORM ''<Enter source platform here>'');
dbms_output.put_line('PARALLELISM 4');
dbms_output.put_line('DB_FILE_NAME_CONVERT
''/solcrm/dump/'', ''+DATA/ucssmdb/'');
dbms_output.put_line(';');
end;
/
spool off

```

**Note**

Please refer to the “Cisco UCS Deployment Guide for PeopleSoft” for more information about how to setup and install PeopleSoft on Cisco UCS servers.

Reference Documents

- Oracle PeopleSoft PeopleTools 8.51 Certification Matrix on Linux x86-64 Red Hat Enterprise Linux 5
<https://support.oracle.com/CSP/ui/flash.html>
- Cisco Hardware and Software Interoperability Matrix Release 1.4.3
http://www.cisco.com/en/US/products/ps10477/prod_technical_reference_list.html
- Oracle PeopleSoft PeopleTools 8.51 Release Notes
[https://support.oracle.com/CSP/ui/flash.html#tab=KBHome\(page=KBHome&id=\(\)\),\(page=KBNavigator&id=\(viewingMode=1143&bmDocTitle=PeopleTools%208.51%20Release%20Notes&bmDocSrc=KB&bmDocType=REFERENCE&bmDocID=1203023.1&from=BOOKMARK\)\)](https://support.oracle.com/CSP/ui/flash.html#tab=KBHome(page=KBHome&id=()),(page=KBNavigator&id=(viewingMode=1143&bmDocTitle=PeopleTools%208.51%20Release%20Notes&bmDocSrc=KB&bmDocType=REFERENCE&bmDocID=1203023.1&from=BOOKMARK)))
- Hardware and Software Guide for Oracle PeopleTools 8.51
http://docs.oracle.com/cd/E18373_01/psft/acrobat/PeopleTools_8.51_HardwareSoftwareGuide.pdf
- 733205.1: Migration of Oracle Database Instances Across OS Platforms
[https://support.oracle.com/CSP/ui/flash.html#tab=KBHome\(page=KBHome&id=\(\)\),\(page=KBNavigator&id=\(bmDocSrc=KB&bmDocID=733205.1&from=BOOKMARK&viewingMode=1143&bmDocTitle=Migration%20of%20an%20Oracle%20Database%20Across%20OS%20Platforms&bmDocType=HOWTO\)\)](https://support.oracle.com/CSP/ui/flash.html#tab=KBHome(page=KBHome&id=()),(page=KBNavigator&id=(bmDocSrc=KB&bmDocID=733205.1&from=BOOKMARK&viewingMode=1143&bmDocTitle=Migration%20of%20an%20Oracle%20Database%20Across%20OS%20Platforms&bmDocType=HOWTO)))

Reference Links

- The racking, power and installation of the chassis are described in the install guide:
http://www.cisco.com/en/US/docs/unified_computing/ucs/hw/chassis/install/ucs5108_install.html

- Cisco Unified Computing System CLI Configuration Guide:
http://www.cisco.com/en/US/docs/unified_computing/ucs/sw/cli/config/guide/1.4/b_UCSM_CLI_Configuration_Guide_1_4.html
- Cisco UCS Manager GUI configuration Guide:
http://www.cisco.com/en/US/docs/unified_computing/ucs/sw/gui/config/guide/1.4/b_UCSM_GUI_Configuration_Guide_1_4.html
- VP for Unified Storage System - A Detailed Review which is available at:
<http://www.emc.com/collateral/software/white-papers/h8058-fast-vp-unified-storage-wp.pdf>
- EMC FAST Cache - A Detailed Review which is available at:
<http://www.emc.com/collateral/software/white-papers/h8046-clariion-celerra-unified-fast-cache-wp.pdf>
- EMC FAST VP for Unified Storage System - A Detailed Review which is available at:
<http://www.emc.com/collateral/software/white-papers/h8058-fast-vp-unified-storage-wp.pdf>
- Additional information on EMC PowerPath/VE is available at
<http://www.emc.com/collateral/software/data-sheet/1751-powerpath-ve-multipathing-ds.pdf>
- Additional information on the VNX Series is available at
<http://www.emc.com/collateral/hardware/data-sheets/h8520-VNX-family-ds.pdf>

About Cisco Validated Design (CVD) Program

The CVD program consists of systems and solutions designed, tested, and documented to facilitate faster, more reliable, and more predictable customer deployments. For more information visit www.cisco.com/go/designzone.

ALL DESIGNS, SPECIFICATIONS, STATEMENTS, INFORMATION, AND RECOMMENDATIONS (COLLECTIVELY, "DESIGNS") IN THIS MANUAL ARE PRESENTED "AS IS," WITH ALL FAULTS. CISCO AND ITS SUPPLIERS DISCLAIM ALL WARRANTIES, INCLUDING, WITHOUT LIMITATION, THE WARRANTY OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT OR ARISING FROM A COURSE OF DEALING, USAGE, OR TRADE PRACTICE. IN NO EVENT SHALL CISCO OR ITS SUPPLIERS BE LIABLE FOR ANY INDIRECT, SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES, INCLUDING, WITHOUT LIMITATION, LOST PROFITS OR LOSS OR DAMAGE TO DATA ARISING OUT OF THE USE OR INABILITY TO USE THE DESIGNS, EVEN IF CISCO OR ITS SUPPLIERS HAVE BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

THE DESIGNS ARE SUBJECT TO CHANGE WITHOUT NOTICE. USERS ARE SOLELY RESPONSIBLE FOR THEIR APPLICATION OF THE DESIGNS. THE DESIGNS DO NOT CONSTITUTE THE TECHNICAL OR OTHER PROFESSIONAL ADVICE OF CISCO, ITS SUPPLIERS OR PARTNERS. USERS SHOULD CONSULT THEIR OWN TECHNICAL ADVISORS BEFORE IMPLEMENTING THE DESIGNS. RESULTS MAY VARY DEPENDING ON FACTORS NOT TESTED BY CISCO.

CCDE, CCENT, Cisco Eos, Cisco Lumin, Cisco Nexus, Cisco StadiumVision, Cisco TelePresence, Cisco WebEx, the Cisco logo, DCE, and Welcome to the Human Network are trademarks; Changing the Way We Work, Live, Play, and Learn and Cisco Store are service marks; and Access Registrar, Aironet, AsyncOS, Bringing the Meeting To You, Catalyst, CCDA, CCDP, CCIE, CCIP, CCNA, CCNP, CCSP, CCVP, Cisco, the Cisco Certified Internetwork Expert logo, Cisco IOS, Cisco Press, Cisco Systems, Cisco Systems Capital, the Cisco Systems logo, Cisco Unity, Collaboration Without Limitation, EtherFast, EtherSwitch, Event Center, Fast Step, Follow Me Browsing, FormShare, GigaDrive, HomeLink, Internet Quotient, IOS, iPhone, iQuick Study, IronPort, the IronPort logo, LightStream, Linksys, MediaTone, MeetingPlace, MeetingPlace Chime Sound, MGX, Networkers, Networking Academy, Network Registrar, PCNow, PIX, PowerPanels, ProConnect, ScriptShare, SenderBase, SMARTnet, Spectrum Expert, StackWise, The Fastest Way to Increase Your Internet Quotient, TransPath, WebEx, and the WebEx logo are registered trademarks of Cisco Systems, Inc. and/or its affiliates in the United States and certain other countries.

All other trademarks mentioned in this document or website are the property of their respective owners. The use of the word partner does not imply a partnership relationship between Cisco and any other company. (0809R)

© 2010 Cisco Systems, Inc. All rights reserved