IBM System x3850 performance running the Siebel 8.0 for Windows PSPP benchmark

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Abstract

This white paper discusses the performance characteristics of the third-generation, X3 Architecture-based IBM System x3850 servers, when using Siebel 8.0 application software to generate real-world user loads. The x3850 servers were loaded with dual-core processors and ran the Microsoft Windows and Red Hat Linux operating systems. User loads were generated using a standard benchmark kit. Oracle Engineering developed the Siebel 8.0 benchmark kit.

This white paper shows that an x3850 server, loaded with four dual-core processors and running Windows, supports 3900 Siebel 8.0 concurrent users at the application-server tier.

Introduction

Current IBM® System x™ servers, which are based on the Intel® Xeon MP processor, are built on an innovative new IBM X3 Architecture technology. IBM X3 Architecture technology offers Intel scalability that is unparalleled in the four-socket, mid-tier, application-server market.

Siebel has been selling enterprise-software solutions on 4-way Intel servers for some time. Prior to Siebel 8.0, Microsoft® Windows® was the only supported operating system on these platforms. Siebel 8.0 is the first release that is supported on both Windows and Linux® operating systems. IBM System x3850 servers demonstrate unparalleled levels of Intel scalability, regardless of the operating systems installed on them, and are an ideal platform to showcase how Siebel 8.0 for Windows® and IBM technology form an ideal business solution.

This white paper discusses the scalability level that an enterprise can achieve with Siebel 8.0 for Windows in an environment that consists solely of x3850 servers.

Software versions

The x3850 Siebel 8.0 Platform Sizing and Performance Program (PSPP) benchmark runs were completed using the following core software packages and versions:

- Microsoft Windows 2003 Server Enterprise Edition (SP1) (32-bit version)
- Microsoft Internet Information Server (32-bit version)
- Siebel CRM Software 8.0 SIA [20204] ENU (32-bit version)
- Oracle 10*g*R2 database client for Windows 10.2.0.1.0 (32-bit version)
- Red Hat Enterprise Linux AS Release 4 (Nahant Update 4)
  - 2.6.9-42 Elsmp kernel (64-bit version)
- Oracle 10*g*R2 database server for Linux 10.2.0.2.0 (64-bit version)
- Mercury LoadRunner 8.1, Build 1735
  - Controller 8.1.0.0
  - Load Generator 8.1.0.0
  - Virtual User Generator (VuGen) 8.1.0.0
  - Analysis 8.1.0.0

Test methodology

Benchmark runs were made using the Siebel 8.0 PSPP benchmark kit. IBM System x3850 servers that were fitted with Intel Xeon MP 3.0 GHz dual-core processors provided the core-hardware environment. An IBM System Storage™ DS4700 storage server provided the disk storage for the Oracle 10*g*R2 database that is included with the PSPP kit.

The benchmark runs were focused on capturing a figure for the maximum number of concurrent, real-world, Siebel users that can be achieved with the most cost-effective, x3850 server-hardware configurations.

Siebel 8.0 PSPP benchmark kit

The Siebel 8.0 PSPP benchmark kit is designed to run against Siebel Customer Relationship Management (CRM) Standard Industry Application (SIA) Financial Services software. It consists of the Siebel 8.0 CRM software, a populated database schema and three Mercury LoadRunner scripts that simulate real-world user loads. Siebel also includes a set of guidelines and rules for running the benchmark kit, together with some key performance indicators (KPIs) to which any published results must adhere.

The three LoadRunner scripts are designed to stress different aspects of the Siebel 8.0 application server:

Script 1: Financial Services Call Center

This is the heaviest user-load script. It represents an incoming call to the call center that results in the creation of opportunity, quote and order records. The core flow of the script proceeds as follows:

1. A new contact is created.
2. A new opportunity for the contact is created.
3. Two products are added to the opportunity.
4. The script navigates to the *Opportunities – Quotes* view.
5. The script simulates clicking the *AutoQuote* button to generate a new quote.
6. A quote name and price list are entered.
7. The script drills down on the quote name to the *Quote – Line Items* view to specify a discount.
8. The script simulates clicking the *Reprice All* button.
9. The opportunity is updated.
10. The script navigates to the *Quotes – Orders* view.
11. The script simulates clicking the *AutoOrder* button to generate a new order.
12. The script navigates back to the opportunity.
13. The call ends.

Script 2: Partner Relationship Management

This script represents a partner who accesses a self-service Web site to gather information and request services. Although the script itself is much shorter than script 1, it initiates workflow processes that finish in the background. These workflow processes add significant load to the Siebel application server. The core flow of the script proceeds as follows:

1. The partner creates a new service request with the appropriate detail.

The service request is automatically assigned through a background workflow.
The service request is saved, which invokes scripting that brings the partner to the appropriate opportunity screen.
A new opportunity is created for the partner.
The opportunity is saved, which invokes scripting that brings the partner back to the service request screen.
The self-service session ends.

Script 3: Web Services

There is no user-interface (UI) presentation layer for this script. Instead, LoadRunner simulates a Java™ 2 Platform, Enterprise Edition (J2EE) Web application that sends Web service requests to an Enterprise Applications Integration (EAI) object manager in the Siebel application server. These requests invoke business services that generate and update service requests. Keys aspects of the script are as follows:

1. The Siebel Web Services framework has the ability to generate Web Service Definition Language (WSDL) files, which describe the Web services hosted by the Siebel application server. The Siebel Web Services framework can also call external Web services by importing a WSDL document (described as an external Web service), by using the WSDL import wizard that is available in Siebel Tools.

Each Web service exposes multiple methods. Script 3 invokes the following methods:
query service request, *create service request* and *update service request.*
Web service authentication is performed by using session tokens.
The *ServerDetermine* session type is used and a session token is maintained between each request, in a single iteration of the script, to avoid a login for each request.
At the end of the script, a logout is called to make the session token unavailable.

Note: Each hardware partner has complete control over how it installs and configures Siebel 8.0 to support the targeted-benchmark workloads.

PSPP benchmark approach

The focus of this Siebel PSPP benchmark is to produce the best Siebel Enterprise configuration that yields the greatest number of real-world[1] users, with a minimal amount of hardware.

A lot of time is typically spent trying to determine the limits of the hardware and software, usually through iterative-tuning exercises. However, when the best configuration is found, within the constraints of the investigation time that is allowed, PSPP runs are captured for documentation and publication.

A PSPP benchmark uses the full Siebel 8.0 benchmark kit, requires careful planning and coordination of the tasks, and involves a lot of data capture from the multiple machines used in a run.

After the initial software installations, a period of time was spent performing various runs to determine the Siebel Enterprise configuration options. Various configurations were tried and the one that produced the most stable, performance-oriented run was adopted as the base configuration for all future runs. Using a mandated PSPP mix of client scripts in an appropriate LoadRunner scenario, more runs were completed — with increasing user counts — until the application-server tier reached its limit. The basic process of capturing a PSPP benchmark run proceeded as follows:

1. The LoadRunner scenario was set for the target number of PSPP clients, using a 30:10:60 mix of PSPP scripts. A PSPP benchmark is mandated to include the scripts in the following ratio:
   - 30 percent call center (script 1)
   - 10 percent partner relationship management (script 2)
   - 60 percent Web services (script 3)

The Siebel Enterprise was configured to support the targeted number of clients.
The LoadRunner scenario was started and all clients were allowed to log in and reach their *steady-state*[2] condition.
A full set of performance statistics were captured for a continuous 60-minute period during steady-state, from all the machines involved in the benchmark.
After 60 minutes of capturing statistics, the LoadRunner scenario stopped and clients were allowed to log off.
The LoadRunner script results were gathered and passed to Mercury LoadRunner Analysis.
The analysis results were checked to confirm that the transaction times during steady-state were acceptable and valid for a PSPP benchmark submission.

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[1] **Real-world** users are considered to be users who perform normal tasks at typical transaction rates. These types of users can be observed at any typical deployment of a Siebel Enterprise. Siebel surveys its customer base to determine what constitutes a *real-world workload*.
[2] A **Steady-State** condition exists when all script clients have successfully logged into the Siebel application and have completed at least one iteration of the main script action. All the transactions contained in the iteration have been initialized for the script client by this point and any object memory that is associated with the Siebel user in the Siebel application server has been allocated.

IBM System x3850 Intel server

Main features

XA-64e third-generation chip set
Xeon MP 32/64-bit
XceL4v cache
PCI-X2 266 MHz
Serial-attach SCSI
Dual-core capable

x3850: 1- to 4-way
Rack-optimized 4-way in 3U

Comparison with the System x predecessor

This section provides a comparison of the second-generation IBM xSeries® x365 server and the third-generation x3850 server.

Second-generation x365 server

This x86 server is based on a 32-bit chip set and uses IBM X-Architecture® technology.

- XA-32 second-generation chip set
- 1- to 4-way, 32-bit with 400 MHz front-side bus (FSB)
- Intel Xeon MP: 2.0 / 1 MB, 2.2 / 2 MB, 2.7 / 2 MB, 3.0 / 4 MB
- 16 DIMMs total: 8 standard, 8 optional
- 32 GB maximum memory (16 x 2 GB DIMM)
- PC2100 DDR SDRAM, 2-way Interleaving
- LSI 53C1030 Ultra320 SCSI, integrated RAID-1
- Maximum storage = 6 HDDs x 146 GB = 876 GB
- Active PCI-X: 4 slots at 133 MHz, 1 slot at 100 MHz, 1 slot at 33 MHz
- Remote I/O (RIO) and RIO sharing between x365 servers
- 24X CD-ROM
- Broadcom 5704 dual-port gigabit Ethernet
- IBM Chipkill™ and Memory ProteXion and memory mirroring
- 2 x 950-watt hot-swap power supplies, N+N, 110 volt / 220 volt
- Remote Supervisor Adapter II standard
- 1- or 3-year next-business-day 9x5 warranty
- 3U: 17.46 in. (444 mm) x 5.07 in. (129 mm) x 28.1 in. (715 mm)

Third-generation x3850 server

The x3850 server delivers breakthrough, four-processor performance with 64-bit memory addressability through IBM X3 Architecture, the third-generation of IBM Enterprise X-Architecture. **Note:** Changes between the x365 and x3850 models are highlighted in **bold**.

- **XA-64e third-generation chip set**
- 1- to 4-way SMP, **dual-core capable**
- **Dual-bus x86-64 Architecture, 667 MHz FSB**
- **Intel Xeon MP greater than 3.0 GHz**
- **16 DIMMs total: 4 standard, 12 optional**
- **64 GB maximum memory (16 x 4 GB DIMM)**
- **DDR2 SDRAM PC2-3200, 2-way interleaving**
- **Adaptec serial-attached SCSI (SAS), optional RAID5**
- **Maximum storage: 6 2.5 in. HDDs x 73 GB = 438 GB**
- **Active PCI-X 2.0: 6 slots at 266 MHz, no remote I/O**
- **8X DVD-ROM**
- Broadcom 5704 dual-port gigabit Ethernet
- Chipkill and Memory ProteXion and memory mirroring
- **2 x 1300-watt hot-swap power supplies, N+N, 220 volt**
- **Remote Supervisor Adapter II slimline optional**
- **3-year next-business-day 9x5 warranty**
- 3U: 17.46 in. (444 mm) x 5.07 in. (129 mm) x 28.1 in. (715 mm)

IBM System x X3 Architecture

The IBM X3 Architecture technology that drives the System x platform represents the latest delivery of the IBM advanced Enterprise X-Architecture (EXA2) technology.

Background

In 2003, IBM was the first in the industry to release the second-generation of innovative Intel processor-based server platforms, the EXA2.

IBM X-Architecture technologies give IBM System x™ servers their name and mainframe-like stability. In combination with the line's extraordinary management tools, these techniques set System x servers apart from other Intel processor-based systems.

In 2005, IBM again extended its performance leadership in the 4-socket, Intel processor-based server industry with the release of the X3 Architecture in a new line of System x servers. The x3850 model is one of the flagship servers of the third-generation machines and delivers breakthrough 32- and 64-bit performance.

The x3850 server secured a new number-1, single-core, TPC-C database benchmark with a result that showed 38 percent greater performance than a previous-generation x365 4-way system.

Processor performance issues

Clocks per instruction (CPI) is a key metric used by processor and system designers to identify the performance efficiency of a processor. The metric is somewhat analogous to the miles-per-hour and miles-per-gallon metrics used to judge an automobile's performance.

In the computing world, a lower figure for CPI is desirable and a processor is at its most efficient when all instructions and data are resident in the processor's fastest cache memory. This idealized measure is known as *infinite cache CPI* (or *core CPI*).

However, in a real-world system, *processor fast cache* is finite and not all instructions and data can fit within it. A processor has to go to off-chip memory for data. Frequent cache misses take much longer to service than a cache hit. A processor must wait a longer period of time before obtaining data or instructions from real memory. This increases the average CPI of a processor that is running real-world applications.

Processor performance can be improved dramatically by reducing the average number of processor clocks that are needed to process instructions (that is, core CPI). However, you can only gain so much with core-CPI improvements. Improving core CPI only affects the time spent inside a processor. With real-world systems, this time is usually much shorter than the total time that is spent waiting on the system outside of the processor.

The external component of CPI (above and beyond the core CPI) is where processor performance is lost. This external component is made up of chip-set and bus latency. IBM X3 Architecture technology greatly improves performance and scalability by focusing on reducing external CPI (that is, latency).

Introduction to X3 Architecture technology

IBM has designed the X3 Architecture (from its foundation) with ultra-low memory latency to provide optimal performance for multiuser, multithreaded, commercial-application workloads. It represents innovation that is focused on the following performance and features:

- An imbedded eDRAM snoop filter that improves the performance of FSB operations, PCI throughput and multinode scalability
- Dramatic processor-to-memory latency reductions
- Vastly improved I/O performance
- Twin 667 MHz FSBs, isolated to reduce bus contention:
  - Without any nonuniform memory access (NUMA) latency in 4-way and smaller systems
  - Optimal performance can be obtained without NUMA-aware software

EXA2 compared to X3 Architecture

The following series of diagrams (Figure 1 through Figure 4) show the advancements made between the IBM second-generation EXA2 and the new third-generation X3 Architecture technologies.

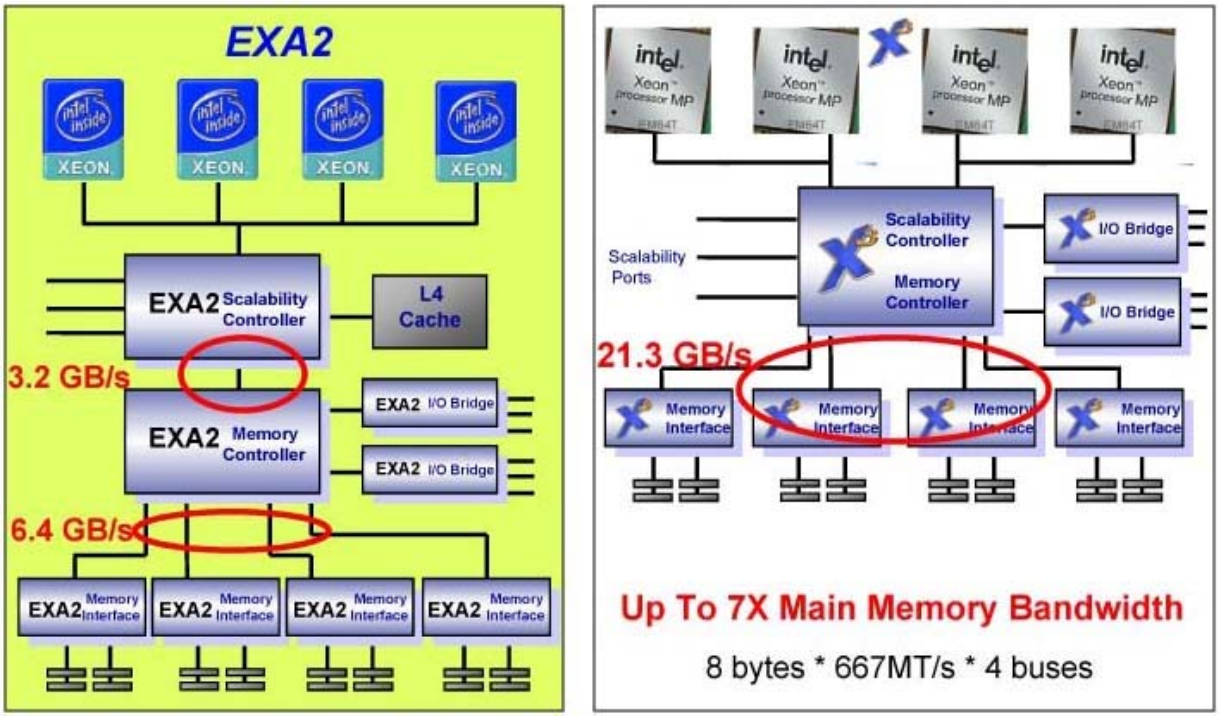

Figure 1. Greater main memory bandwidth

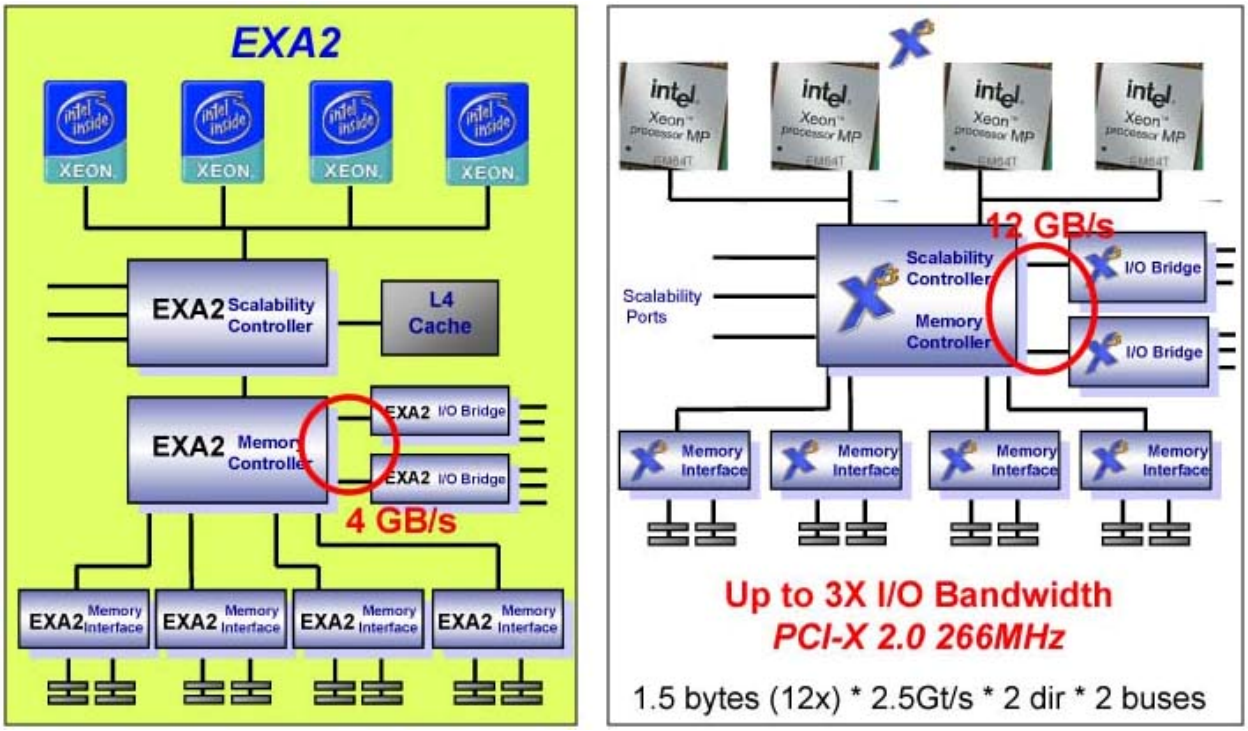

Figure 2. Improved I/O bandwidth

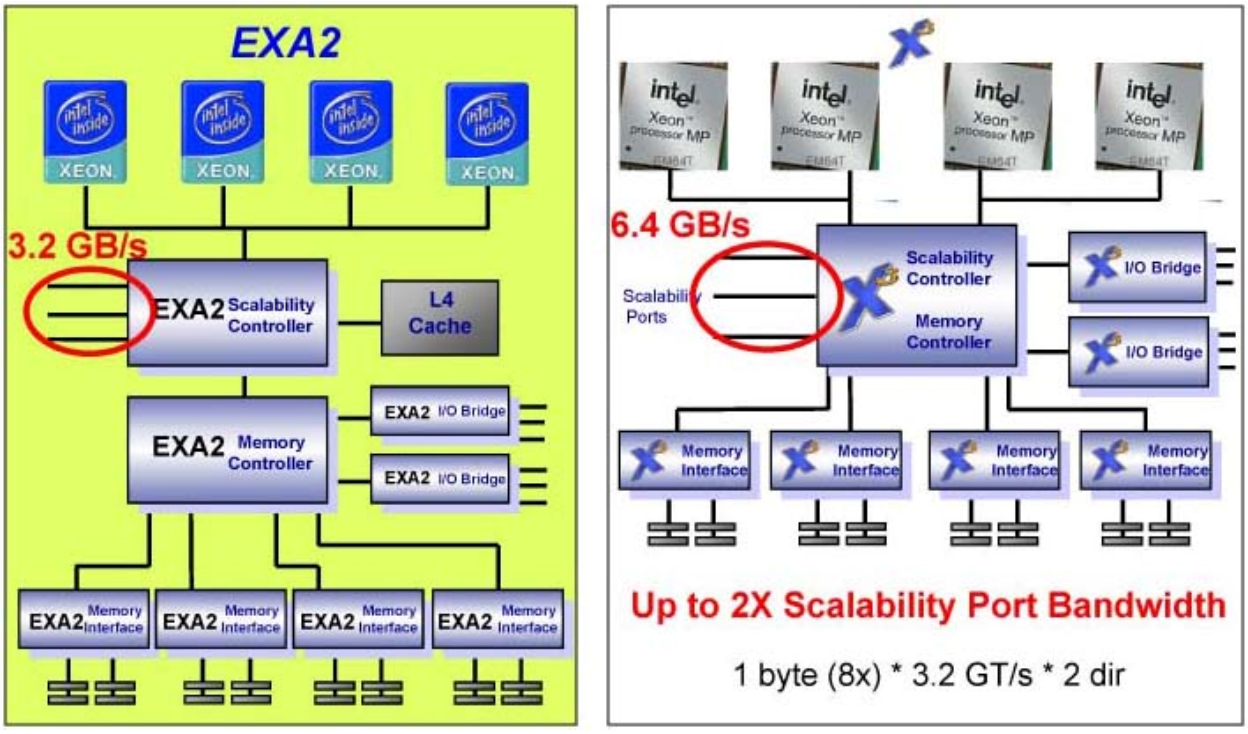

Figure 3. Improved scalability port bandwidth

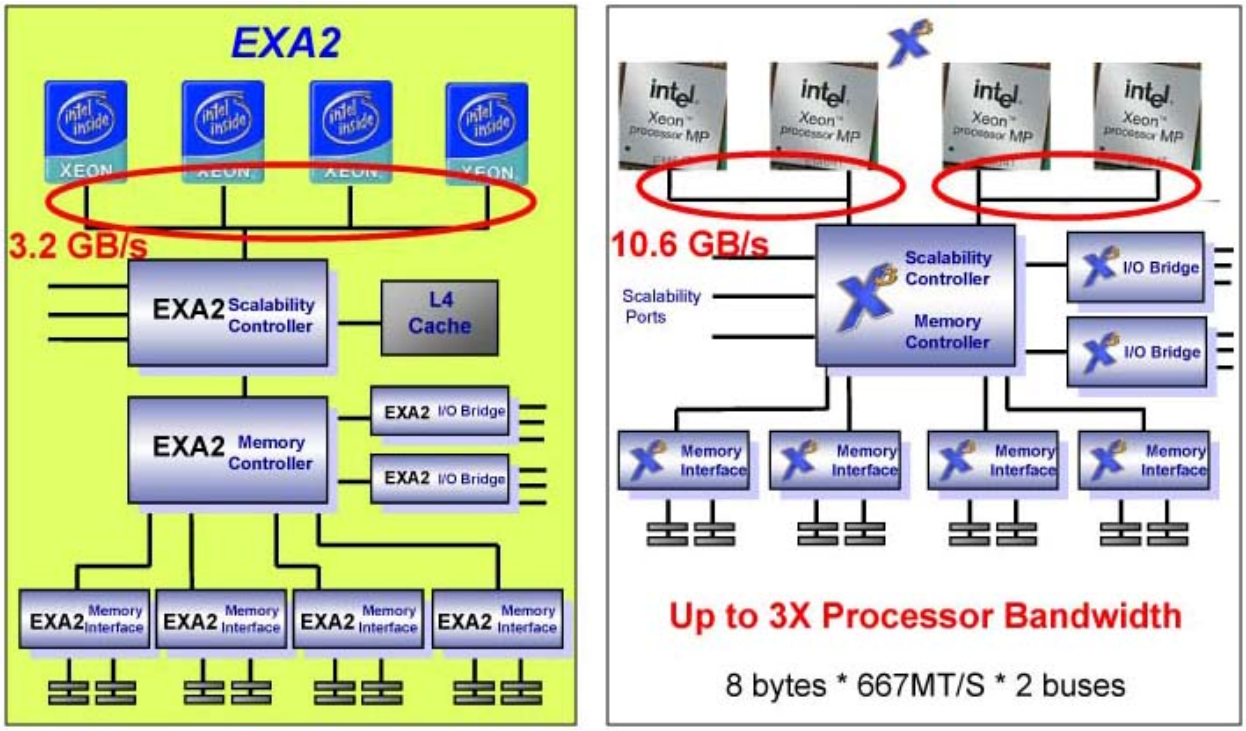

Figure 4. Improved processor bandwidth

Hardware and software installation and configuration

This section of the white paper explains the hardware and software installation and configuration details for this benchmark.

Hardware topology for PSPP benchmark runs

Figure 5 shows the hardware and software layout for the PSPP benchmark.

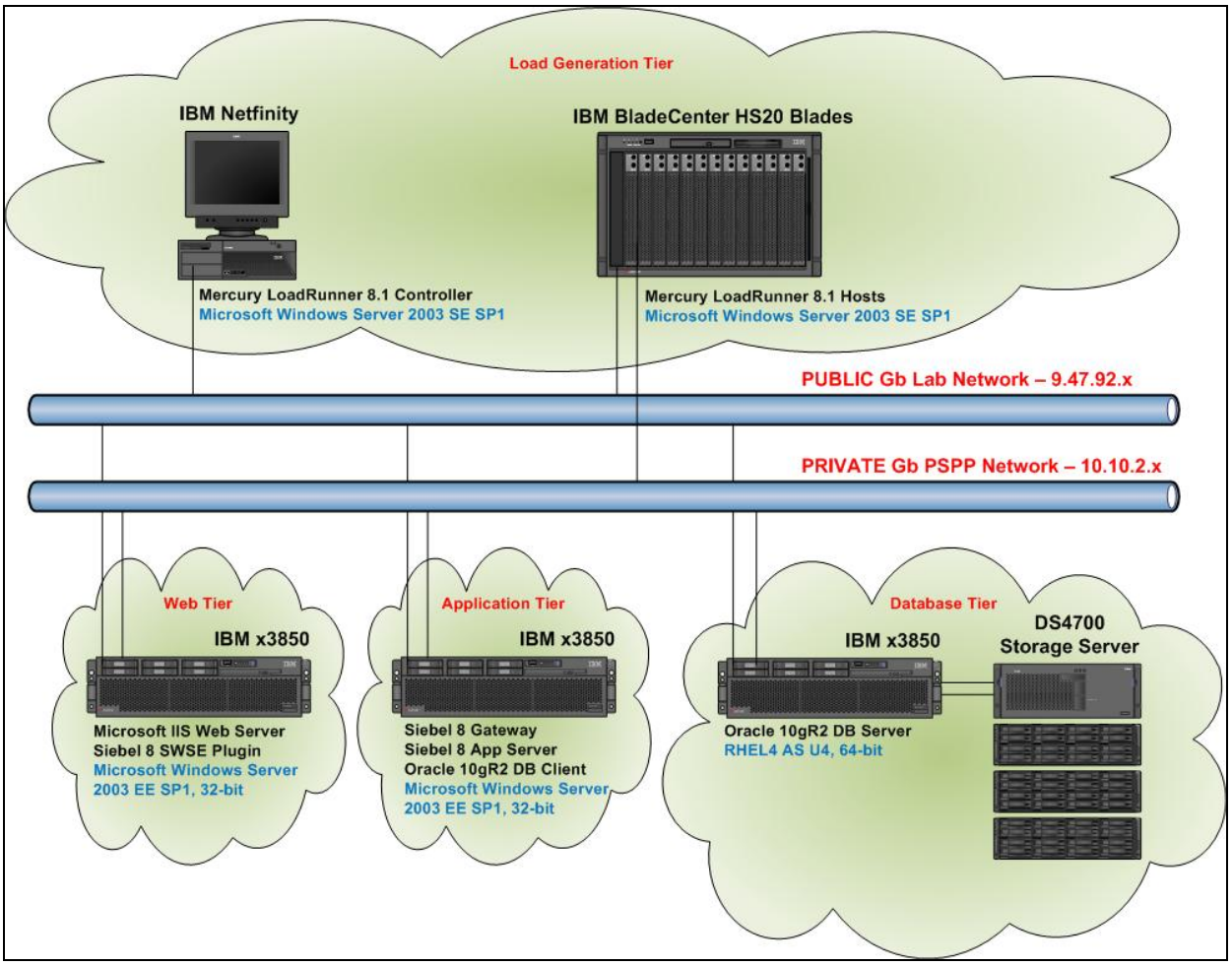

Figure 5. Hardware infrastructure for PSPP benchmark

Application tier

This section of the white paper explains the setup for the PSPP application tier.

Initial setup

The PSPP application tier started as an x3850 server that was fitted with 4 dual-core, 3.0 GHz Intel Xeon MP processors and 4 memory cards that were fully loaded with 16 x 2 GB DIMMs, yielding 32 GB of RAM in total.

All microcode and BIOS software was brought up to the latest available versions. All BIOS options were left at their default settings except for *Advanced Setup – Memory Options*, which was set to *High Performance Memory Array*. This is the optimal setting to use when the x3850 is fully loaded with memory cards. In addition, Hyper-Threading was enabled.

Microsoft Windows 2003 Server Enterprise Edition (SP1), 32-bit version, was installed as the operating system. The x3850 was fitted with 6 x 36 GB hard drives that were partitioned into a single, large file system during Windows installation.

The x3850 was connected to two networks in the lab; a private gigabit network and a public 10/100 network (see Figure 5). The private network was used for all PSPP-related traffic, whereas the public network was used for administration and maintenance.

Installation of the application software started with an Oracle 10*g*R2 DB client (v10.2.0.1.0), followed by Siebel CRM 8.0 SIA software (build 20204 ENU). The Siebel Enterprise gateway was installed on the same machine as the Siebel application server, because it consumes little to no resources when the Siebel Enterprise runs.

Software optimization and settings

With all the hardware and software in place, many baseline runs were completed to determine the best configuration options. The initial runs were focused on Windows configuration options and, after the best Windows options were determined, the remaining runs focused on the best configuration of the Siebel application server.

In a typical Siebel PSPP benchmark, the application server is the most used component in the Siebel Enterprise. This Windows PSPP was no exception. The application server configuration grew to consume most of the resources available on the x3850 server. No hardware changes were made to the x3850 server after the initial setup.

See “Appendix A: Configuration of the PSPP application tier” for a summary of the x3850 system configuration that was used for the PSPP application tier. This same appendix also shows the Siebel application server configuration that yielded the best result for the PSPP application tier.

Web tier

This section of the white paper explains the setup for the PSPP Web tier.

Initial setup

The PSPP Web tier started as an x3850 server that was fitted with 4 dual-core, 3.0 GHz Intel Xeon MP processors and 4 memory cards that were fully loaded with 16 x 2 GB DIMMs, yielding 32 GB RAM in total.

All microcode and BIOS software was brought up to the latest available versions. All BIOS options were left at their default settings except for *Advanced Setup – Memory Options*, which was set to *High Performance Memory Array*. This is the optimal setting when the x3850 is fully loaded with memory cards. In addition, Hyper-Threading was enabled.

Microsoft Windows 2003 Server Enterprise Edition (SP1), 32-bit version, was installed as the operating system. The x3850 was fitted with 6 x 36 GB hard drives that were partitioned into a single, large file system during Red Hat installation.

The x3850 was connected to two networks in the lab; a private gigabit network and a public 10/100 network (see Figure 5). The private network was used for all PSPP-related traffic, whereas the public network was used for administration and maintenance.

The installation of the application software continued with Siebel CRM 8.0 SIA (build 20204 ENU). The Siebel software that was installed was the Siebel 8.0 SWSE plug-in for Microsoft Internet Information Server (IIS).

Software optimization and settings

With all the hardware and software in place, many baseline runs were completed to determine the best configuration options. The initial runs were focused on Windows configuration options and, after determining the best Windows options, the rest of the runs focused on the best IIS and Siebel Web server configurations.

When the Siebel application server on the application tier was fully used, the Web tier was extremely underused. To produce more realistic usage figures, the x3850 server was reconfigured to reduce its hardware specifications.

After the changes, the x3850 server used for the Web tier was left with 1 dual-core 3.0 GHz Intel Xeon MP processor and 2 memory cards that were fully loaded with 8 x 2 GB DIMMs, yielding 16 GB of RAM in total. Hyper-Threading was kept as enabled in the BIOS.

See “Appendix B: Configuration of the PSPP Web tier” for a summary of the x3850 system configuration that was used for the PSPP Web tier. This same appendix also shows the IIS and Siebel SWSE plug-in configurations that yielded the best PSPP Web tier result.

Database tier

This section of the white paper explains the setup for the PSPP database tier.

Initial setup

The PSPP database tier started as an x3850 fitted with 4 dual-core, 3.0 GHz Intel Xeon MP processors and 4 memory cards fully loaded with 16 x 2 GB DIMMs, yielding 32 GB RAM in total.

All microcode and BIOS software was brought up to the latest available versions. All BIOS options were left at their default settings, except for *Advanced Setup – Memory Options*, which was set to *High Performance Memory Array*. This is the optimal setting when the x3850 is fully loaded with memory cards. In addition, Hyper-Threading was enabled.

Red Hat Enterprise Linux AS Release 4 (Nahant Update 4), 64-bit version, was installed as the operating system. The x3850 was fitted with 6 x 36 GB hard drives that were partitioned into a single, large file system during Red Hat installation.

A DS4700 Storage Server was connected to the x3850 through 2 x 4 GB fiber-channel HBA cards. The DS4700 disks hosted the Siebel PSPP database.

The x3850 was connected to two networks in the lab; a private gigabit network and a public 10/100 network (see Figure 5). The private network was used for all PSPP-related traffic, whereas the public network was used for administration and maintenance.

The 64-bit version of Oracle 10*g*R2 DB Server (v10.2.0.2.0) was installed and the DS4700 disks were configured to support the Siebel PSPP database.

The Oracle 10*g*R2 database was built to specifications provided by Siebel and was spread across the DS4700 disk subsystem according to recommendations provided by IBM storage and database engineers. The disks were configured in both RAID 10 and RAID 5 arrays. A total of eight virtual devices were visible to the system, which was spread across 48 drives. The total allocated size of the Oracle 10*g*R2 PSPP database was 171 GB.

See Table 1 for details of the Oracle 10*g* database disk layout, the corresponding Oracle data files and their usage.

Raw data	Size	Oracle table space	Usage	Vdisk
siamst_sysaux01.dbf	1 GB	SYSAUX	System use	hdisk12 - hdisk13
siamst_system01.dbf	4 GB	SYSTEM	System use	hdisk12 - hdisk13
siamst_temp01.dbf	4 GB	TEMP	Temp space	hdisk12 - hdisk13
siamst_data01.dbf	10 GB	DATA8K	Data for 8 KB block size	hdisk5 - hdisk10
siamst_data02.dbf	10 GB	DATA8K	Data for 8 KB block size	hdisk5 - hdisk10
siamst_data03.dbf	10 GB	DATA8K	Data for 8 KB block size	hdisk5 - hdisk10
siamst_data04.dbf	10 GB	DATA8K	Data for 8 KB block size	hdisk5 - hdisk10
siamst_log01.dbf	2 GB	n/a – redo logs	Redo logs	hdisk4 and hdisk11
siamst_log01.dbf	2 GB	n/a – redo logs	Redo logs	hdisk4 and hdisk11
siamst_data05.dbf	10 GB	INDEX8K	Index for 8 KB block size	hdisk5 - hdisk10
siamst_data06.dbf	10 GB	INDEX8K	Index for 8 KB block size	hdisk5 - hdisk10
siamst_data07.dbf	10 GB	INDEX8K	Index for 8 KB block size	hdisk5 - hdisk10
siamst_data08.dbf	10 GB	INDEX8K	Index for 8 KB block size	hdisk5 - hdisk10
siamst_data09.dbf	10 GB	INDEX8K	Index for 8 KB block size	hdisk5 - hdisk10
siamst_data10.dbf	10 GB	INDEX8K	Index for 8 KB block size	hdisk5 - hdisk10
siamst_data11.dbf	10 GB	DATA16K	Index for 16 KB block size	hdisk5 - hdisk10
siamst_data12.dbf	10 GB	DATA16K	Index for 16 KB block size	hdisk5 - hdisk10
siamst_data13.dbf	10 GB	DATA16K	Index for 16 KB block size	hdisk5 - hdisk10
siamst_data14.dbf	10 GB	INDEX16K	Index for 16 KB block size	hdisk5 - hdisk10
siamst_data15.dbf	10 GB	INDEX16K	Index for 16 KB block size	hdisk5 - hdisk10
siamst_data16.dbf	10 GB	INDEX16K	Index for 16 KB block size	hdisk5 - hdisk10
siamst_data17.dbf	5 GB	EIMDATA16K	Data for EIM16 KB	hdisk5 - hdisk10
siamst_data18.dbf	5 GB	EIMINDEX16K	Index for EIM16 KB	hdisk5 - hdisk10
siamst_data19.dbf	5 GB	EIMINDEX16K	Index for EIM16 KB	hdisk5 - hdisk10
siamst_data20.dbf	5 GB	EIMINDEX16K	Index for EIM16 KB	hdisk5 - hdisk10
siamst_rbs1.dbf	4 GB	UNDO	Rollback segments	hdisk14 and hdisk15
siamst_rbs2.dbf	4 GB	UNDO	Rollback segments	hdisk14 and hdisk15
siamst_rbs3.dbf	4 GB	UNDO	Rollback segments	hdisk14 and hdisk15
siamst_rbs4.dbf	4 GB	UNDO	Rollback segments	hdisk14 and hdisk15

Table 1. PSPP database disk layout and usage

Software optimization and settings

With all the hardware and software in place, many baseline runs were completed to determine the best configuration options. The initial runs were focused on Linux configuration options and after the best Linux options were determined, the remaining runs focused on the best Oracle database-server configuration.

Early in testing, a problem was discovered with the database tier x3850 server. Linux reported the incorrect number of processors. The other x3850 servers (that were installed with 32-bit Linux) correctly reported 16 processors (8 processor cores with Hyper-Threading enabled). However, the database tier x3850 server only reported 8 processors. It was determined that 64-bit Linux, with standard boot parameters, did not recognize Hyper-Threading. After further research and investigation, it was discovered that all x3850 servers were reporting Advanced Programmable Interrupt Controller (APIC) errors during boot-up. When *noapic* was added to the boot configuration for each server, the APIC errors went away. In addition, the 64-bit Linux x3850 server then correctly reported 16 processors.

When the Siebel application server on the application tier was fully used, the database tier was significantly underused. To produce more realistic usage figures, the x3850 server was reconfigured to reduce its hardware specifications.

After the changes, the x3850 server that was used for the database tier was left with 2 dual-core 3.0 GHz Intel Xeon MP processors and 4 memory cards that were fully loaded with a total of 16 x 2 GB DIMMs, yielding 32 GB RAM in total. Hyper-Threading was kept as *enabled* in the BIOS.

See “

Appendix C: Configuration of the PSPP database tier" for a summary of the x3850 system configuration that was used for the PSPP database tier. This same appendix also shows the configuration for the Oracle database server that yielded the best PSPP database tier result.

Database size

The PSPP benchmark Oracle database was approximately 115 GB in size. It was designed and populated to simulate enterprises with large transaction volumes and data distributions that represent the most common customer data shapes. See Table 2 for a sampling of record volumes for key business entities within the Siebel Industry Application (SIA) volume database.

Business entity	Number of records
Accounts	1653945
Activities	6107269
Addresses	3821180
Contacts	3342163
Employees	60566
Opportunities	3397927
Orders	499806
Products	288618
Quote Items	1990122
Quotes	256627
Service requests	5597117

Table 2. Initial record counts for core PSPP database tables

Disk storage for the database

In a continuing effort to provide storage solutions that provide low total cost of ownership (TCO), high performance, robust functions and unparalleled ease of use, IBM offers the IBM System Storage DS4700 Express storage server. As part of the DS4000 series, the DS4700 Express brings high-performance, 4 Gbps-capable, fiber-channel connections, up to 33.6 TB of fiber-channel physical storage capacity, 84 TB of SATA physical storage capacity, and powerful system- and data-management as well as data-protection features. The DS4700 Express is designed to expand from workgroup to enterprise-wide capability with up to 6 fiber-channel expansion units with the DS4000 EXP810 expansion unit.

The DS4700 attached to the x3850 server comprised 96 disk drives (94 drives for data and 2 spares). Table 3 shows the configuration summary of the DS4700 that was used for the PSPP benchmark.

SAN	IBM System Storage DS4700
Model	1814
Quantity	One
Cache	4 GB
Quantity of host adapters	2 fiber-channel adapters
Disk size	96 x 146 GB – 15K RPM (five drawers and a controller)
Disk configuration	10 (8-disk) 128 KB, striped logical drives 2 (7-disk) 128 KB, striped logical drives and 2 spares with read- and write-cache enabled

Table 3. System Storage DS4700 system summary

Load-generation tier

The Siebel 8.0 PSPP benchmark kit includes three Mercury LoadRunner scripts that generate client workload. The scripts use a Windows DLL, developed by Siebel Engineering, to parse Siebel data from the HTTP data streams. As a result, only LoadRunner hosts that run on Windows platforms can run the scripts.

The following section of this white paper explains the setup for the PSPP load-generation tier.

Initial setup

The PSPP load-generation tier consisted of two main elements; an IBM Netfinity® server that was fitted with 4 x 700 MHz Intel Pentium III Xeon processors and 4 GB of RAM, and an IBM BladeCenter® unit that was fitted with IBM BladeCenter HS20 server blades. Each HS20 server blade was fitted with 2 x 3.0 GHz Intel Xeon processors and 4 GB of RAM.

The Netfinity server was used as the LoadRunner Controller. Windows Server 2003 Standard Edition (32-bit version) was installed as the operating system. Mercury LoadRunner 8.1 Controller, Virtual User Generator (VuGen) and Analysis software was installed next.

The BladeCenter HS20 servers were used as the LoadRunner hosts. Windows Server 2003 Standard Edition (32-bit version) was installed as the operating system on each blade server. Next, Mercury LoadRunner 8.1 Load Generator software was installed.

The Netfinity LoadRunner Controller was connected to the lab's public 10/100 network. The LoadRunner hosts that were installed on the HS20 were connected to the lab's public network and to a private gigabit network (see Figure 5 on page 11). The private network was used for all PSPP-related traffic, whereas the public network was used for administration and maintenance.

Software optimization and settings

No specific optimization changes were made to the LoadRunner infrastructure — none were necessary. During the PSPP benchmark runs, the infrastructure was monitored for potential bottlenecks, but the client workload was well within the capacity of the LoadRunner infrastructure.

As the PSPP benchmark runs progressed, the only settings that needed to be changed were to the LoadRunner scenario that drove the client workload. The scenario was gradually scaled until the workload reached the published PSPP client load.

PSPP benchmark results

The following sections present the PSPP benchmark data that was captured for the published PSPP result (see Table 4).

Date completed	Client total	Number of client application servers	Number of client Web servers
June 2007	3900	1	1

Table 4. PSPP benchmark client summary

Machine configurations

Table 5 and Table 6 list the machine configuration information that is related to processors and RAM, as well as software.

Machine role	Processor type	Processor speed (GHz)	Processor cores	Hyper-Threading	Effective processors	Installed RAM (MB)
Database server	Intel Xeon MP dual-core	3.0	4	Y	8	32496
Siebel application server	Intel Xeon MP dual-core	3.0	8	Y	16	32496
IIS Web server	Intel Xeon MP dual-core	3.0	2	Y	4	16243

Table 5. Machine configurations – processor and RAM

Notes:

1. Each Intel Xeon MP processor contains 2 processor cores. The number of individual processor units installed in each x3850 server is half the number of reported processor cores.
2. *Hyper-Threading* is enabled at the BIOS level. When activated, the Windows and Linux operating systems see twice as many processors than are physically installed.
3. *Effective processors* is simply the number of processors that the Windows and Linux operating systems report. It is a function of the available processor cores and Hyper-Threading.

Machine role	Operating system	Core software
Database server	Red Hat Enterprise Linux AS release 4 (Nahant Update 4), 2.6.9-42.Elsmp kernel, 64-bit installation	Oracle 10*g*R2 database server v10.2.0.2.0
Siebel application server	Microsoft Windows 2003 Server Enterprise Edition, 32-bit installation	Siebel CRM V8.0 SIA [20204] ENU, Oracle 10*g*R2 database client v10.2.0.1.0
IIS Web server	Microsoft Windows 2003 Server Enterprise Edition, 32-bit installation	Microsoft Internet Information Server, Siebel CRM V8.0 SIA [20204] ENU

Table 6. Machine configurations – software

Machine performance (over PSPP steady-state period)

Table 7 lists the machine performance information during the PSPP steady-state period.

Machine role	Total processor (per-centage)	User processor (per-centage)	System processor (per-centage)	Context switches per second	Pro-cesses	Threads	Used memory (MB)	Disk transfers per second
Database server	46.1	43.0	3.1	4614	428	428	12298	562.2
Siebel application server	86.1	82.8	3.3	4500	70	5478	26096	1.4
IIS Web server	22.7	15.2	7.5	11822	2	423	109	2.2

Table 7. Machine performance

Notes:

1. *Processes* reported for each machine are only those that are directly related to the machine role and the PSPP software that performs the role. The respectively monitored processes were as follows:
   - Database server: oraclesiamst (LOCAL=NO)
   - Siebel application server: siebmtshmw
   - IIS Web server: inetinfo, w3wp
2. *Threads* are the total number of threads attached only to the processes that are monitored.
3. *Used memory* is calculated as follows:
   - For Linux - from the output of the *pmap –d <PID>* command. A Linux shell script was written to identify the PSPP-related processes running on the database server and then to dump *pmap* data for each process into a file. This script ran at the end of the PSPP steady-state period. Further complex analysis of the *pmap* files, in conjunction with additional process data, allowed for the accurate calculation of *Used memory* values.
   - For Windows – the sum total *working set* values of the monitored processes, as reported by the *Process* object of Windows Performance Monitor, at the end of the PSPP steady-state period.
4. *Disk transfers per second* is calculated as follows:
   - For Linux – from the output of the *iostat –tkd* command.
   - For Windows – from the output of the *PhysicalDisk* object of Windows Performance Monitor.

Network performance per machine (over PSPP steady-state period)

Table 8 lists the network performance information during the PSPP steady-state period.

Machine role	Network throughput			
	Bytes per second	Megabytes per second	Packets per second	Bytes per packet
Database server	3079735	2.94	5387	571.71
Siebel application server	10317589	9.84	10811	954.36
IIS Web server	8728075	8.32	9437	924.89
Totals	22125398	21.10	25635	2450.95

Table 8. Network performance – per machine

Notes:

1. *Network throughput* data is calculated as follows:
   - For Linux – from the output of the *cat /proc/net/dev* command
   - For Windows – from the output of the *Network Interface* object of Windows Performance Monitor
2. Data samples were taken at regular intervals during the PSPP steady-state period. Extensive analysis was performed to extract only the data that was related to the network cards used by the PSPP network traffic.

Network performance per traffic flow (over PSPP steady-state period)

Table 9 lists the network performance information per traffic flow, during the PSPP steady-state period.

Machine role	Network throughput			
	Bytes per second	Megabytes per second	Packets per second	Bytes per packet
LoadRunner clients to Web server	1490221	1.42	4013	542.24
Web server to application server	7237854	6.90	5424	382.64
Application server to database server	3079735	2.94	5387	571.71
Totals	11807810	11.26	14824	1496.60

Table 9. Network performance – per traffic flow

Note: *Network throughput* data describing *traffic flow* is calculated from the *machine* network data, based on knowledge of how PSPP traffic flows over the network connections.

PSPP client distribution per machine

Table 10 lists the PSPP client distribution information per machine.

Machine role	PSPP scripts		
	FINS call center (PSPP1)	FINS PRM eChannel (PSPP2)	EAI - Web services (PSPP3)
Database server	1170	390	2340
Siebel application server	1170	390	2340
IIS Web server	1170	390	2340

Table 10. PSPP client distribution – per machine

PSPP performance per machine (over PSPP steady-state period)

Table 11 lists the PSPP performance information per machine, during the PSPP steady-state period.

Machine role	Total PSPP users	Total processor (percentage)	Processor cores	Users per processor core (actual)	Users per processor core (100 percent used)	Process memory (MB)	Memory per PSPP user (MB)
Database server	3900	46.1	4	975	2117	12298	3.15
Siebel application server	3900	86.1	8	488	566	26096	6.69
IIS Web server	3900	22.7	2	1950	8581	109	0.03

Table 11. PSPP performance – per machine

Notes:

1. *Users per processor core (actual)* is calculated as the total number of PSPP users supported by the machine, divided by the total number of processor cores available on the machine.
2. *Users per processor core (100 percent used)* is derived by taking into account the actual *Total processor* utilization of each machine to calculate the fraction of the total number of processor cores that are needed to support the total number of PSPP users. It is the number of PSPP users each machine can theoretically support if the machine runs at 100 percent processor capacity.
3. *Process memory* is calculated as follows:
   - For Linux - from the output of the *pmap –d <PID>* command. A Linux shell script was written to identify the PSPP-related processes running on the database server and then to dump *pmap* data for each process into a file. This script ran at the end of the PSPP steady-state period. Further complex analysis of the *pmap* files, in conjunction with additional process data, allowed for the accurate calculation of *Process memory* values.
   - For Windows – the sum total *working set* values of the monitored processes, as reported by the *Process* object of Windows Performance Monitor, at the end of the PSPP steady-state period.

PSPP script performance (over PSPP steady-state period)

Table 12 and Table 13 list the PSPP script performance information, during the PSPP steady-state period.

Workload	Script	Weighting (percentage)	Total clients	Users per script	Weighted average for transaction response time (in seconds)	Transaction throughput per hour	Projected daily transaction throughput
FINS call center	PSPP1	30	3900	1170	0.242	11243	89944
FINS PRM	PSPP2	10	3900	390	0.482	12565	100520
EAI – Web services	PSPP3	60	3900	2340	0.118	35116	280928
Totals		100		3900		58924	471392

Table 12. PSPP script performance – distribution and throughput

Workload	Transac-tions passed	Transac-tions failed	Error rate (percentage)	Total transaction duration at 90 percent (in seconds)	Maximum transactions passed	Maximum transaction passed per hour	Weighted-average for transaction duration at 90 percent (in seconds)
FINS call center	425638	25	0.01	102979.620	11243	11243	0.242
FINS PRM	62791	0	0.00	30272.681	12565	12565	0.482
EAI - Web services	280641	5	0.00	33046.534	35116	35116	0.118
Totals	769070	25		166298.835			

Table 13. PSPP script performance – transaction details

Notes:

1. *Weighting* refers to the percentage mix of each PSPP script type in the PSPP benchmark scenario. The values are prescribed by Siebel in the PSPP benchmark kit.
2. *Weighted Average for transaction response time* is derived from Mercury LoadRunner statistics that are gathered during the PSPP steady-state period. It is calculated by dividing the total number of *Transactions passed* into the *Total transaction duration at 90 percent*.
3. *Transaction throughput per hour* is calculated by measuring the *Maximum transactions passed* (completed) by any individual transaction in each script, during the 60-minute PSPP steady-state period.
4. *Projected daily transaction throughput* is simply the hourly transaction throughput extrapolated for an 8-hour workday.

Database table space usage (over PSPP steady-state period)

Table 14 lists the database table space usage information, during the PSPP steady-state period.

Total DBMS table space usage at start of steady-state (in GB)	Total DBMS table space usage at end of steady-state (in GB)	DBMS growth (in GB)
115.05	117.14	2.09

Table 14. Database table space usage

Note: *Table space usage* is derived from an SQL query that gathers usage information from the database system catalog tables.

Database transactions (over PSPP steady-state period)

Table 15 lists the database transaction information, during the PSPP steady-state period.

Total user load	Steady-state run duration (in minutes)	Total number of transactions	Steady-state database row growth
3900	60	769070	933283

Table 15. Database transactions

Notes:

1. *Total number of transactions* are the total number of passed transactions as reported by Mercury LoadRunner, for all PSPP scripts, during the PSPP steady-state period.
2. *Steady-state database row growth* is calculated by determining the total number of table rows that were added to the PSPP-related tables in the database, during the PSPP steady-state period.
3. Database row counts are taken by an SQL query at the start of PSPP steady-state and, then again, at the end of PSPP steady-state.

Database PSPP table content

Table 16 lists the database PSPP table content information.

Business entity	Database table	Number of records
Accounts	S_ACT_EMP	1653945
Activities	S_EVT_ACT	6107269
Addresses	S_ADDR_PER	3821180
Contacts	S_ACT_CONTACT	3342163
Employees	S_EMP_PER	60566
Opportunities	S_OPTY	3397927
Orders	S_ORDER	499806
Products	S_PROD_INT	288618
Quote items	S_QUOTE_ITEM	1990122
Quotes	S_DOC_QUOTE_BU	256627
Service requests	S_SRV_REQ	5597117

Table 16. Core PSPP database tables – record counts

Notes:

1. *Business entity* is a Siebel term that describes the nature of the data that is contained in the identified *Database table*.
2. *Number of records* is the database table row counts that are captured using an SQL query, before the database is accessed by any PSPP scripts. These values represent the core data that existed in the PSPP database as it was supplied with the Siebel PSPP benchmark kit.

Database PSPP table growth (over PSPP steady-state period)

Table 17 lists the PSPP table growth information, during the PSPP steady-state period.

Database table	Rows before	Rows after	Row growth
S_AUDIT_ITEM	68619	150622	82003
S_SRV_REQ	5615496	5665469	49973
S_SRV_REQ_BU	5615500	5665468	49968
S_SRV_REQ3_FNX	71230	121194	49964
S_SRV_REQ2_FNX	71212	121168	49956
S_SRV_REQ1_FNX	71208	121158	49950
S_SRV_REQ_LOYX	171731	221648	49917
S_REVN	2942208	2977469	35261
S_QUOTE_ITEM	1998660	2022202	23542
S_QUO_ITM_LOYX	404847	428389	23542
S_QUOTE_ITM_SPA	404833	428363	23530
S_OPTY_PROD_FNX	115493	139020	23527
S_QUOTE_ITEM_OM	404788	428314	23526
S_OPTY_PROD1_FNX	115485	139007	23522
S_ORDER_ITEM_OM	395044	418484	23440
S_ORD_ITM_LOYX	395153	418585	23432
S_ORDER_ITEM	874973	898399	23426
S_QUOTE_TNTX	202769	214541	11772
S_QUOTE_POSTN	220190	231960	11770
S_PARTY	5642135	5653878	11743
S_CONTACT_FNX	353954	365687	11733
S_DOC_QUOTE	24568	36300	11732
S_DOC_QUOTE_BU	260765	272497	11732
S_CONTACT_TNTX	357164	368895	11731
S_CONTACT_X	195362	207093	11731
S_DOC_ORDER	32320	44051	11731
S_CONTACT	3694203	3705933	11730
S_DOC_QUOTE_SPA	202626	214355	11729
S_POSTN_CON	6430013	6441742	11729
S_PS_CONTACT	357241	368970	11729
S_CONTACT_BU	3759088	3770811	11723
S_ORDER_POSTN	822893	834616	11723
S_OPTY	3402515	3414235	11720
S_OPTY_TNTX	204746	216465	11719
S_OPTY_UTX	204748	216467	11719
S_ORDER_TNTX	197520	209237	11717
S_ORDER_DTL	15675	27387	11712
S_OPTY_BU	3290491	3302202	11711
S_ORDER_BU	363226	374931	11705
S_ORDER	503766	515469	11703

S_OPTY_POSTN	3304151	3315848	11697
S_OPTY_DSGN_REG	204727	216418	11691
S_OPTY_CON	4590876	4602548	11672

Table 17. PSPP database table growth

Notes:

1. *Database table* lists the database tables that exhibited any growth in rows during the PSPP steady-state period.
2. *Rows before* and *Rows after* values were captured using an SQL query at the start and end of the PSPP steady-state period, respectively.

Storage server disk usage (over PSPP steady-state period)

Table 18 lists the storage server disk usage information, during the PSPP steady-state period.

Devices	Total I/Os	Read per-centage	Cache-hit percentage	Current KB per second	Maximum KB per second	Current I/O per second	Maximum I/O per second
Controller in slot A	233230	29.0	74.9	1342.2	14206.8	124.0	1259.0
Logical drive: siamst_data1	41103	65.9	61.7	64.0	4660.8	3.8	427.2
Logical drive: siamst_data3	30719	60.5	87.3	84.8	4027.2	4.2	353.8
Logical drive: siamst_data5	30654	60.3	87.8	120.0	3985.6	4.8	357.8
Logical drive: siamst_log1	101852	0.0	50.0	892.6	2759.6	107.6	129.4
Logical drive: siamst_other1	3939	88.1	41.8	0.0	1708.8	0.0	210.6
Logical drive: siamst_rbs1	24963	0.4	96.2	180.8	4601.6	3.6	310.2
Controller in slot B	437043	17.4	64.7	246.4	13912.0	9.0	1200.4
Logical drive: saimst_log2	295016	0.0	50.0	0.0	1190.2	0.0	137.0
Logical drive: siamst_data2	31607	59.7	83.9	54.4	4185.6	3.0	352.2
Logical drive: siamst_data4	41295	65.6	59.4	49.6	4617.6	2.2	421.4
Logical drive: siamst_data6	40518	66.2	59.4	33.6	4552.0	2.0	428.2
Logical drive: siamst_other2	3904	87.3	42.4	0.0	1766.4	0.0	217.6
Logical drive: siamst_rbs2	24703	0.3	100.0	108.8	4670.4	1.8	311.2
Storage subsystem totals	670273	21.5	69.5	1588.6	28118.8	133.0	2452.0

Table 18. Storage server PSPP disk usage

Notes:

1. *Total I/Os* shows the total I/O tasks performed by each device since the beginning of the polling session. In this example, the time monitored was 60 minutes; therefore, these figures represent the total I/O tasks performed by each device per hour.
2. *Read percentage* is the percentage of total I/O tasks that were *read* operations for each device. The *write* percentage is calculated as 100 minus this value.
3. *Cache-hit percentage* is the percentage of *read* operations that were processed with data from the cache, rather than requiring a read from the logical dive.
4. *Current KB per second* is relevant during the statistical-polling intervals and represents the amount of data (that is, throughput), in kilobytes, that moved through the fiber-channel I/O path in one second, during a polling interval.
5. *Maximum KB per second* is the peak throughput that was achieved during the polling session.
6. *Current I/O per second* is relevant during the statistical-polling intervals and represents the average number of I/O requests (that is, I/O request rate) that were serviced, per second, during a polling interval.
7. *Maximum I/O per second* is the peak I/O-request rate that was achieved during the polling session.

See Table 19 for storage server disk usage details.

Start	6/30/2007	4:46:41 AM
Stop	6/30/2007	5:48:03 AM
Time monitored	1:01:22	
Polling interval (in seconds)	5	

Table 19. Storage server disk-usage monitor details

Summary

Siebel 8.0 is the first release of Siebel Enterprise software that is supported on Intel servers running both Windows and Linux operating systems. The Siebel 8.0 PSPP benchmark kit is a new revision of the kit, designed to more accurately represent real-world enterprise application loads. The IBM x3850 server, loaded with Intel Xeon MP dual-core 3.0 GHz processors, is a very capable and scalable platform for business applications.

The Siebel 8.0 PSPP result published here is impressive. The IBM x3850 servers achieved a significant number of Siebel 8.0 users per processor core. The total user count of 3900 real-world users is a very cost-effective result for a single Siebel 8.0 application server that runs on a single IBM x3850 server. It clearly shows that Windows running on Intel processors is still a viable and scalable operating system for Siebel 8.0 Business Enterprises. This benchmark also shows that IBM System x hardware can provide the stability and scalability that IBM users demand.

Appendix A: Configuration of the PSPP application tier

This appendix presents the configuration information for the PSPP application tier.

x3850 system configuration

The system summary shown in Figure 6 was captured using the Windows *msinfo32* program.

Item	Value
OS Name	Microsoft(R) Windows(R) Server 2003, Enterprise Edition
Version	5.2.3790 Service Pack 2 Build 3790
Other OS Description	Not Available
OS Manufacturer	Microsoft Corporation
System Name	EL9-92-152
System Manufacturer	IBM
System Model	IBM x3850-[88634RU]-
System Type	X86-based PC
Processor	x86 Family 15 Model 4 Stepping 8 GenuineIntel ~3002 Mhz
Processor	x86 Family 15 Model 4 Stepping 8 GenuineIntel ~3002 Mhz
Processor	x86 Family 15 Model 4 Stepping 8 GenuineIntel ~3003 Mhz
Processor	x86 Family 15 Model 4 Stepping 8 GenuineIntel ~3002 Mhz
Processor	x86 Family 15 Model 4 Stepping 8 GenuineIntel ~3003 Mhz
Processor	x86 Family 15 Model 4 Stepping 8 GenuineIntel ~3002 Mhz
Processor	x86 Family 15 Model 4 Stepping 8 GenuineIntel ~3003 Mhz
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Processor	x86 Family 15 Model 4 Stepping 8 GenuineIntel ~3002 Mhz
Processor	x86 Family 15 Model 4 Stepping 8 GenuineIntel ~3003 Mhz
Processor	x86 Family 15 Model 4 Stepping 8 GenuineIntel ~3002 Mhz
BIOS Version/Date	IBM -[ZUE154AUS-1.09]-, 4/26/2006
SMBIOS Version	2.3
Windows Directory	C:\WINDOWS
System Directory	C:\WINDOWS\system32
Boot Device	\Device\HarddiskVolume1
Locale	United States
Hardware Abstraction Layer	Version = "5.2.3790.3959 (srv03_sp2_rtm.070216-1710)"
User Name	SIEBW2K3\sadmin
Time Zone	Pacific Daylight Time
Total Physical Memory	32,766.86 MB
Available Physical Memory	31.40 GB
Total Virtual Memory	63.64 GB
Available Virtual Memory	63.40 GB
Page File Space	32.00 GB
Page File	D:\pagefile.sys

Figure 6. System summary information for the application tier x3850 server

Siebel application server configuration

The following Siebel application server configuration yielded the best PSPP result for the application tier. Figure 7 is the shell script that configured the object managers for the Siebel application server.

```
#!/bin/ksh
# Config Script Version Number: 1

function apply_config {
#
# Global Configuration Variables Used To Determine Parameters...
# Target No. Users: 6000
# No. Siebel App. Servers: 1
# No. Web Servers: 1
# App. Server CPU Bound?: True
# AOM SQL Cursor Cache: 1024
# AOM SQL Data Cache: 1024
#
# App Server Latches Configuration...
# App. Server MaxTasks Total: 6600
# SIEBEL_OSD_NLATCH: 47200
# SIEBEL_OSD_LATCH: 7920
#

#
# Siebel Service Request Broker
#
COMPONENT=SRBroker
echo "change param MaxTasks=100 for comp "$COMPONENT >> $COMMAND_FILE
echo "change param MinMTServers=1 for comp "$COMPONENT >> $COMMAND_FILE
echo "change param MaxMTServers=1 for comp "$COMPONENT >> $COMMAND_FILE

#
# Siebel Server Data Source
#
COMPONENT=ServerDataSrc
echo "change param DSMaxCachedCursors=1024 for named subsystem "$COMPONENT >> $COMMAND_FILE
echo "change param DSMaxCachedDataSets=1024 for named subsystem "$COMPONENT >> $COMMAND_FILE

#
# AOM Specific Configuration Variables Used To Determine Parameters.
# AOM1 Component Name: FINSObjMgr_enu
# No. Tasks per Thread: 1
# Thread Pooling Enabled?: False
# Thread Affinity Enabled?: True
# No. Users per DB Connection: 2
# Desired Users per AOM: 100
#
COMPONENT=FINSObjMgr_enu
echo "change param MaxTasks=1800 for comp "$COMPONENT >> $COMMAND_FILE
echo "change param MinMTServers=18 for comp "$COMPONENT >> $COMMAND_FILE
echo "change param MaxMTServers=18 for comp "$COMPONENT >> $COMMAND_FILE
echo "change param MinSharedDbConns=900 for comp "$COMPONENT >> $COMMAND_FILE
echo "change param MaxSharedDbConns=900 for comp "$COMPONENT >> $COMMAND_FILE
echo "change param MinTrxDbConns=900 for comp "$COMPONENT >> $COMMAND_FILE
echo "change param MinPoolThreads=0 for comp "$COMPONENT >> $COMMAND_FILE
echo "change param MaxPoolThreads=0 for comp "$COMPONENT >> $COMMAND_FILE
echo "change param CommEnable=False for comp "$COMPONENT >> $COMMAND_FILE
echo "change param CommConfigManager=True for comp "$COMPONENT >> $COMMAND_FILE
echo "change param UseThreadPool=False for comp "$COMPONENT >> $COMMAND_FILE
echo "change param ThreadAffinity=True for comp "$COMPONENT >> $COMMAND_FILE
echo "change param CFGRepositoryFile=pspp1_pspp3_siebel_sia.srf for comp "$COMPONENT >>
$COMMAND_FILE
echo "change EvtLogLvl %=0 for comp "$COMPONENT >> $COMMAND_FILE

#
# AOM Specific Configuration Variables Used To Determine Parameters.
# AOM2 Component Name: FINSeChannelObjMgr_enu
# No. Tasks per Thread: 1
# Thread Pooling Enabled?: False
# Thread Affinity Enabled?: True
# No. Users per DB Connection: 2
# Desired Users per AOM: 100
```

```
#
COMPONENT=FINSeChannelObjMgr_enu
echo "change param MaxTasks=600 for comp "$COMPONENT >> $COMMAND_FILE
echo "change param MinMTServers=6 for comp "$COMPONENT >> $COMMAND_FILE
echo "change param MaxMTServers=6 for comp "$COMPONENT >> $COMMAND_FILE
echo "change param MinSharedDbConns=300 for comp "$COMPONENT >> $COMMAND_FILE
echo "change param MaxSharedDbConns=300 for comp "$COMPONENT >> $COMMAND_FILE
echo "change param MinTrxDbConns=300 for comp "$COMPONENT >> $COMMAND_FILE
echo "change param MinPoolThreads=0 for comp "$COMPONENT >> $COMMAND_FILE
echo "change param MaxPoolThreads=0 for comp "$COMPONENT >> $COMMAND_FILE
echo "change param CommEnable=False for comp "$COMPONENT >> $COMMAND_FILE
echo "change param CommConfigManager=True for comp "$COMPONENT >> $COMMAND_FILE
echo "change param UseThreadPool=False for comp "$COMPONENT >> $COMMAND_FILE
echo "change param ThreadAffinity=True for comp "$COMPONENT >> $COMMAND_FILE
echo "change param CFGRepositoryFile=pspp2_siebel_sia.srf for comp "$COMPONENT >> $COMMAND_FILE
echo "change EvtLogLvl %=0 for comp "$COMPONENT >> $COMMAND_FILE

#
# AOM Specific Configuration Variables Used To Determine Parameters.
# AOM3 Component Name: WfProcMgr
# No. Tasks per Thread: n/a
# Thread Pooling Enabled?: True
# Thread Affinity Enabled?: False
# No. Users per DB Connection: 2
# Desired Users per AOM: 100
#
COMPONENT=WfProcMgr
echo "change param MaxTasks=600 for comp "$COMPONENT >> $COMMAND_FILE
echo "change param MinMTServers=6 for comp "$COMPONENT >> $COMMAND_FILE
echo "change param MaxMTServers=6 for comp "$COMPONENT >> $COMMAND_FILE
echo "change param MinSharedDbConns=300 for comp "$COMPONENT >> $COMMAND_FILE
echo "change param MaxSharedDbConns=300 for comp "$COMPONENT >> $COMMAND_FILE
echo "change param MinTrxDbConns=300 for comp "$COMPONENT >> $COMMAND_FILE
echo "change param HonorMaxTasks=True for comp "$COMPONENT >> $COMMAND_FILE
echo "change param BypassHandler=True for comp "$COMPONENT >> $COMMAND_FILE
echo "change param ModelCacheMax=84 for comp "$COMPONENT >> $COMMAND_FILE
echo "change param CFGRepositoryFile=pspp2_siebel_sia.srf for comp "$COMPONENT >> $COMMAND_FILE
echo "change EvtLogLvl %=0 for comp "$COMPONENT >> $COMMAND_FILE

#
# AOM Specific Configuration Variables Used To Determine Parameters.
# AOM4 Component Name: CustomAppObjMgr_enu
# No. Tasks per Thread: 1
# Thread Pooling Enabled?: False
# Thread Affinity Enabled?: True
# No. Users per DB Connection: 2
# Desired Users per AOM: 100
#
COMPONENT=CustomAppObjMgr_enu
echo "change param MaxTasks=3600 for comp "$COMPONENT >> $COMMAND_FILE
echo "change param MinMTServers=36 for comp "$COMPONENT >> $COMMAND_FILE
echo "change param MaxMTServers=36 for comp "$COMPONENT >> $COMMAND_FILE
echo "change param MinSharedDbConns=1800 for comp "$COMPONENT >> $COMMAND_FILE
echo "change param MaxSharedDbConns=1800 for comp "$COMPONENT >> $COMMAND_FILE
echo "change param MinTrxDbConns=1800 for comp "$COMPONENT >> $COMMAND_FILE
echo "change param MinPoolThreads=0 for comp "$COMPONENT >> $COMMAND_FILE
echo "change param MaxPoolThreads=0 for comp "$COMPONENT >> $COMMAND_FILE
echo "change param EnableCDA=False for comp "$COMPONENT >> $COMMAND_FILE
echo "change param NumberOfListRows=7 for comp "$COMPONENT >> $COMMAND_FILE
echo "change param EnableSIFocusTracking=False for comp "$COMPONENT >> $COMMAND_FILE
echo "change param eProdCfgRemote=False for comp "$COMPONENT >> $COMMAND_FILE
echo "change param eProdCfgSnapshotFlg=True for comp "$COMPONENT >> $COMMAND_FILE
echo "change param eProdCfgNumOfCachedObjects=100000 for comp "$COMPONENT >> $COMMAND_FILE
echo "change param eProdCfgNumbOfCachedFactories=15 for comp "$COMPONENT >> $COMMAND_FILE
echo "change param eProdCfgNumbOfCachedWorkers=50 for comp "$COMPONENT >> $COMMAND_FILE
echo "change param CFGRepositoryFile=pspp1_pspp3_siebel_sia.srf for comp "$COMPONENT >>
$COMMAND_FILE
echo "change EvtLogLvl %=0 for comp "$COMPONENT >> $COMMAND_FILE

#
# Apply the configuration changes to the Siebel Application Server
#
d:/sba80/siebsrvr/bin/srvrmgr $CONNECT_STRING <<EOF
read $COMMAND_FILE
quit
EOF

printf "\n'srvrmgr' Connect String Used: %s\n" "$CONNECT_STRING"
printf "Application Server Configured: %s\n" "p2_152"
```

```
printf "Applied Configuration Settings Saved In File: %s\n\n"
"siebel_app_server_configuration.txt"
}

################################################################################
################################################################################
#
# Main Script Starts Here
#
################################################################################
################################################################################

CONNECT_STRING="-e siebel -g p2_152 -u sadmin -p sadmin"
COMMAND_FILE=d:/temp/srvrmgr.$$
OUTPUT_FILE=d:/temp/srvrmgr.out.$$

if [[ -f $COMMAND_FILE ]]; then
   rm $COMMAND_FILE
fi

if [[ -f $OUTPUT_FILE ]]; then
   rm $OUTPUT_FILE
fi

#
# Specify the App Server we want to configure
#
echo "set server "p2_152 >> $COMMAND_FILE

#
# Execute the 'set server' command in 'srvrmgr' and capture the OUTPUT
#
d:/sba80/siebsrvr/bin/srvrmgr $CONNECT_STRING <<EOF >$OUTPUT_FILE
read $COMMAND_FILE
quit
EOF

#
# GREP the OUTPUT from the 'srvrmgr' command for our App Server Name in the
# PROMPT. The PROMPT will take the format 'srvrmgr:<App Server Name>', if
# the 'set server' command was successful
#
if [[ -z "`grep \"srvrmgr:p2_152\" $OUTPUT_FILE`" ]]; then
   printf "\n\nERROR! - Siebel App Server '%s' Not Found In Enterprise '%s'!\n\n" "p2_152"
"siebel"
else
   #
   # App Server exists! Apply the config to it. The FUNCTION continues to APPEND
   # the config details to the COMMAND_FILE, which at the moment, contains just
   # the valid 'set server' command
   #
   apply_config
   cat $COMMAND_FILE > siebel_app_server_configuration.txt
fi

rm $COMMAND_FILE
rm $OUTPUT_FILE
```

Figure 7. Contents of the shell script that was used to configure the object managers for the Siebel application server

Appendix B: Configuration of the PSPP Web tier

This appendix presents the configuration information for the PSPP Web tier.

x3850 system configuration

The system summary shown in Figure 8 was captured using the Windows *msinfo32* program.

Item	Value
OS Name	Microsoft(R) Windows(R) Server 2003, Enterprise Edition
Version	5.2.3790 Service Pack 2 Build 3790
Other OS Description	Not Available
OS Manufacturer	Microsoft Corporation
System Name	EL9-92-153
System Manufacturer	IBM
System Model	IBM x3850-[88634RU]-
System Type	X86-based PC
Processor	x86 Family 15 Model 4 Stepping 8 GenuineIntel ~3002 Mhz
Processor	x86 Family 15 Model 4 Stepping 8 GenuineIntel ~3002 Mhz
Processor	x86 Family 15 Model 4 Stepping 8 GenuineIntel ~3003 Mhz
Processor	x86 Family 15 Model 4 Stepping 8 GenuineIntel ~3002 Mhz
BIOS Version/Date	IBM -[ZUE154AUS-1.09]-, 4/26/2006
SMBIOS Version	2.3
Windows Directory	C:\WINDOWS
System Directory	C:\WINDOWS\system32
Boot Device	\Device\HarddiskVolume1
Locale	United States
Hardware Abstraction Layer	Version = "5.2.3790.3959 (srv03_sp2_rtm.070216-1710)"
User Name	SIEBW2K3\sadmin
Time Zone	Pacific Daylight Time
Total Physical Memory	16382.86 MB
Available Physical Memory	15.45 GB
Total Virtual Memory	31.75 GB
Available Virtual Memory	31.46 GB
Page File Space	16.00 GB
Page File	D:\pagefile.sys

Figure 8. System summary information for the Web tier x3850 server

Microsoft Internet Information Server (IIS) configuration

No specific IIS configuration needed to be applied to support the PSPP benchmark workload.

Siebel SWSE plug-in configuration

No specific Siebel SWSE plug-in needed to be applied to support the PSPP benchmark workload.

Appendix C: Configuration of the PSPP database tier

This appendix includes configuration information for the PSPP database tier.

x3850 system configuration

A custom shell script (see Figure 9) captured the configuration data that appears in Figure 10.

```
#!/bin/sh

echo ""
echo "System Information"
echo "------------------"
echo "hostname:          `cat /proc/sys/kernel/hostname`"
echo "linux version:     `cat /etc/redhat-release`"
echo "kernel:            `cat /proc/sys/kernel/osrelease`"
echo "kernel boot args:  `cat /proc/cmdline`"

echo ""
echo "Mounted Filesystems"
echo "-------------------"
cat /proc/mounts | sort

echo ""
echo "Available SWAP"
echo "--------------"
cat /proc/swaps

echo ""
echo "Memory Information"
echo "------------------"
cat /proc/meminfo

echo ""
echo "Disk Devices By Controller"
echo "--------------------------"

for dev in `ls /proc/ide | grep ide`; do

    echo "${dev}:"

    for disk in `ls /proc/ide/${dev}`; do

        pdev="/proc/ide/${dev}/${disk}"

        if [ -f ${pdev}/driver ]; then

            echo "  /dev/${disk}"
            echo "  --------"

            [[ -f ${pdev}/model ]]    && echo "    model:     `cat ${pdev}/model`"
            [[ -f ${pdev}/cache ]]    && echo "    cache:     `cat ${pdev}/cache`"
            [[ -f ${pdev}/capacity ]] && echo "    capacity:  `cat ${pdev}/capacity`"
            [[ -f ${pdev}/media ]]    && echo "    type:      `cat ${pdev}/media`"
            [[ -f ${pdev}/driver ]]   && echo "    driver:    `cat ${pdev}/driver`"

            echo ""
        fi
    done
done

echo ""
echo "SCSI Devices"
echo "------------"
cat /proc/scsi/scsi

echo ""
echo "CPU Information"
echo "---------------"
cat /proc/cpuinfo
```

Figure 9. Contents of the server_info.sh shell script that was used to capture system configuration information

```
System Information
------------------
hostname:         el9-92-154.ent.beaverton.ibm.com
linux version:    Red Hat Enterprise Linux AS release 4 (Nahant Update 4)
kernel:           2.6.9-55.ELsmp
kernel boot args: ro root=/dev/VolGroup00/LogVol00 rhgb quiet noapic console=tty0

Mounted Filesystems
-------------------
9.47.92.123:/statdude /statdude nfs
rw,v3,rsize=32768,wsize=32768,hard,tcp,lock,proto=tcp,timeo=600,retrans=5,addr=9.47.92.123 0 0
/dev/root / ext3 rw 0 0
/dev/sda1 /boot ext3 rw 0 0
none /dev/pts devpts rw 0 0
none /dev/shm tmpfs rw 0 0
none /dev tmpfs rw 0 0
none /dev tmpfs rw 0 0
none /proc/sys/fs/binfmt_misc binfmt_misc rw 0 0
/proc/bus/usb /proc/bus/usb usbfs rw 0 0
/proc /proc proc rw,nodiratime 0 0
/proc /proc proc rw,nodiratime 0 0
rootfs / rootfs rw 0 0
sunrpc /var/lib/nfs/rpc_pipefs rpc_pipefs rw 0 0
/sys /sys sysfs rw 0 0

Available SWAP
--------------
Filename    Type  Size Used Priority
/dev/mapper/VolGroup00-LogVol01         partition 2031608 272 -1

Memory Information
------------------
MemTotal:     32908660 kB
MemFree:      21985716 kB
Buffers:         15500 kB
Cached:         635328 kB
SwapCached:          0 kB
Active:        6861040 kB
Inactive:       222288 kB
HighTotal:           0 kB
HighFree:            0 kB
LowTotal:     32908660 kB
LowFree:      21985716 kB
SwapTotal:     2031608 kB
SwapFree:      2031336 kB
Dirty:              68 kB
Writeback:           0 kB
Mapped:        6837544 kB
Slab:           119388 kB
CommitLimit:  16933552 kB
Committed_AS: 10804616 kB
PageTables:     409828 kB
VmallocTotal: 536870911 kB
VmallocUsed:      4012 kB
VmallocChunk: 536866855 kB
HugePages_Total:  1516
HugePages_Free:    244
Hugepagesize:     2048 kB

Disk Devices By Controller
--------------------------
ide0:
  /dev/hda
  --------
    model:    HL-DT-STCD-RW/DVD DRIVE GCC-4244N
    capacity: 0
    type:     cdrom
    driver:   ide-cdrom version 4.61


SCSI Devices
------------
Attached devices:
Host: scsi0 Channel: 00 Id: 00 Lun: 00
  Vendor: IBM      Model: Drive 1          Rev: V1.0
  Type:   Direct-Access                    ANSI SCSI revision: 02
Host: scsi1 Channel: 00 Id: 00 Lun: 00
  Vendor: IBM      Model: 1814      FAStT  Rev: 0916
  Type:   Direct-Access                    ANSI SCSI revision: 03
```

```
Host: scsi1 Channel: 00 Id: 00 Lun: 01
  Vendor: IBM      Model: 1814      FAStT  Rev: 0916
  Type:   Direct-Access                    ANSI SCSI revision: 03
Host: scsi1 Channel: 00 Id: 00 Lun: 02
  Vendor: IBM      Model: 1814      FAStT  Rev: 0916
  Type:   Direct-Access                    ANSI SCSI revision: 03
Host: scsi1 Channel: 00 Id: 00 Lun: 03
  Vendor: IBM      Model: 1814      FAStT  Rev: 0916
  Type:   Direct-Access                    ANSI SCSI revision: 03
Host: scsi1 Channel: 00 Id: 00 Lun: 04
  Vendor: IBM      Model: 1814      FAStT  Rev: 0916
  Type:   Direct-Access                    ANSI SCSI revision: 03
Host: scsi1 Channel: 00 Id: 00 Lun: 05
  Vendor: IBM      Model: 1814      FAStT  Rev: 0916
  Type:   Direct-Access                    ANSI SCSI revision: 03
Host: scsi1 Channel: 00 Id: 00 Lun: 06
  Vendor: IBM      Model: 1814      FAStT  Rev: 0916
  Type:   Direct-Access                    ANSI SCSI revision: 03
Host: scsi1 Channel: 00 Id: 00 Lun: 07
  Vendor: IBM      Model: 1814      FAStT  Rev: 0916
  Type:   Direct-Access                    ANSI SCSI revision: 03
Host: scsi1 Channel: 00 Id: 00 Lun: 08
  Vendor: IBM      Model: 1814      FAStT  Rev: 0916
  Type:   Direct-Access                    ANSI SCSI revision: 03
Host: scsi1 Channel: 00 Id: 00 Lun: 09
  Vendor: IBM      Model: 1814      FAStT  Rev: 0916
  Type:   Direct-Access                    ANSI SCSI revision: 03
Host: scsi1 Channel: 00 Id: 00 Lun: 10
  Vendor: IBM      Model: 1814      FAStT  Rev: 0916
  Type:   Direct-Access                    ANSI SCSI revision: 03
Host: scsi1 Channel: 00 Id: 00 Lun: 11
  Vendor: IBM      Model: 1814      FAStT  Rev: 0916
  Type:   Direct-Access                    ANSI SCSI revision: 03
Host: scsi2 Channel: 00 Id: 00 Lun: 00
  Vendor: IBM      Model: 1814      FAStT  Rev: 0916
  Type:   Direct-Access                    ANSI SCSI revision: 03
Host: scsi2 Channel: 00 Id: 00 Lun: 01
  Vendor: IBM      Model: 1814      FAStT  Rev: 0916
  Type:   Direct-Access                    ANSI SCSI revision: 03
Host: scsi2 Channel: 00 Id: 00 Lun: 02
  Vendor: IBM      Model: 1814      FAStT  Rev: 0916
  Type:   Direct-Access                    ANSI SCSI revision: 03
Host: scsi2 Channel: 00 Id: 00 Lun: 03
  Vendor: IBM      Model: 1814      FAStT  Rev: 0916
  Type:   Direct-Access                    ANSI SCSI revision: 03
Host: scsi2 Channel: 00 Id: 00 Lun: 04
  Vendor: IBM      Model: 1814      FAStT  Rev: 0916
  Type:   Direct-Access                    ANSI SCSI revision: 03
Host: scsi2 Channel: 00 Id: 00 Lun: 05
  Vendor: IBM      Model: 1814      FAStT  Rev: 0916
  Type:   Direct-Access                    ANSI SCSI revision: 03
Host: scsi2 Channel: 00 Id: 00 Lun: 06
  Vendor: IBM      Model: 1814      FAStT  Rev: 0916
  Type:   Direct-Access                    ANSI SCSI revision: 03
Host: scsi2 Channel: 00 Id: 00 Lun: 07
  Vendor: IBM      Model: 1814      FAStT  Rev: 0916
  Type:   Direct-Access                    ANSI SCSI revision: 03
Host: scsi2 Channel: 00 Id: 00 Lun: 08
  Vendor: IBM      Model: 1814      FAStT  Rev: 0916
  Type:   Direct-Access                    ANSI SCSI revision: 03
Host: scsi2 Channel: 00 Id: 00 Lun: 09
  Vendor: IBM      Model: 1814      FAStT  Rev: 0916
  Type:   Direct-Access                    ANSI SCSI revision: 03
Host: scsi2 Channel: 00 Id: 00 Lun: 10
  Vendor: IBM      Model: 1814      FAStT  Rev: 0916
  Type:   Direct-Access                    ANSI SCSI revision: 03
Host: scsi2 Channel: 00 Id: 00 Lun: 11
  Vendor: IBM      Model: 1814      FAStT  Rev: 0916
  Type:   Direct-Access                    ANSI SCSI revision: 03

CPU Information
---------------
processor : 0
vendor_id : GenuineIntel
cpu family : 15
model  : 4
model name :                    Intel(R) Xeon(TM) CPU 3.00GHz
stepping : 8
cpu MHz  : 3002.700
```

```
cache size : 2048 KB
physical id : 0
siblings : 4
core id  : 0
cpu cores : 2
fpu  : yes
fpu_exception : yes
cpuid level : 5
wp  : yes
flags  : fpu vme de pse tsc msr pae mce cx8 apic sep mtrr pge mca cmov pat pse36 clflush dts acpi
mmx fxsr sse sse2 ss ht tm syscall lm pni monitor ds_cpl est tm2 cid cx16 xtpr
bogomips : 6014.10
clflush size : 64
cache_alignment : 128
address sizes : 40 bits physical, 48 bits virtual
power management:

processor : 1
vendor_id : GenuineIntel
cpu family : 15
model  : 4
model name :                   Intel(R) Xeon(TM) CPU 3.00GHz
stepping : 8
cpu MHz  : 3002.700
cache size : 2048 KB
physical id : 0
siblings : 4
core id  : 0
cpu cores : 2
fpu  : yes
fpu_exception : yes
cpuid level : 5
wp  : yes
flags  : fpu vme de pse tsc msr pae mce cx8 apic sep mtrr pge mca cmov pat pse36 clflush dts acpi
mmx fxsr sse sse2 ss ht tm syscall lm pni monitor ds_cpl est tm2 cid cx16 xtpr
bogomips : 6004.18
clflush size : 64
cache_alignment : 128
address sizes : 40 bits physical, 48 bits virtual
power management:

processor : 2
vendor_id : GenuineIntel
cpu family : 15
model  : 4
model name :                   Intel(R) Xeon(TM) CPU 3.00GHz
stepping : 8
cpu MHz  : 3002.700
cache size : 2048 KB
physical id : 0
siblings : 4
core id  : 1
cpu cores : 2
fpu  : yes
fpu_exception : yes
cpuid level : 5
wp  : yes
flags  : fpu vme de pse tsc msr pae mce cx8 apic sep mtrr pge mca cmov pat pse36 clflush dts acpi
mmx fxsr sse sse2 ss ht tm syscall lm pni monitor ds_cpl est tm2 cid cx16 xtpr
bogomips : 6004.19
clflush size : 64
cache_alignment : 128
address sizes : 40 bits physical, 48 bits virtual
power management:

processor : 3
vendor_id : GenuineIntel
cpu family : 15
model  : 4
model name :                   Intel(R) Xeon(TM) CPU 3.00GHz
stepping : 8
cpu MHz  : 3002.700
cache size : 2048 KB
physical id : 0
siblings : 4
core id  : 1
cpu cores : 2
fpu  : yes
fpu_exception : yes
```

```
cpuid level : 5
wp  : yes
flags  : fpu vme de pse tsc msr pae mce cx8 apic sep mtrr pge mca cmov pat pse36 clflush dts acpi
mmx fxsr sse sse2 ss ht tm syscall lm pni monitor ds_cpl est tm2 cid cx16 xtpr
bogomips : 6004.02
clflush size : 64
cache_alignment : 128
address sizes : 40 bits physical, 48 bits virtual
power management:

processor : 4
vendor_id : GenuineIntel
cpu family : 15
model  : 4
model name :                   Intel(R) Xeon(TM) CPU 3.00GHz
stepping : 8
cpu MHz  : 3002.700
cache size : 2048 KB
physical id : 9
siblings : 4
core id  : 19
cpu cores : 2
fpu  : yes
fpu_exception : yes
cpuid level : 5
wp  : yes
flags  : fpu vme de pse tsc msr pae mce cx8 apic sep mtrr pge mca cmov pat pse36 clflush dts acpi
mmx fxsr sse sse2 ss ht tm syscall lm pni monitor ds_cpl est tm2 cid cx16 xtpr
bogomips : 6004.23
clflush size : 64
cache_alignment : 128
address sizes : 40 bits physical, 48 bits virtual
power management:

processor : 5
vendor_id : GenuineIntel
cpu family : 15
model  : 4
model name :                   Intel(R) Xeon(TM) CPU 3.00GHz
stepping : 8
cpu MHz  : 3002.700
cache size : 2048 KB
physical id : 9
siblings : 4
core id  : 19
cpu cores : 2
fpu  : yes
fpu_exception : yes
cpuid level : 5
wp  : yes
flags  : fpu vme de pse tsc msr pae mce cx8 apic sep mtrr pge mca cmov pat pse36 clflush dts acpi
mmx fxsr sse sse2 ss ht tm syscall lm pni monitor ds_cpl est tm2 cid cx16 xtpr
bogomips : 6004.17
clflush size : 64
cache_alignment : 128
address sizes : 40 bits physical, 48 bits virtual
power management:

processor : 6
vendor_id : GenuineIntel
cpu family : 15
model  : 4
model name :                   Intel(R) Xeon(TM) CPU 3.00GHz
stepping : 8
cpu MHz  : 3002.700
cache size : 2048 KB
physical id : 9
siblings : 4
core id  : 18
cpu cores : 2
fpu  : yes
fpu_exception : yes
cpuid level : 5
wp  : yes
flags  : fpu vme de pse tsc msr pae mce cx8 apic sep mtrr pge mca cmov pat pse36 clflush dts acpi
mmx fxsr sse sse2 ss ht tm syscall lm pni monitor ds_cpl est tm2 cid cx16 xtpr
bogomips : 6004.17
clflush size : 64
cache_alignment : 128
```

```
address sizes : 40 bits physical, 48 bits virtual
power management:

processor : 7
vendor_id : GenuineIntel
cpu family : 15
model  : 4
model name :                    Intel(R) Xeon(TM) CPU 3.00GHz
stepping : 8
cpu MHz  : 3002.700
cache size : 2048 KB
physical id : 9
siblings : 4
core id  : 18
cpu cores : 2
fpu  : yes
fpu_exception : yes
cpuid level : 5
wp  : yes
flags  : fpu vme de pse tsc msr pae mce cx8 apic sep mtrr pge mca cmov pat pse36 clflush dts acpi
mmx fxsr sse sse2 ss ht tm syscall lm pni monitor ds_cpl est tm2 cid cx16 xtpr
bogomips : 6004.30
clflush size : 64
cache_alignment : 128
address sizes : 40 bits physical, 48 bits virtual
power management:
```

Figure 10. Configuration information for the database tier x3850 server

Database server configuration

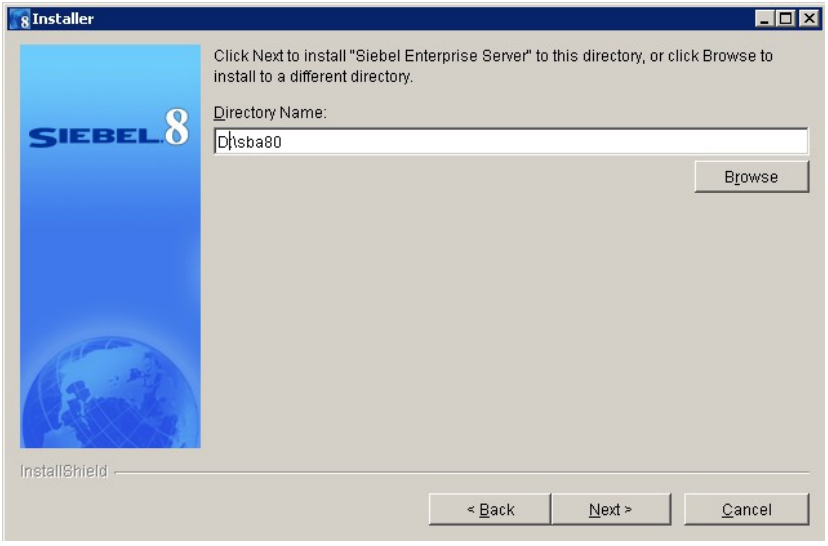
Figure 11 shows the configuration of the Oracle database server that yielded the best PSPP result for the database tier.

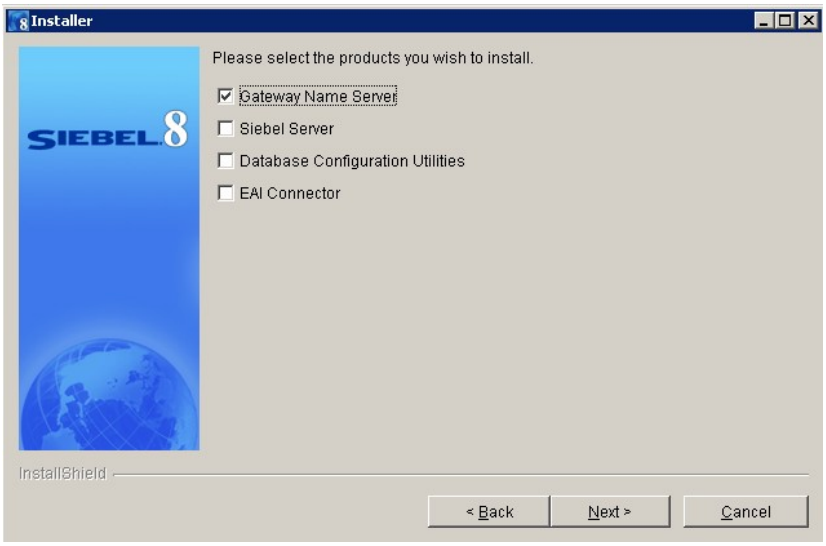
```
# Instance, Network, Security and Traces
db_name                     = siamst
db_block_size               = 8192
compatible                  = 10.1.0
O7_dictionary_accessibility = true
nls_sort                    = binary
#statistics_level           = all       #commented out, see below
max_dump_file_size          = 20M
background_dump_dest        = ?/rdbms/log
core_dump_dest              = ?/rdbms/log
user_dump_dest              = ?/rdbms/log
control_files               = (?/dbs/siamst_control01.ctl,?/dbf/siamst_control02.ctl)


# Memory
pre_page_sga         = TRUE
sga_target           = 0        #2560M
shared_pool_size     = 750M
db_cache_size        = 640M
db_16k_cache_size    = 1400M    #siamst only
pga_aggregate_target = 6144M    #1024M
log_buffer           = 2097152
_db_block_hash_latches = 8192
trace_enabled = false


# I/O
db_files                      = 500
db_file_multiblock_read_count = 32
db_writer_processes           = 1
log_checkpoint_interval       = 0
log_checkpoint_timeout        = 0


# UNDO/Rollback
undo_management = AUTO
undo_tablespace = UNDO
undo_retention  = 3600


# Process, Session and Optimizer
processes                = 6000
cursor_space_for_time    = TRUE
open_cursors             = 500
optimizer_index_cost_adj = 1


# Parallelim
#parallel_max_servers = 8


# Tuning to solve SYS CPU runaway bug!
_os_sched_high_priority = 0
statistics_level        = basic #typical
timed_statistics        = false
```

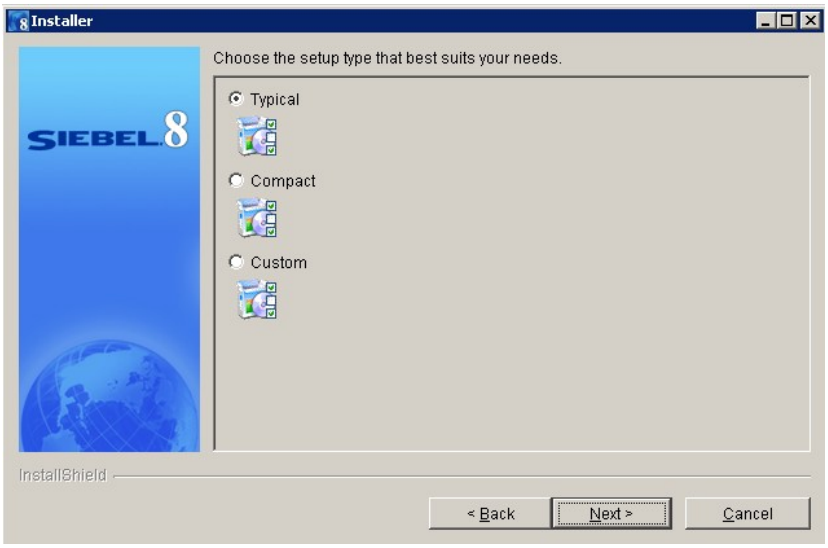
Figure 11. Contents of the Oracle database server initsiamst.ora configuration file

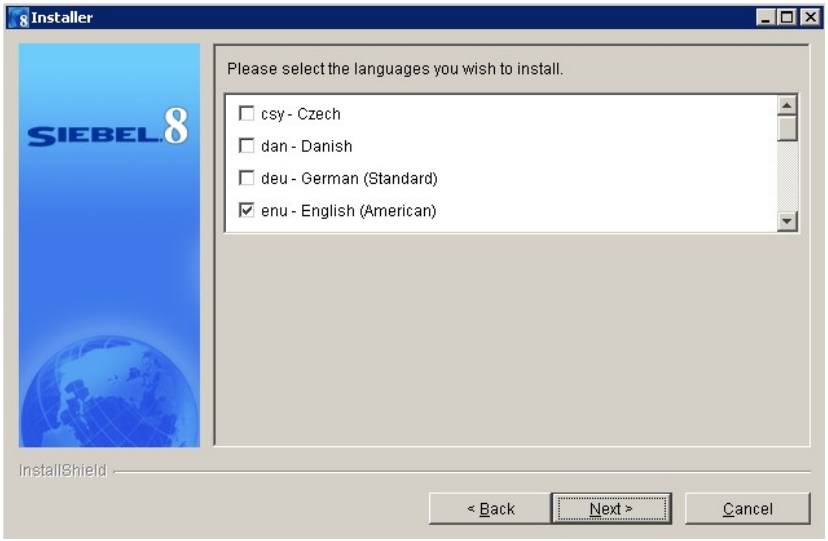
Appendix D: Installation of the Siebel gateway

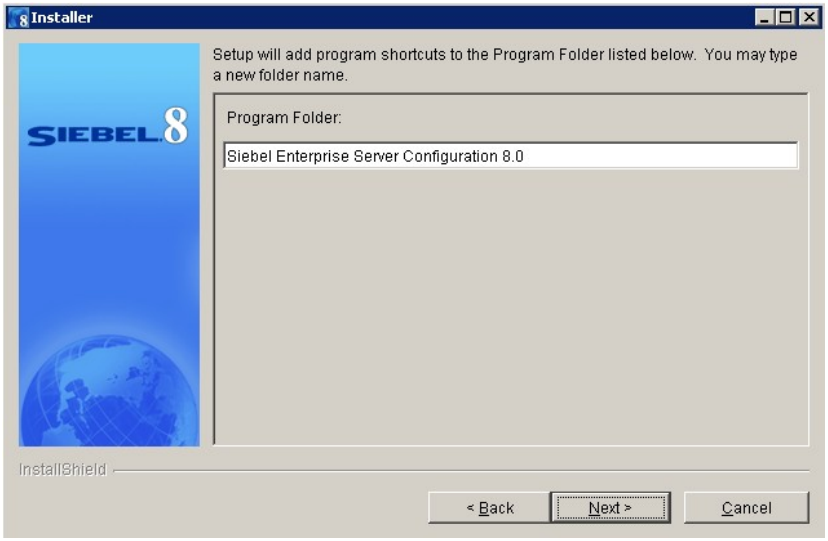
The following screen captures were taken during the installation of the Siebel gateway that was used for the Siebel 8 Windows PSPP benchmark.

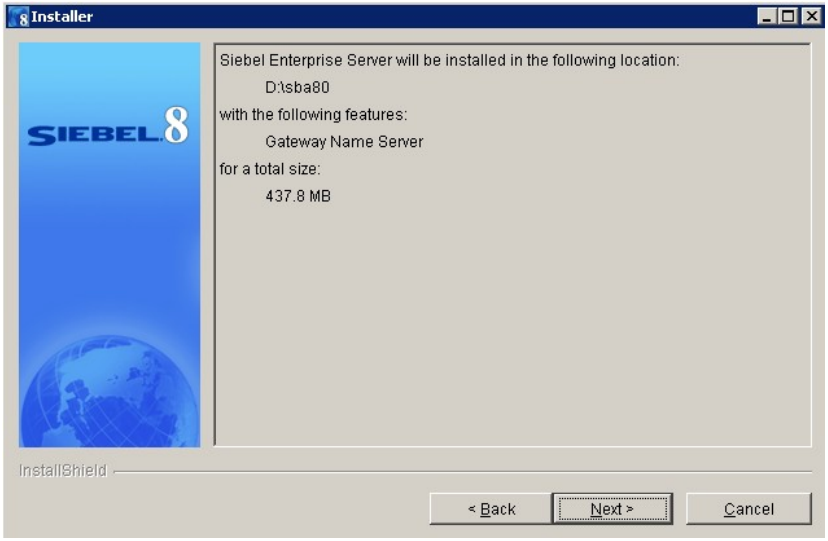


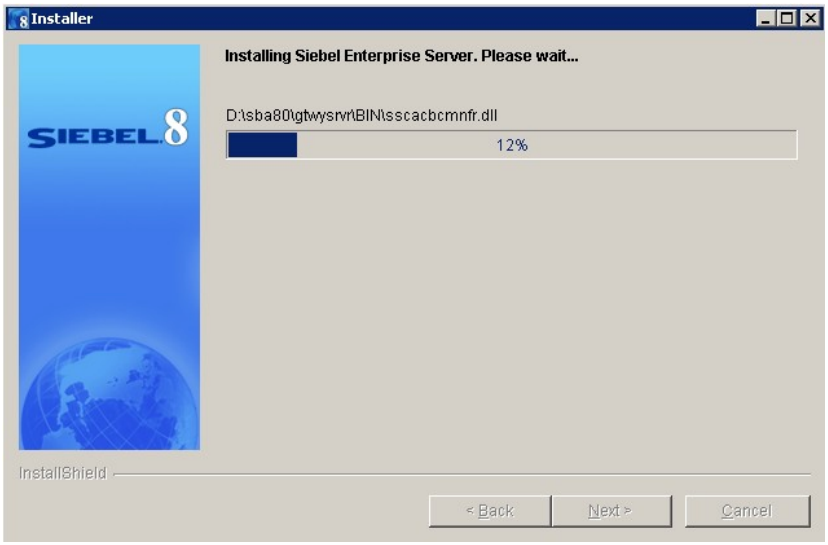

Installer
Please select the products you wish to install.
Gateway Name Server
Siebel Server
Database Configuration Utilities
EAI Connector
InstallShield
< Back
Next >
Cancel

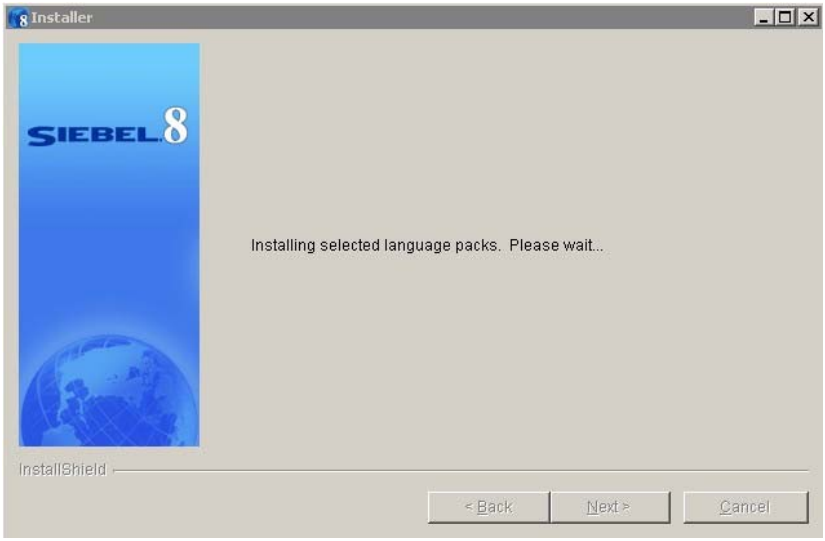

Installer
Choose the setup type that best suits your needs.
Typical
Compact
Custom
InstallShield
< Back
Next >
Cancel

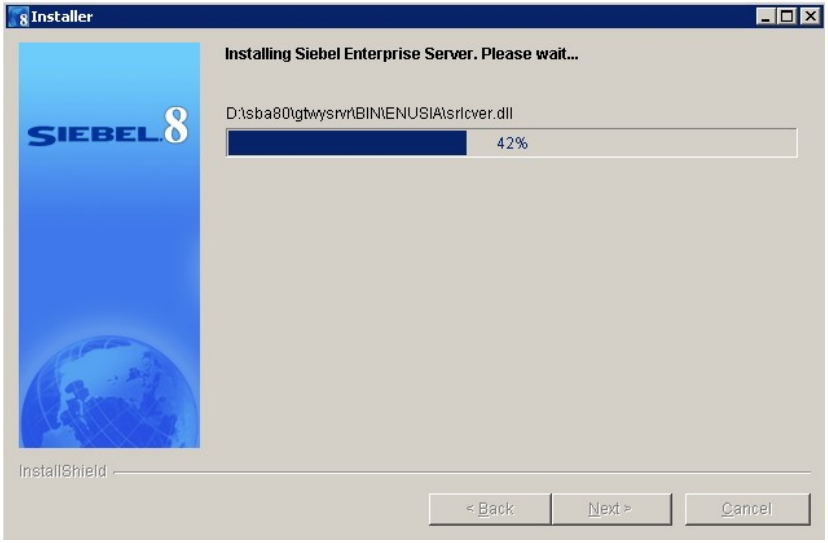

Installer
Please select the languages you wish to install.
csy - Czech
dan - Danish
deu - German (Standard)
enu - English (American)
InstallShield
< Back
Next >
Cancel

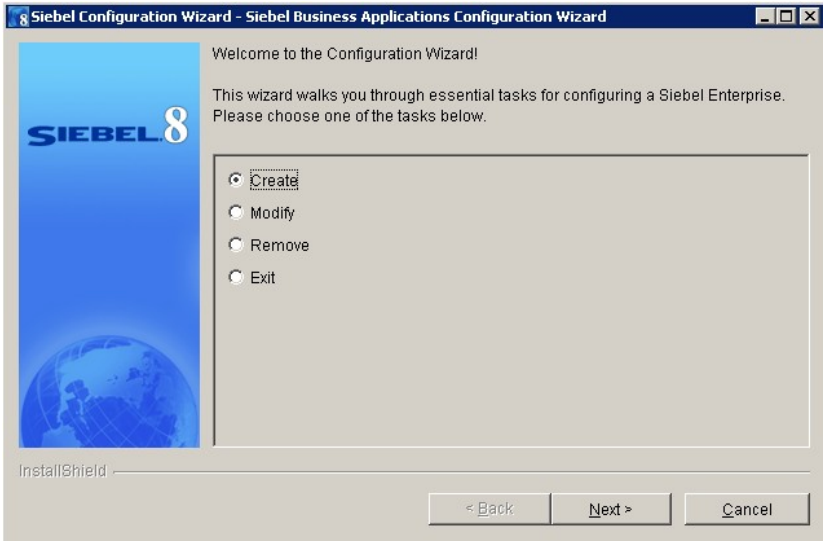

Installer
SIEBEL 8
Setup will add program shortcuts to the Program Folder listed below. You may type a new folder name.
Program Folder:
Siebel Enterprise Server Configuration 8.0
InstallShield
< Back
Next >
Cancel

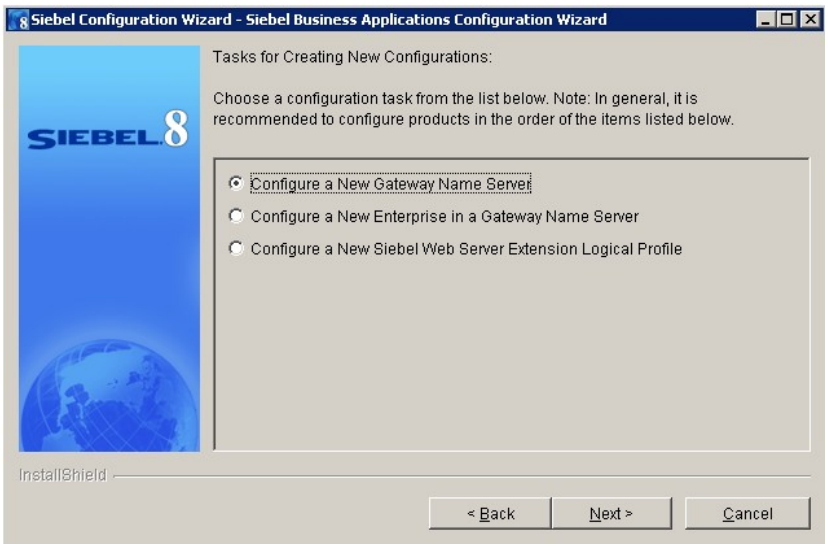

Installer
SIEBEL 8
Siebel Enterprise Server will be installed in the following location:
D:\sba80
with the following features:
Gateway Name Server
for a total size:
437.8 MB
InstallShield
< Back
Next >
Cancel

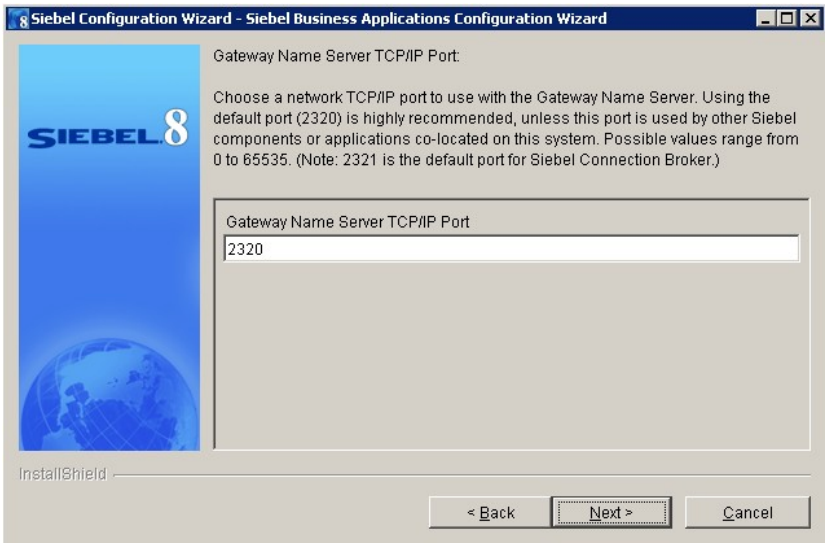

Installer
SIEBEL 8
Installing Siebel Enterprise Server. Please wait...
D:\sba80\gtwysrvr\BIN\sscacbcmnfr.dll
12%
InstallShield
< Back
Next >
Cancel

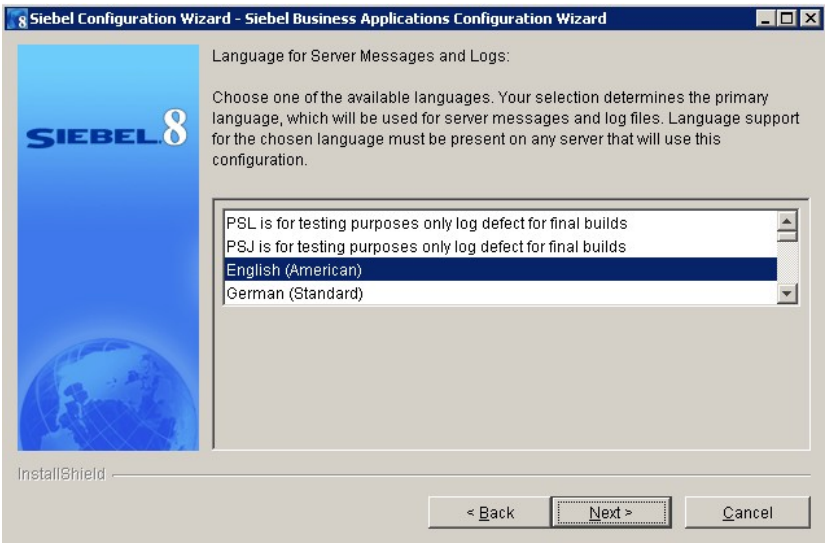

Installer
SIEBEL 8
Installing selected language packs. Please wait...
InstallShield
< Back
Next >
Cancel

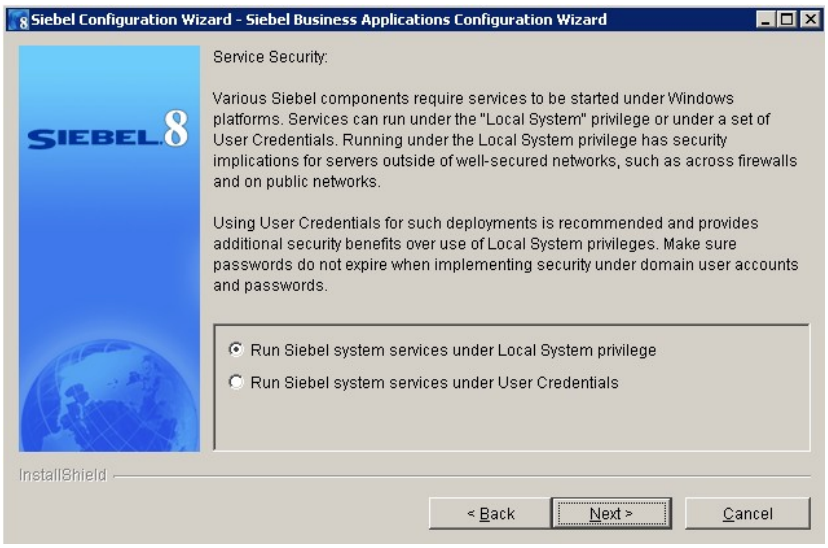

Installer
SIEBEL 8
Installing Siebel Enterprise Server. Please wait...
D:\sba80\gtwysrvr\BIN\ENUSIA\srlcver.dll
42%
InstallShield
< Back
Next >
Cancel

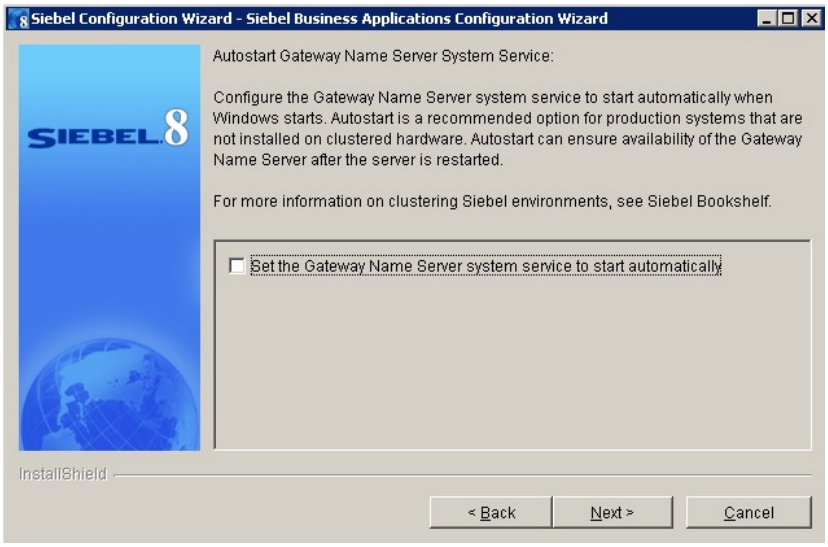

Siebel Configuration Wizard - Siebel Business Applications Configuration Wizard
SIEBEL 8
Welcome to the Configuration Wizard!
This wizard walks you through essential tasks for configuring a Siebel Enterprise.
Please choose one of the tasks below.
Create
Modify
Remove
Exit
InstallShield
< Back
Next >
Cancel

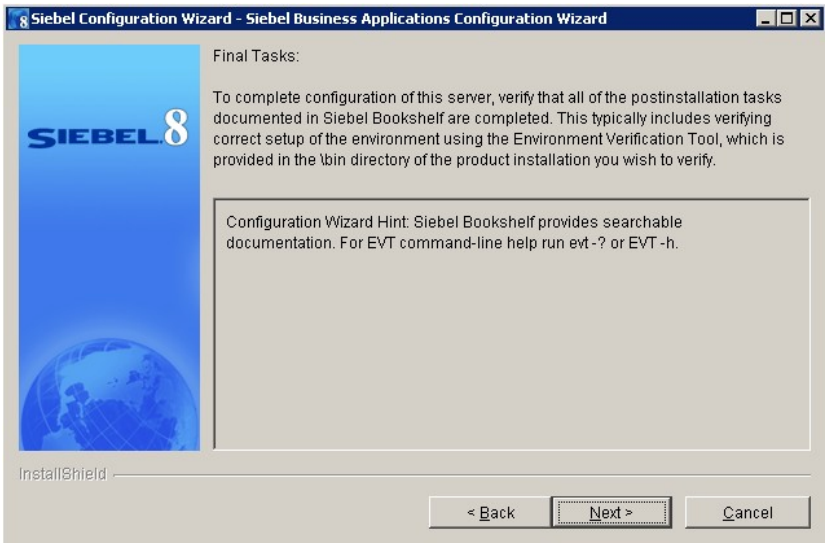

Siebel Configuration Wizard - Siebel Business Applications Configuration Wizard
SIEBEL 8
Tasks for Creating New Configurations:
Choose a configuration task from the list below. Note: In general, it is recommended to configure products in the order of the items listed below.
Configure a New Gateway Name Server
Configure a New Enterprise in a Gateway Name Server
Configure a New Siebel Web Server Extension Logical Profile
InstallShield
< Back
Next >
Cancel

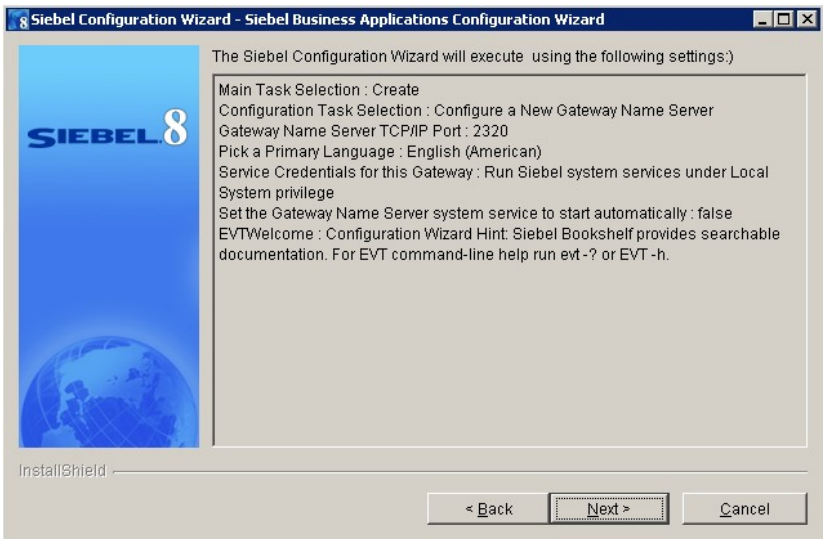

Siebel Configuration Wizard - Siebel Business Applications Configuration Wizard
SIEBEL 8
Gateway Name Server TCP/IP Port:
Choose a network TCP/IP port to use with the Gateway Name Server. Using the default port (2320) is highly recommended, unless this port is used by other Siebel components or applications co-located on this system. Possible values range from 0 to 65535. (Note: 2321 is the default port for Siebel Connection Broker.)
Gateway Name Server TCP/IP Port
2320
InstallShield
< Back
Next >
Cancel

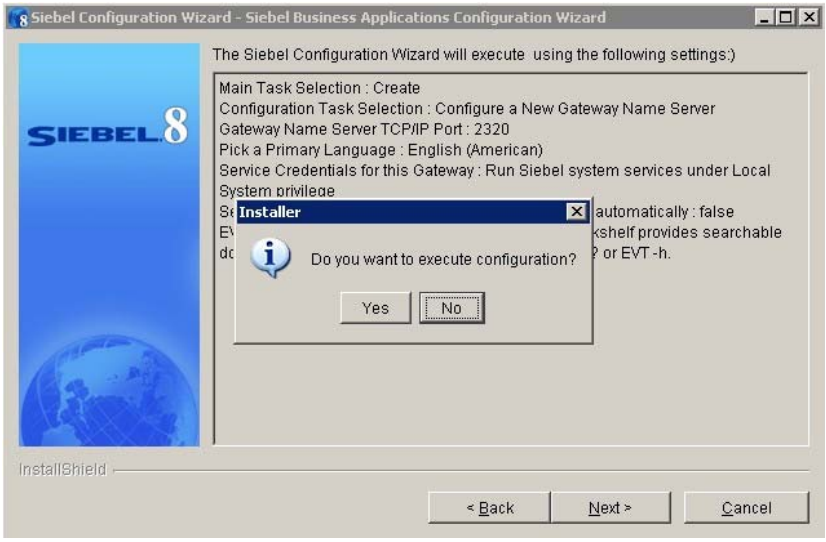

Siebel Configuration Wizard - Siebel Business Applications Configuration Wizard
SIEBEL 8
Language for Server Messages and Logs:
Choose one of the available languages. Your selection determines the primary language, which will be used for server messages and log files. Language support for the chosen language must be present on any server that will use this configuration.
PSL is for testing purposes only log defect for final builds
PSJ is for testing purposes only log defect for final builds
English (American)
German (Standard)
InstallShield
< Back
Next >
Cancel

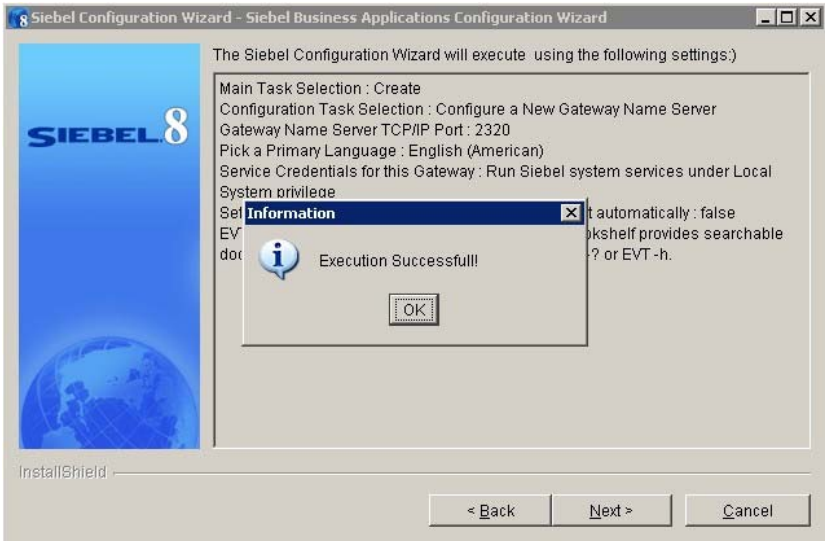

Siebel Configuration Wizard - Siebel Business Applications Configuration Wizard
SIEBEL 8
Service Security:
Various Siebel components require services to be started under Windows platforms. Services can run under the "Local System" privilege or under a set of User Credentials. Running under the Local System privilege has security implications for servers outside of well-secured networks, such as across firewalls and on public networks.
Using User Credentials for such deployments is recommended and provides additional security benefits over use of Local System privileges. Make sure passwords do not expire when implementing security under domain user accounts and passwords.
Run Siebel system services under Local System privilege
Run Siebel system services under User Credentials
InstallShield
< Back
Next >
Cancel

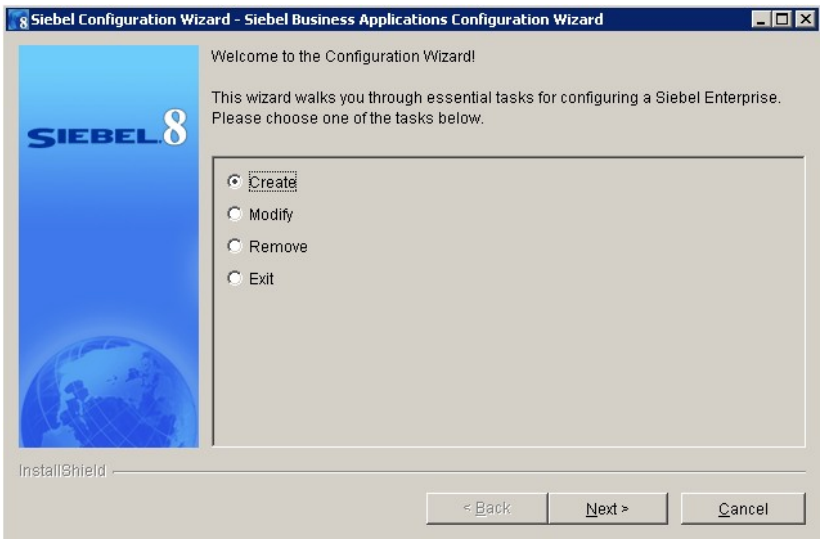

Siebel Configuration Wizard - Siebel Business Applications Configuration Wizard
SIEBEL 8
Autostart Gateway Name Server System Service:
Configure the Gateway Name Server system service to start automatically when Windows starts. Autostart is a recommended option for production systems that are not installed on clustered hardware. Autostart can ensure availability of the Gateway Name Server after the server is restarted.
For more information on clustering Siebel environments, see Siebel Bookshelf.
Set the Gateway Name Server system service to start automatically
InstallShield
< Back
Next >
Cancel

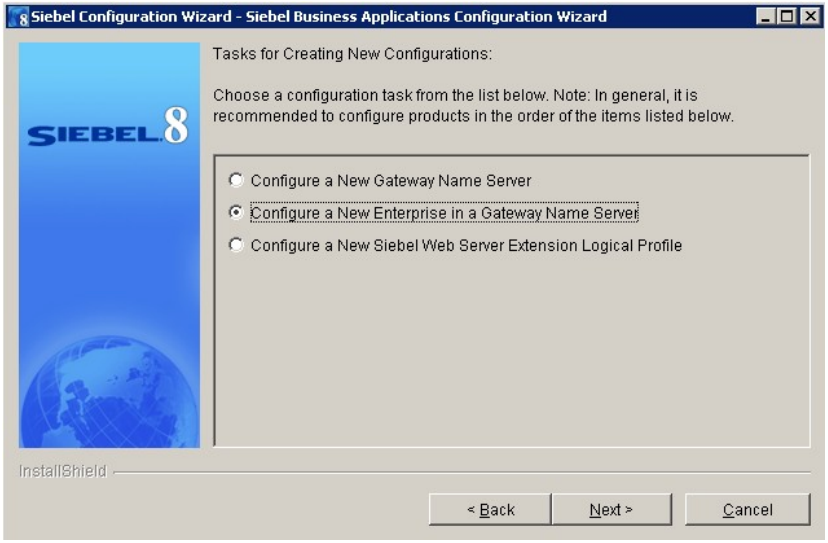

Siebel Configuration Wizard - Siebel Business Applications Configuration Wizard
SIEBEL 8
Final Tasks:
To complete configuration of this server, verify that all of the postinstallation tasks documented in Siebel Bookshelf are completed. This typically includes verifying correct setup of the environment using the Environment Verification Tool, which is provided in the \bin directory of the product installation you wish to verify.
Configuration Wizard Hint: Siebel Bookshelf provides searchable documentation. For EVT command-line help run evt -? or EVT -h.
InstallShield
< Back
Next >
Cancel

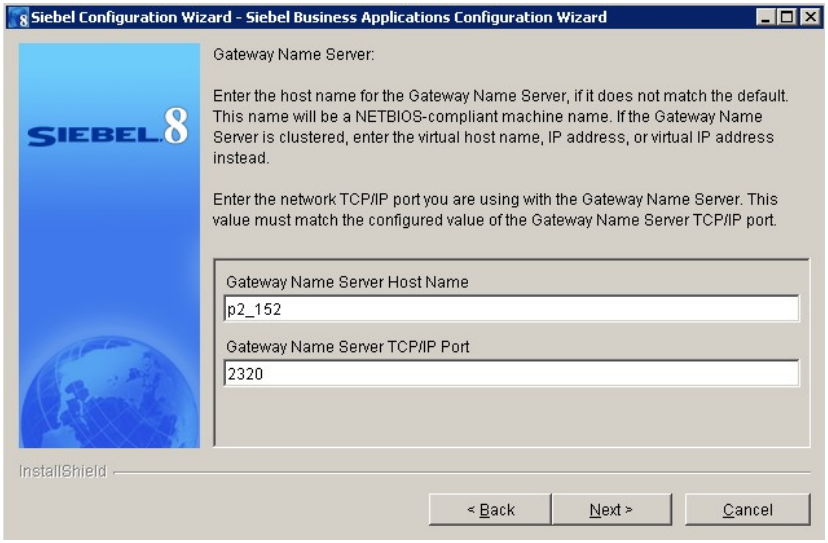

Siebel Configuration Wizard - Siebel Business Applications Configuration Wizard
The Siebel Configuration Wizard will execute using the following settings:)
Main Task Selection : Create
Configuration Task Selection : Configure a New Gateway Name Server
Gateway Name Server TCP/IP Port : 2320
Pick a Primary Language : English (American)
Service Credentials for this Gateway : Run Siebel system services under Local System privilege
Set the Gateway Name Server system service to start automatically : false
EVTWelcome : Configuration Wizard Hint: Siebel Bookshelf provides searchable documentation. For EVT command-line help run evt -? or EVT -h.
InstallShield
< Back
Next >
Cancel

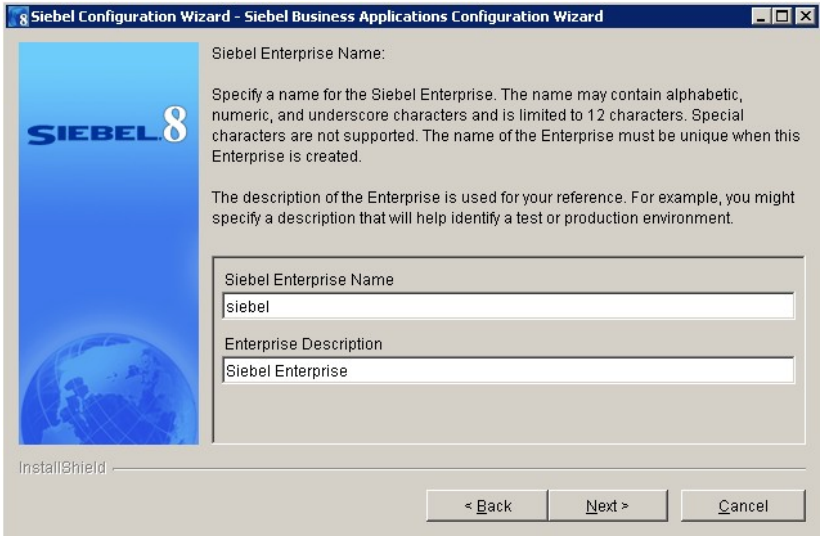

Siebel Configuration Wizard - Siebel Business Applications Configuration Wizard
The Siebel Configuration Wizard will execute using the following settings:)
Main Task Selection : Create
Configuration Task Selection : Configure a New Gateway Name Server
Gateway Name Server TCP/IP Port : 2320
Pick a Primary Language : English (American)
Service Credentials for this Gateway : Run Siebel system services under Local System privilege
Installer
Do you want to execute configuration?
Yes
No
InstallShield
< Back
Next >
Cancel

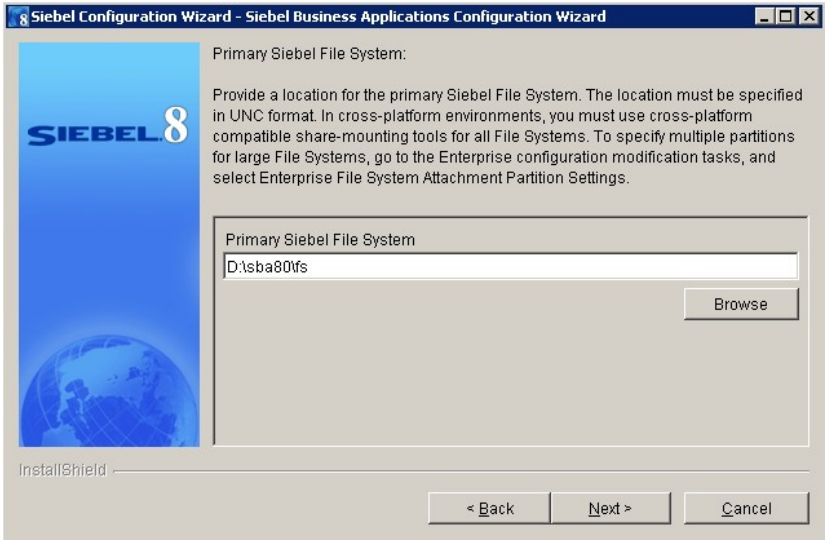

Siebel Configuration Wizard - Siebel Business Applications Configuration Wizard
The Siebel Configuration Wizard will execute using the following settings:)
Main Task Selection : Create
Configuration Task Selection : Configure a New Gateway Name Server
Gateway Name Server TCP/IP Port : 2320
Pick a Primary Language : English (American)
Service Credentials for this Gateway : Run Siebel system services under Local System privilege
Information
Execution Successfull!
OK
InstallShield
< Back
Next >
Cancel

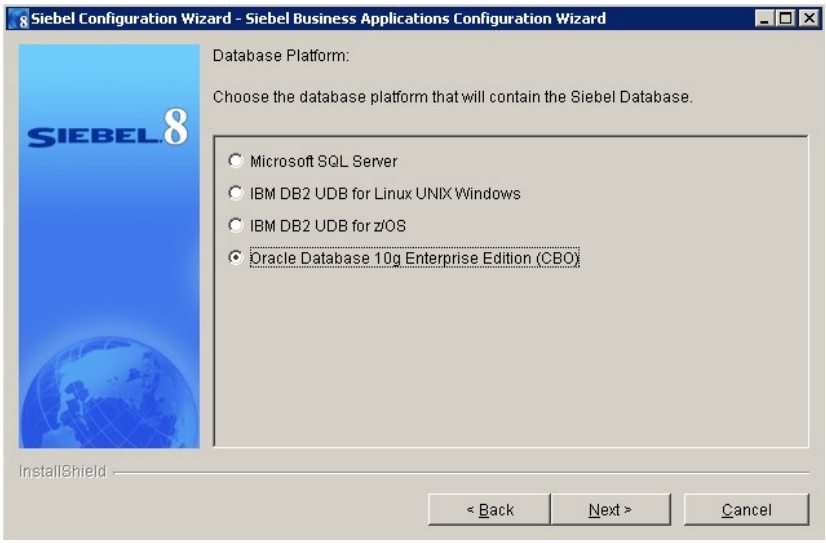

Siebel Configuration Wizard - Siebel Business Applications Configuration Wizard
SIEBEL 8
Welcome to the Configuration Wizard!
This wizard walks you through essential tasks for configuring a Siebel Enterprise. Please choose one of the tasks below.
Create
Modify
Remove
Exit
InstallShield
< Back
Next >
Cancel

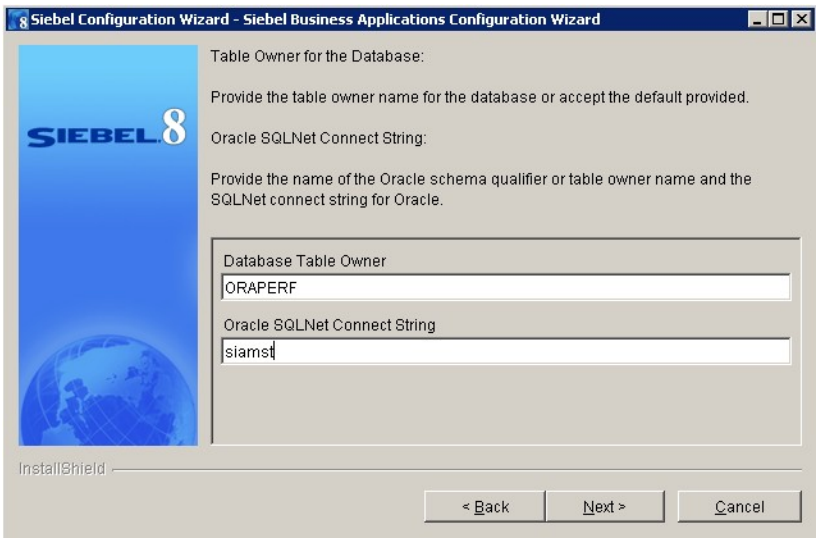

Siebel Configuration Wizard - Siebel Business Applications Configuration Wizard
SIEBEL 8
Tasks for Creating New Configurations:
Choose a configuration task from the list below. Note: In general, it is recommended to configure products in the order of the items listed below.
Configure a New Gateway Name Server
Configure a New Enterprise in a Gateway Name Server
Configure a New Siebel Web Server Extension Logical Profile
InstallShield
< Back
Next >
Cancel


Siebel Configuration Wizard - Siebel Business Applications Configuration Wizard
SIEBEL 8
Gateway Name Server:
Enter the host name for the Gateway Name Server, if it does not match the default. This name will be a NETBIOS-compliant machine name. If the Gateway Name Server is clustered, enter the virtual host name, IP address, or virtual IP address instead.
Enter the network TCP/IP port you are using with the Gateway Name Server. This value must match the configured value of the Gateway Name Server TCP/IP port.
Gateway Name Server Host Name
p2_152
Gateway Name Server TCP/IP Port
2320
InstallShield
< Back
Next >
Cancel


Siebel Configuration Wizard - Siebel Business Applications Configuration Wizard
SIEBEL 8
Siebel Enterprise Name:
Specify a name for the Siebel Enterprise. The name may contain alphabetic, numeric, and underscore characters and is limited to 12 characters. Special characters are not supported. The name of the Enterprise must be unique when this Enterprise is created.
The description of the Enterprise is used for your reference. For example, you might specify a description that will help identify a test or production environment.
Siebel Enterprise Name
siebel
Enterprise Description
Siebel Enterprise
InstallShield
< Back
Next >
Cancel


Siebel Configuration Wizard - Siebel Business Applications Configuration Wizard
SIEBEL 8
Primary Siebel File System:
Provide a location for the primary Siebel File System. The location must be specified in UNC format. In cross-platform environments, you must use cross-platform compatible share-mounting tools for all File Systems. To specify multiple partitions for large File Systems, go to the Enterprise configuration modification tasks, and select Enterprise File System Attachment Partition Settings.
Primary Siebel File System
D:\sba80\fs
Browse
InstallShield
< Back
Next >
Cancel

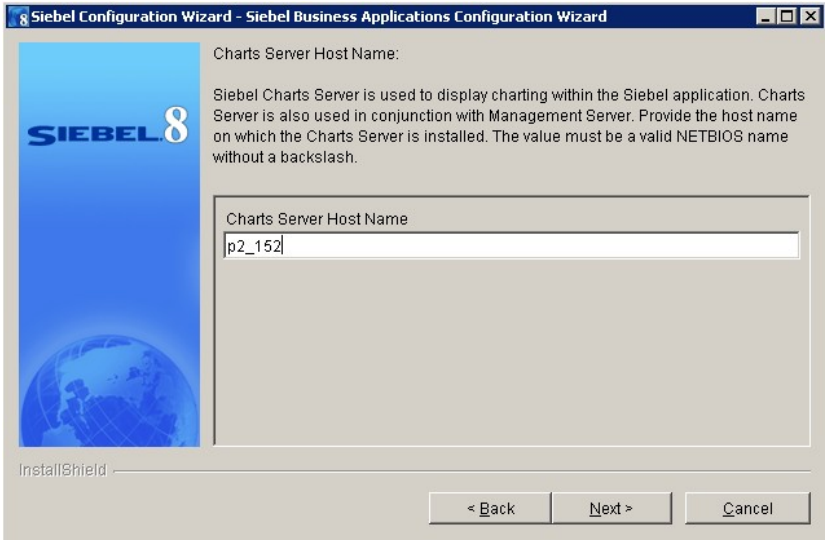

Siebel Configuration Wizard - Siebel Business Applications Configuration Wizard
SIEBEL 8
Database Platform:
Choose the database platform that will contain the Siebel Database.
Microsoft SQL Server
IBM DB2 UDB for Linux UNIX Windows
IBM DB2 UDB for z/OS
Oracle Database 10g Enterprise Edition (CBO)
InstallShield
< Back
Next >
Cancel

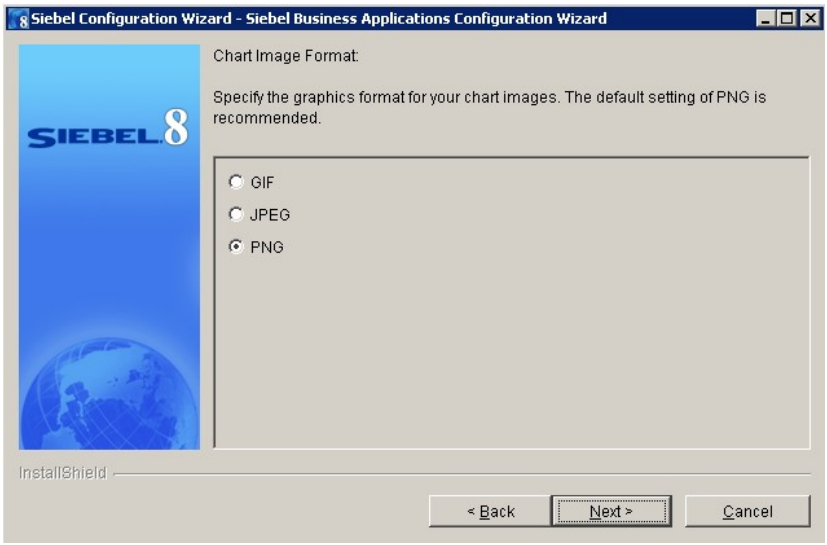

Siebel Configuration Wizard - Siebel Business Applications Configuration Wizard
SIEBEL 8
Table Owner for the Database:
Provide the table owner name for the database or accept the default provided.
Oracle SQLNet Connect String:
Provide the name of the Oracle schema qualifier or table owner name and the SQLNet connect string for Oracle.
Database Table Owner
ORAPERF
Oracle SQLNet Connect String
siamst
InstallShield
< Back
Next >
Cancel


Siebel Configuration Wizard - Siebel Business Applications Configuration Wizard
SIEBEL 8
Siebel Database User Account Name:
Please provide the Siebel Database user account name and password for the database user account used to connect the Siebel Enterprise components to the Database Server. Name and Password must already exist in the Database Server. These values can not be left empty.
Siebel Database User Account Name
sadmin
Siebel Database User Account Password
******
Siebel Database User Account Password--(confirm)
******
InstallShield
< Back
Next >
Cancel


Siebel Configuration Wizard - Siebel Business Applications Configuration Wizard
SIEBEL 8
Enterprise Security Authentication Level or Type:
Provide the authentication type to use for Siebel applications. Before continuing, check the following. When using LDAP or ADSI, make sure the directory server is available. When using LDAP, also make sure that Siebel Servers using LDAP have the necessary LDAP client software installed.
For detailed information on supported authentication types, refer to the Security Guide for Siebel Business Applications.
Database Authentication (default)
Lightweight Directory Access Protocol (LDAP) Authentication
Custom Security Authentication (using Security SDK)
Active Directory (ADSI) Authentication (Windows only)
InstallShield
< Back
Next >
Cancel

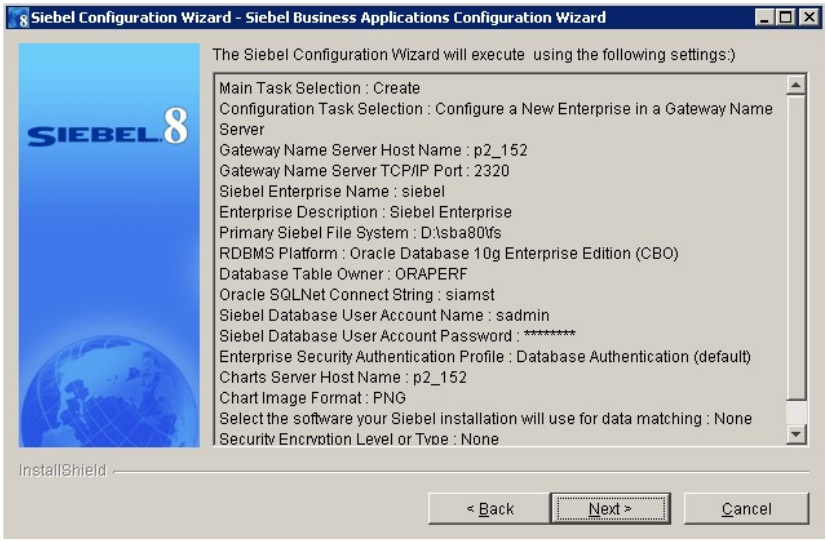

Siebel Configuration Wizard - Siebel Business Applications Configuration Wizard
SIEBEL 8
Tasks for Modifying Enterprise Configurations:
Choose an Enterprise modification task. Modifying database connections for the Enterprise will disable existing Siebel Servers. Changing variables that are required on the Siebel Web Server Extension will require rerunning logical and physical SWSE configuration.
Enterprise Network Security Encryption Type
Charts Server Settings
Data Quality Products and Connectors
InstallShield
< Back
Next >
Cancel

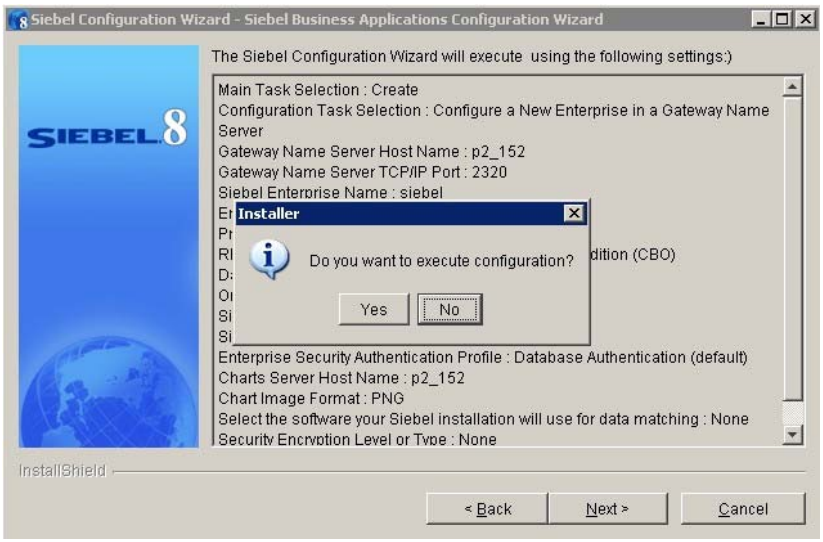

Siebel Configuration Wizard - Siebel Business Applications Configuration Wizard
SIEBEL 8
Charts Server Host Name:
Siebel Charts Server is used to display charting within the Siebel application. Charts Server is also used in conjunction with Management Server. Provide the host name on which the Charts Server is installed. The value must be a valid NETBIOS name without a backslash.
Charts Server Host Name
p2_152
InstallShield
< Back
Next >
Cancel


Siebel Configuration Wizard - Siebel Business Applications Configuration Wizard
SIEBEL 8
Chart Image Format:
Specify the graphics format for your chart images. The default setting of PNG is recommended.
GIF
JPEG
PNG
InstallShield
< Back
Next >
Cancel

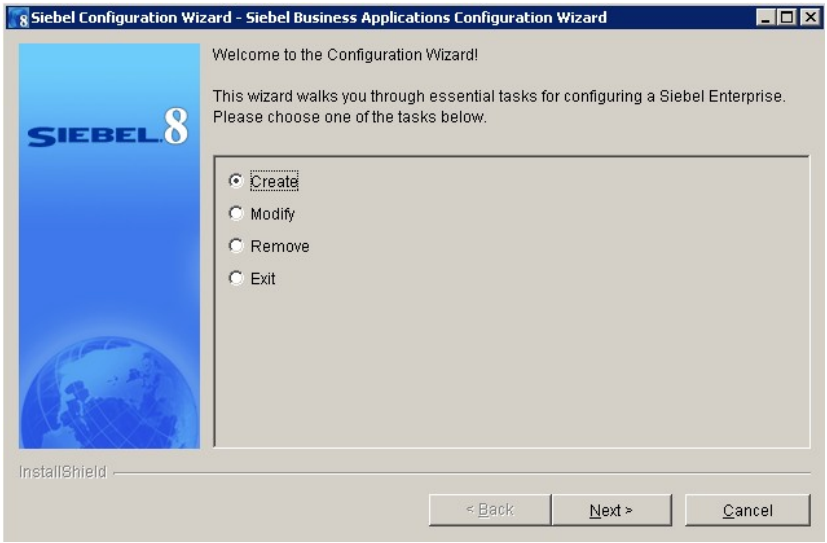

Siebel Configuration Wizard - Siebel Business Applications Configuration Wizard
SIEBEL 8
Siebel Data Quality Matching:
Siebel Data Quality Matching identifies and corrects duplicate records. Siebel Data Quality Connector provides a connector to validated external products that can be used for data quality purposes. Specify None if you do not plan on using data quality or matching products.
None
Siebel Data Quality Connector
InstallShield
< Back
Next >
Cancel

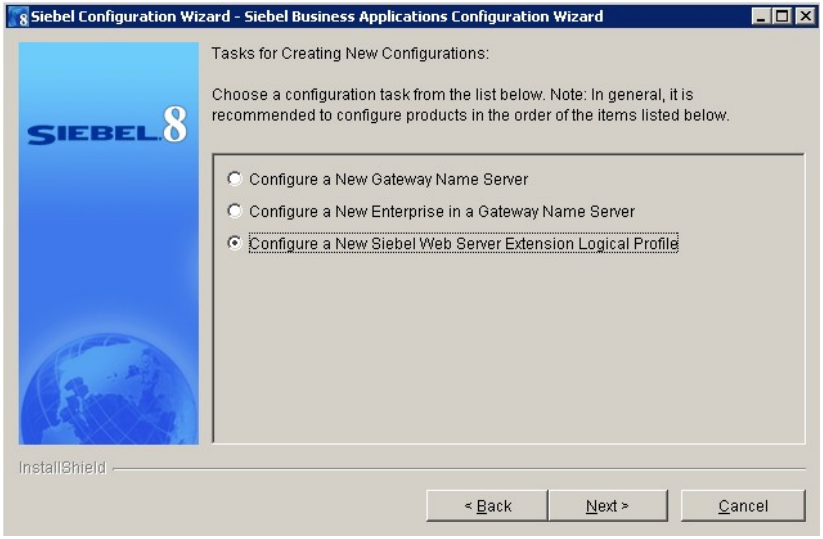

Siebel Configuration Wizard - Siebel Business Applications Configuration Wizard
SIEBEL 8
Security Encryption Level or Type:
Select the encryption type and level to be used for data exchanged between Web servers (Siebel Web Server Extension) and Siebel Servers via SISNAPI (Siebel Internet Session API). All servers in the Enterprise inherit this configuration.
When changing these settings for the Enterprise after deploying Web servers, make sure that all Web servers are refreshed with new configuration files.
None
SISNAPI Without Encryption
SISNAPI Using RSA Encryption Algorithm
SISNAPI Using SSL 3.0
InstallShield
< Back
Next >
Cancel

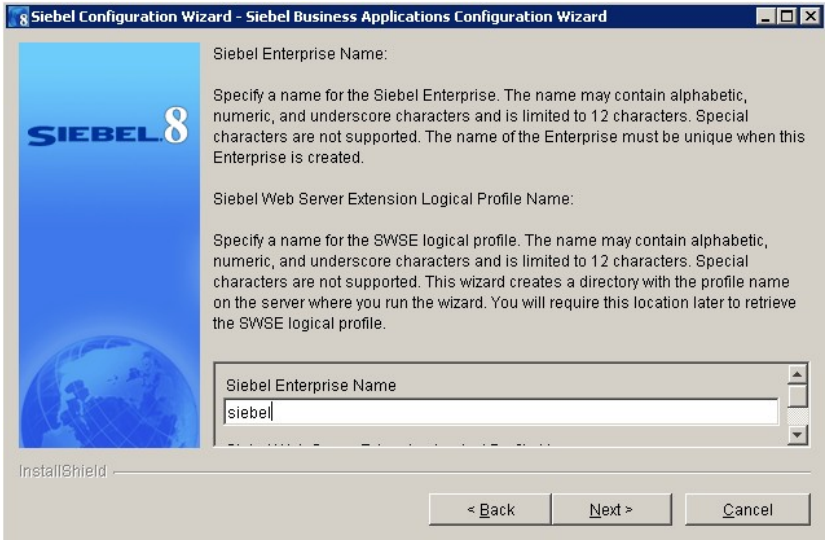

Siebel Configuration Wizard - Siebel Business Applications Configuration Wizard
SIEBEL 8
The Siebel Configuration Wizard will execute using the following settings:)
Main Task Selection : Create
Configuration Task Selection : Configure a New Enterprise in a Gateway Name Server
Gateway Name Server Host Name : p2_152
Gateway Name Server TCP/IP Port : 2320
Siebel Enterprise Name : siebel
Enterprise Description : Siebel Enterprise
Primary Siebel File System : D:\sba80\fs
RDBMS Platform : Oracle Database 10g Enterprise Edition (CBO)
Database Table Owner : ORAPERF
Oracle SQLNet Connect String : siamst
Siebel Database User Account Name : sadmin
Siebel Database User Account Password : ********
Enterprise Security Authentication Profile : Database Authentication (default)
Charts Server Host Name : p2_152
Chart Image Format : PNG
Select the software your Siebel installation will use for data matching : None
Security Encryption Level or Type : None
InstallShield
< Back
Next >
Cancel

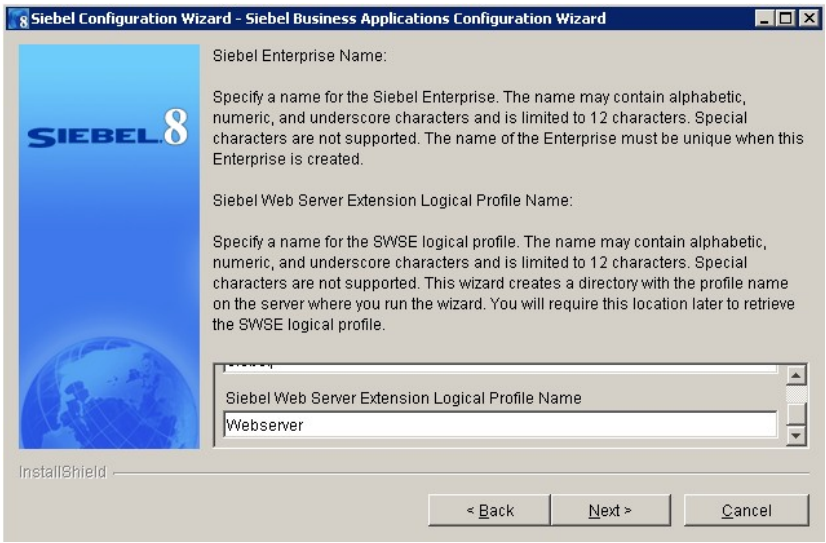

Siebel Configuration Wizard - Siebel Business Applications Configuration Wizard
The Siebel Configuration Wizard will execute using the following settings:)
Main Task Selection : Create
Configuration Task Selection : Configure a New Enterprise in a Gateway Name Server
Gateway Name Server Host Name : p2_152
Gateway Name Server TCP/IP Port : 2320
Siebel Enterprise Name : siebel
Installer
Do you want to execute configuration?
Yes
No
Enterprise Security Authentication Profile : Database Authentication (default)
Charts Server Host Name : p2_152
Chart Image Format : PNG
Select the software your Siebel installation will use for data matching : None
InstallShield
< Back
Next >
Cancel

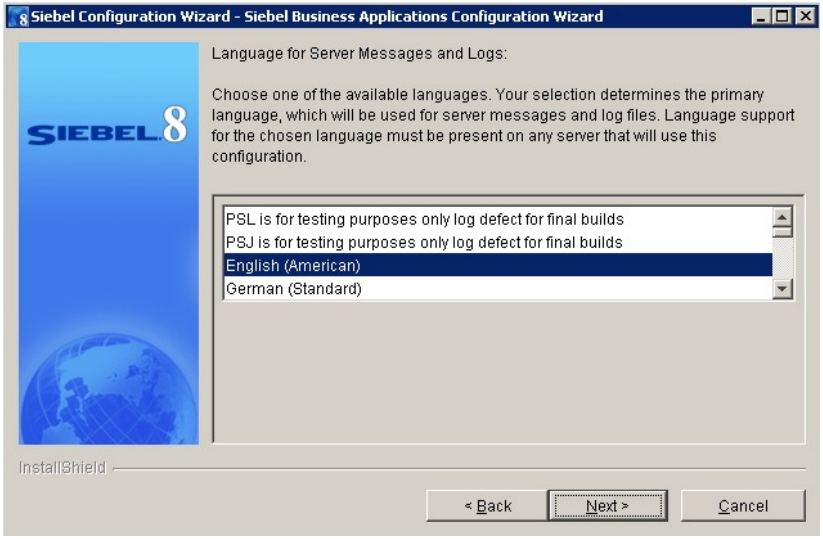

Siebel Configuration Wizard - Siebel Business Applications Configuration Wizard
The Siebel Configuration Wizard will execute using the following settings:)
Main Task Selection : Create
Configuration Task Selection : Configure a New Enterprise in a Gateway Name Server
Gateway Name Server Host Name : p2_152
Gateway Name Server TCP/IP Port : 2320
Siebel Enterprise Name : siebel
Information
Execution Successful!
OK
Enterprise Security Authentication Profile : Database Authentication (default)
Charts Server Host Name : p2_152
Chart Image Format : PNG
Select the software your Siebel installation will use for data matching : None
InstallShield
< Back
Next >
Cancel

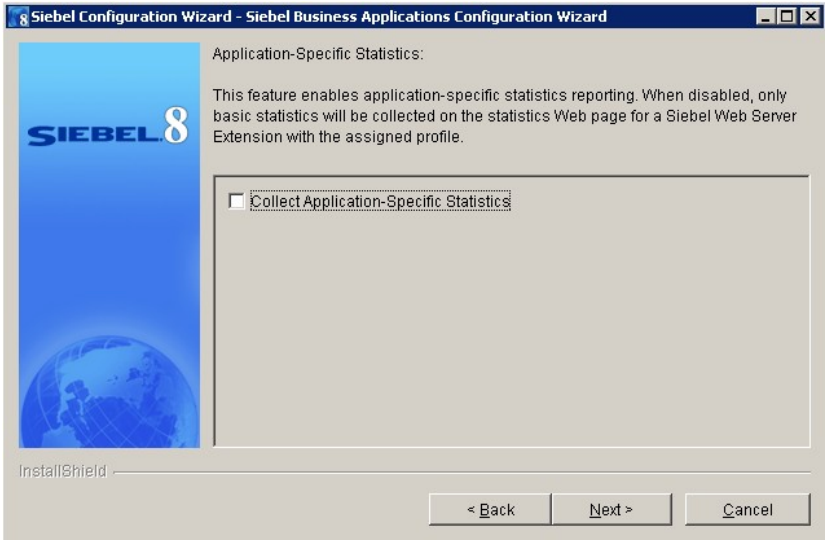

Siebel Configuration Wizard - Siebel Business Applications Configuration Wizard
Welcome to the Configuration Wizard!
This wizard walks you through essential tasks for configuring a Siebel Enterprise.
Please choose one of the tasks below.
Create
Modify
Remove
Exit
InstallShield
< Back
Next >
Cancel


Siebel Configuration Wizard - Siebel Business Applications Configuration Wizard
SIEBEL 8
Tasks for Creating New Configurations:
Choose a configuration task from the list below. Note: In general, it is recommended to configure products in the order of the items listed below.
Configure a New Gateway Name Server
Configure a New Enterprise in a Gateway Name Server
Configure a New Siebel Web Server Extension Logical Profile
InstallShield
< Back
Next >
Cancel

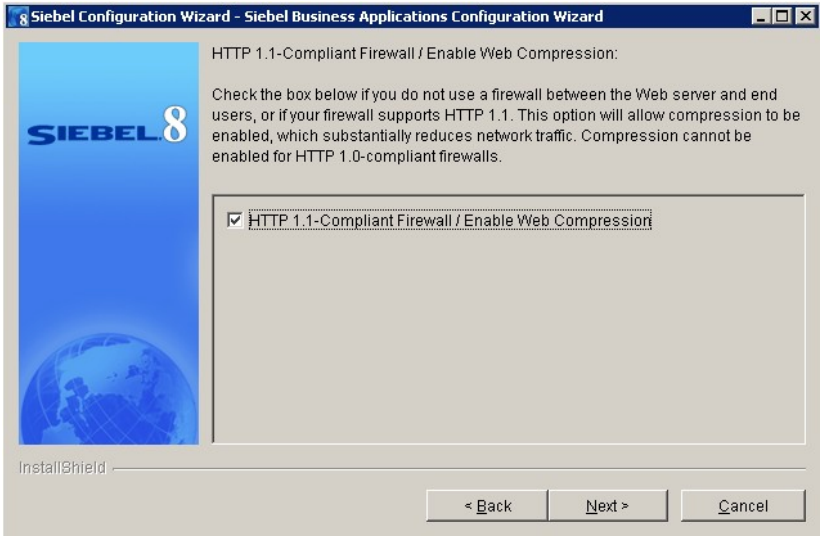

Siebel Configuration Wizard - Siebel Business Applications Configuration Wizard
SIEBEL 8
Siebel Enterprise Name:
Specify a name for the Siebel Enterprise. The name may contain alphabetic, numeric, and underscore characters and is limited to 12 characters. Special characters are not supported. The name of the Enterprise must be unique when this Enterprise is created.
Siebel Web Server Extension Logical Profile Name:
Specify a name for the SWSE logical profile. The name may contain alphabetic, numeric, and underscore characters and is limited to 12 characters. Special characters are not supported. This wizard creates a directory with the profile name on the server where you run the wizard. You will require this location later to retrieve the SWSE logical profile.
Siebel Enterprise Name
siebel
InstallShield
< Back
Next >
Cancel

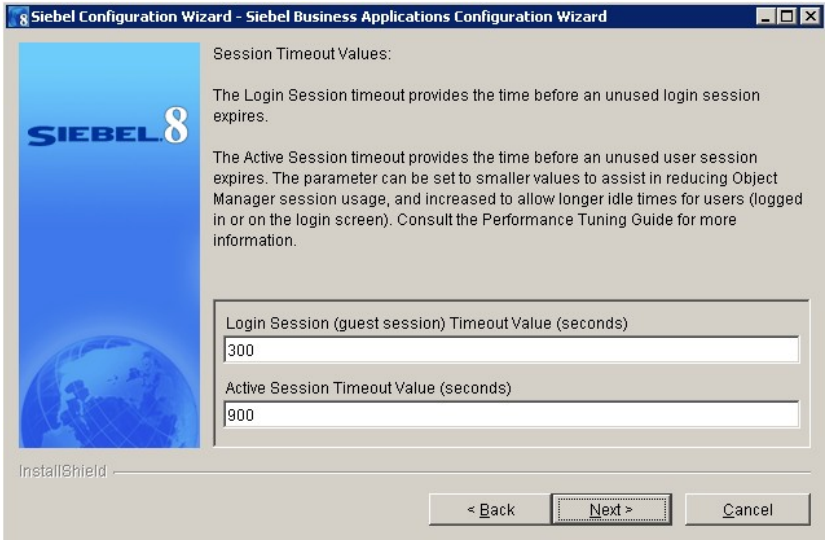

Siebel Configuration Wizard - Siebel Business Applications Configuration Wizard
SIEBEL 8
Siebel Enterprise Name:
Specify a name for the Siebel Enterprise. The name may contain alphabetic, numeric, and underscore characters and is limited to 12 characters. Special characters are not supported. The name of the Enterprise must be unique when this Enterprise is created.
Siebel Web Server Extension Logical Profile Name:
Specify a name for the SWSE logical profile. The name may contain alphabetic, numeric, and underscore characters and is limited to 12 characters. Special characters are not supported. This wizard creates a directory with the profile name on the server where you run the wizard. You will require this location later to retrieve the SWSE logical profile.
Siebel Web Server Extension Logical Profile Name
Webserver
InstallShield
< Back
Next >
Cancel

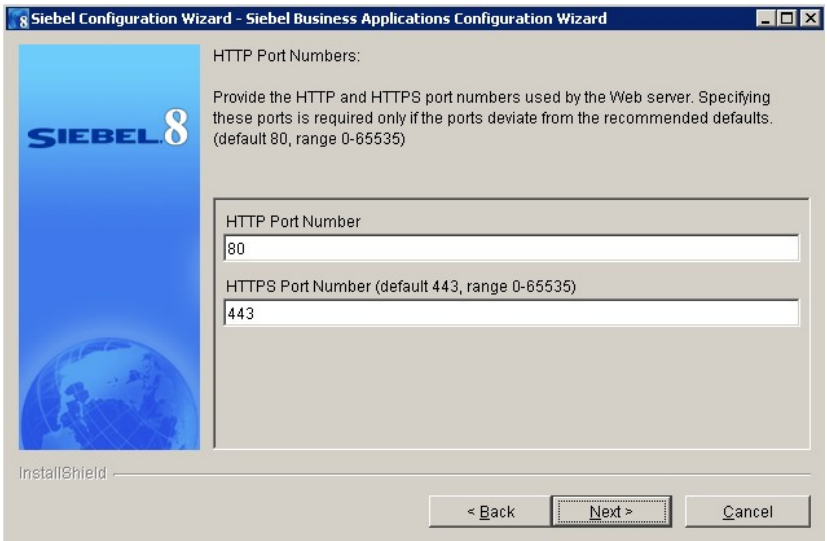

Siebel Configuration Wizard - Siebel Business Applications Configuration Wizard
SIEBEL 8
Language for Server Messages and Logs:
Choose one of the available languages. Your selection determines the primary language, which will be used for server messages and log files. Language support for the chosen language must be present on any server that will use this configuration.
PSL is for testing purposes only log defect for final builds
PSJ is for testing purposes only log defect for final builds
English (American)
German (Standard)
InstallShield
< Back
Next >
Cancel

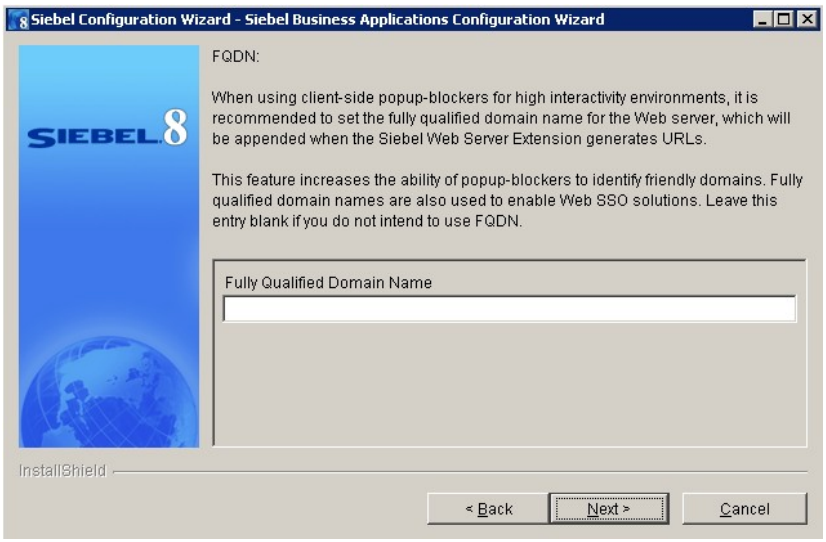

Siebel Configuration Wizard - Siebel Business Applications Configuration Wizard
SIEBEL 8
Application-Specific Statistics:
This feature enables application-specific statistics reporting. When disabled, only basic statistics will be collected on the statistics Web page for a Siebel Web Server Extension with the assigned profile.
Collect Application-Specific Statistics
InstallShield
< Back
Next >
Cancel

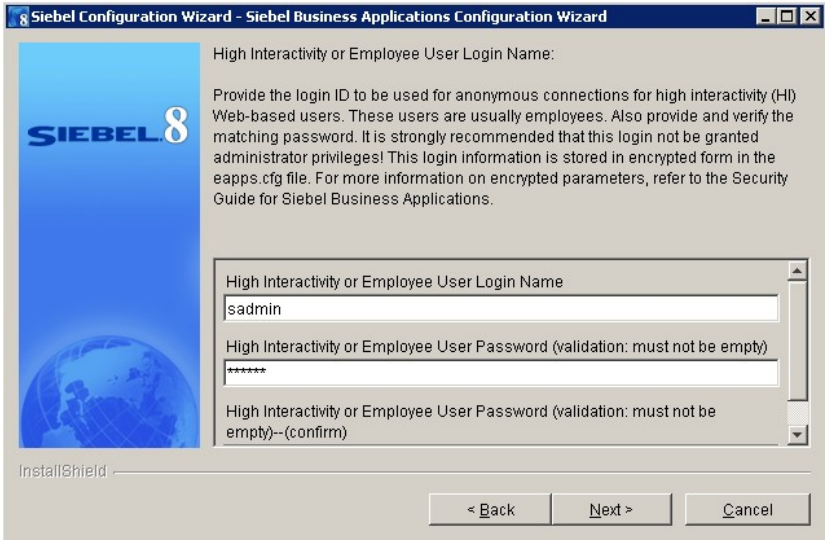

Siebel Configuration Wizard - Siebel Business Applications Configuration Wizard
SIEBEL 8
Compression Type:
Select the compression type to be used for messages exchanged between Siebel Web Server Extension and Siebel Server. Use of ZLIB will be beneficial based on the file sizes transmitted to Web-based users.
None
ZLIB
InstallShield
< Back
Next >
Cancel


Siebel Configuration Wizard - Siebel Business Applications Configuration Wizard
SIEBEL 8
HTTP 1.1-Compliant Firewall / Enable Web Compression:
Check the box below if you do not use a firewall between the Web server and end users, or if your firewall supports HTTP 1.1. This option will allow compression to be enabled, which substantially reduces network traffic. Compression cannot be enabled for HTTP 1.0-compliant firewalls.
HTTP 1.1-Compliant Firewall / Enable Web Compression
InstallShield
< Back
Next >
Cancel


Siebel Configuration Wizard - Siebel Business Applications Configuration Wizard
SIEBEL 8
Session Timeout Values:
The Login Session timeout provides the time before an unused login session expires.
The Active Session timeout provides the time before an unused user session expires. The parameter can be set to smaller values to assist in reducing Object Manager session usage, and increased to allow longer idle times for users (logged in or on the login screen). Consult the Performance Tuning Guide for more information.
Login Session (guest session) Timeout Value (seconds)
300
Active Session Timeout Value (seconds)
900
InstallShield
< Back
Next >
Cancel

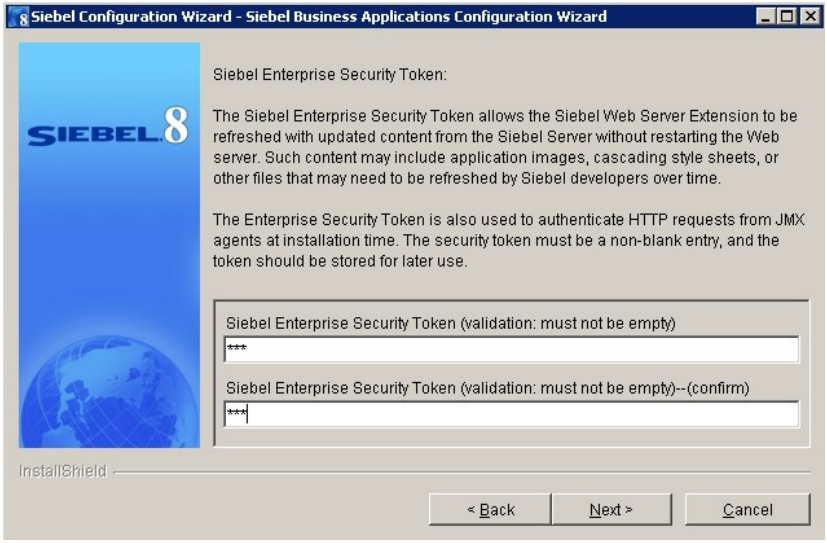

Siebel Configuration Wizard - Siebel Business Applications Configuration Wizard
SIEBEL 8
HTTP Port Numbers:
Provide the HTTP and HTTPS port numbers used by the Web server. Specifying these ports is required only if the ports deviate from the recommended defaults. (default 80, range 0-65535)
HTTP Port Number
80
HTTPS Port Number (default 443, range 0-65535)
443
InstallShield
< Back
Next >
Cancel

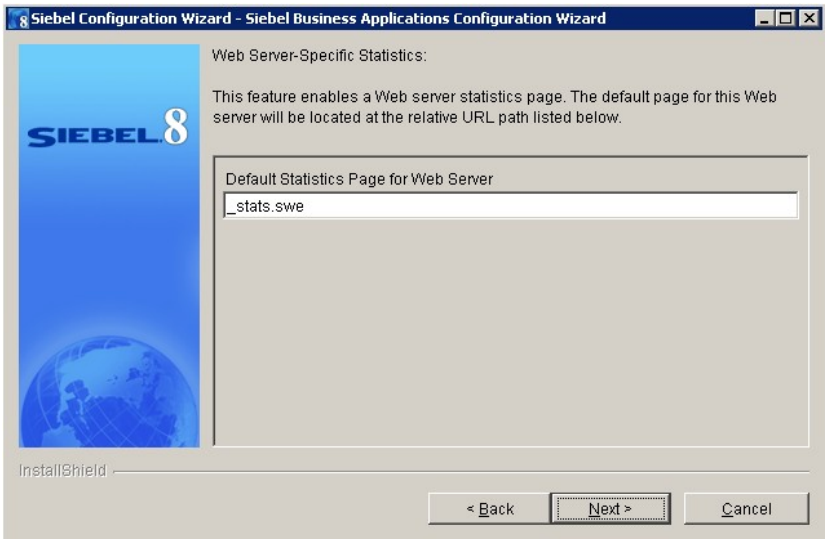

Siebel Configuration Wizard - Siebel Business Applications Configuration Wizard
SIEBEL 8
FQDN:
When using client-side popup-blockers for high interactivity environments, it is recommended to set the fully qualified domain name for the Web server, which will be appended when the Siebel Web Server Extension generates URLs.
This feature increases the ability of popup-blockers to identify friendly domains. Fully qualified domain names are also used to enable Web SSO solutions. Leave this entry blank if you do not intend to use FQDN.
Fully Qualified Domain Name
InstallShield
< Back
Next >
Cancel

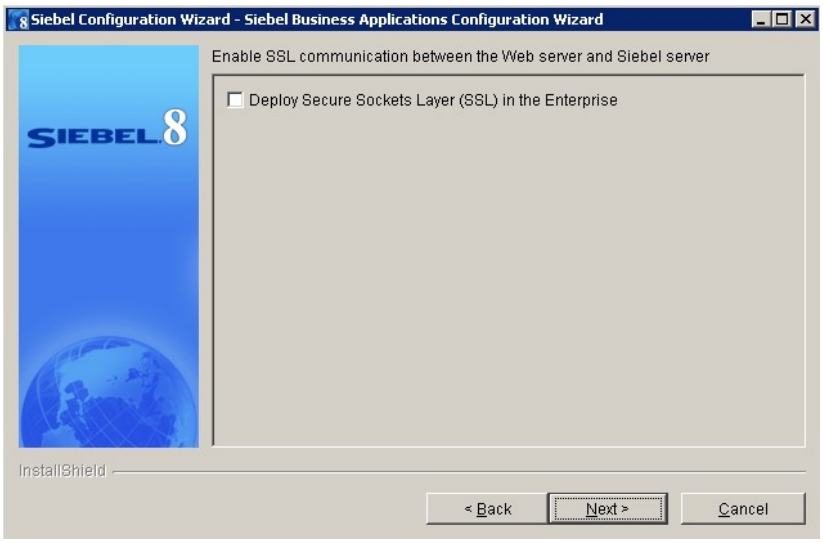

Siebel Configuration Wizard - Siebel Business Applications Configuration Wizard
SIEBEL 8
High Interactivity or Employee User Login Name:
Provide the login ID to be used for anonymous connections for high interactivity (HI) Web-based users. These users are usually employees. Also provide and verify the matching password. It is strongly recommended that this login not be granted administrator privileges! This login information is stored in encrypted form in the eapps.cfg file. For more information on encrypted parameters, refer to the Security Guide for Siebel Business Applications.
High Interactivity or Employee User Login Name
sadmin
High Interactivity or Employee User Password (validation: must not be empty)
******
High Interactivity or Employee User Password (validation: must not be empty)--(confirm)
InstallShield
< Back
Next >
Cancel

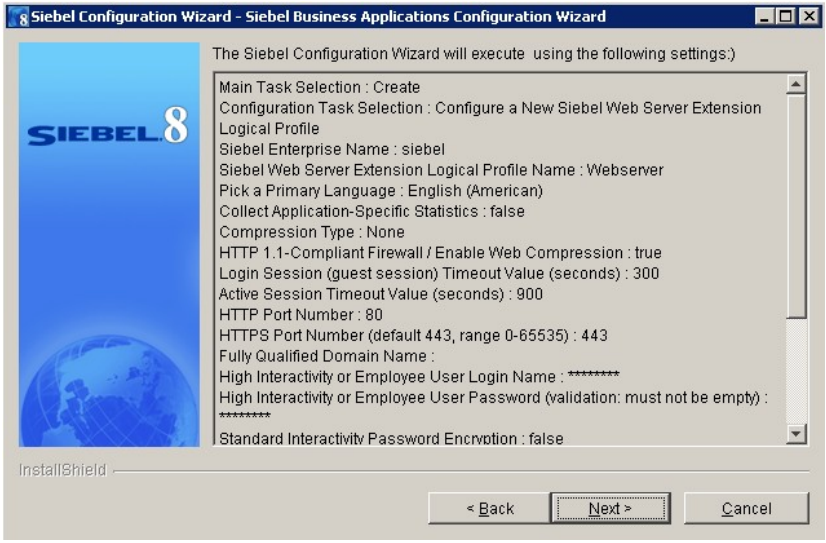

Siebel Configuration Wizard - Siebel Business Applications Configuration Wizard
SIEBEL 8
Password Encryption:
The user passwords for standard interactivity (SI) users are encrypted by default. Uncheck the box below if you do not wish to use encryption for standard interactivity (usually external Web-based) end users.
Standard Interactivity Password Encryption
InstallShield
< Back
Next >
Cancel

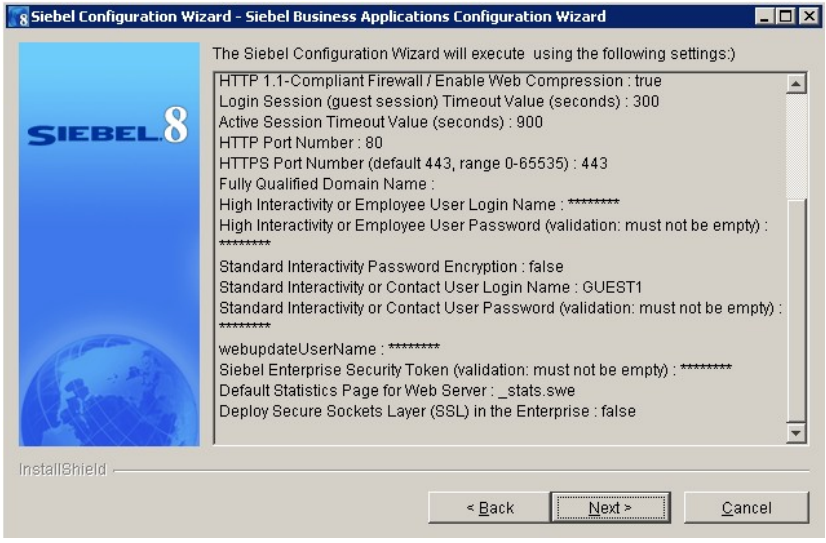

Siebel Configuration Wizard - Siebel Business Applications Configuration Wizard
SIEBEL 8
Standard Interactivity or Contact User Login Name:
Provide the login ID to be used for anonymous connections for standard interactivity (SI) Web-based users. These users are usually customers. Also provide and verify the matching password. It is strongly recommended that this login not be granted administrator privileges! This login information is stored in encrypted form in the eapps.cfg file. For more information on encrypted parameters, refer to the Security Guide for Siebel Business Applications.
Standard Interactivity or Contact User Login Name
GUEST1
Standard Interactivity or Contact User Password (validation: must not be empty)
******
Standard Interactivity or Contact User Password (validation: must not be
InstallShield
< Back
Next >
Cancel

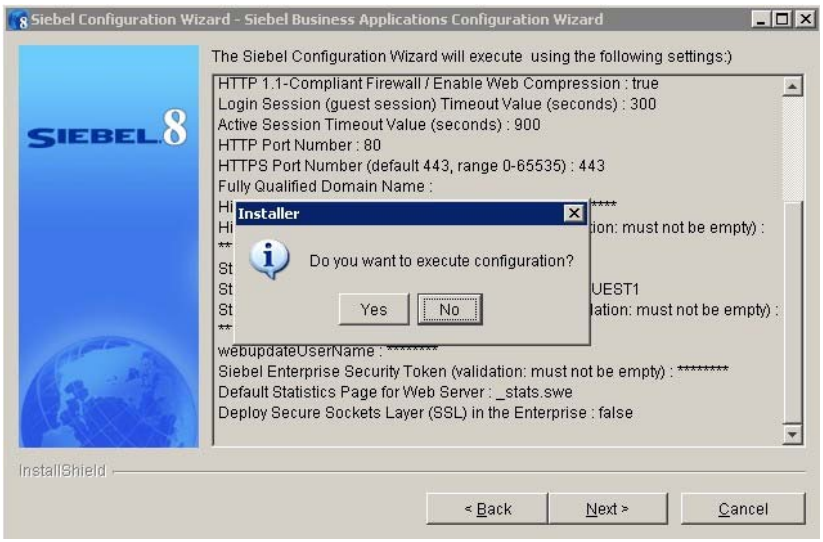

Siebel Configuration Wizard - Siebel Business Applications Configuration Wizard
SIEBEL 8
Siebel Enterprise Security Token:
The Siebel Enterprise Security Token allows the Siebel Web Server Extension to be refreshed with updated content from the Siebel Server without restarting the Web server. Such content may include application images, cascading style sheets, or other files that may need to be refreshed by Siebel developers over time.
The Enterprise Security Token is also used to authenticate HTTP requests from JMX agents at installation time. The security token must be a non-blank entry, and the token should be stored for later use.
Siebel Enterprise Security Token (validation: must not be empty)
***
Siebel Enterprise Security Token (validation: must not be empty)--(confirm)
***
InstallShield
< Back
Next >
Cancel

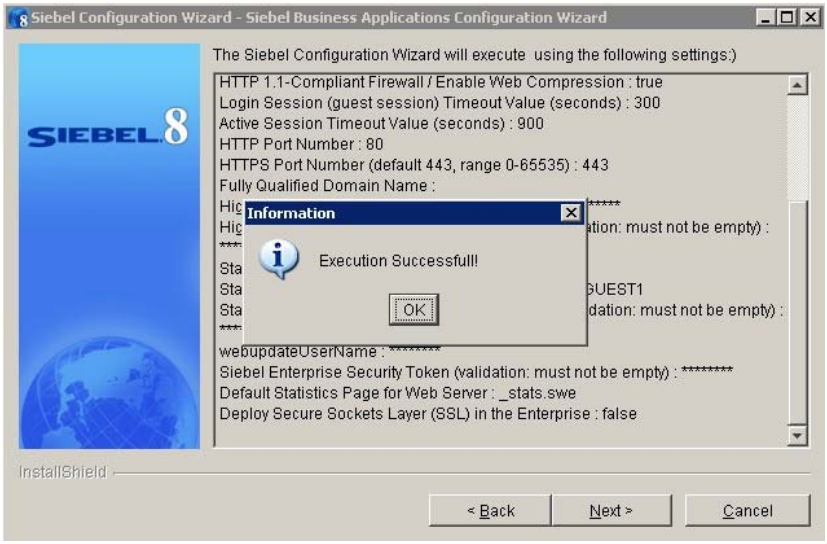

Siebel Configuration Wizard - Siebel Business Applications Configuration Wizard
SIEBEL 8
Web Server-Specific Statistics:
This feature enables a Web server statistics page. The default page for this Web server will be located at the relative URL path listed below.
Default Statistics Page for Web Server
_stats.swe
InstallShield
< Back
Next >
Cancel

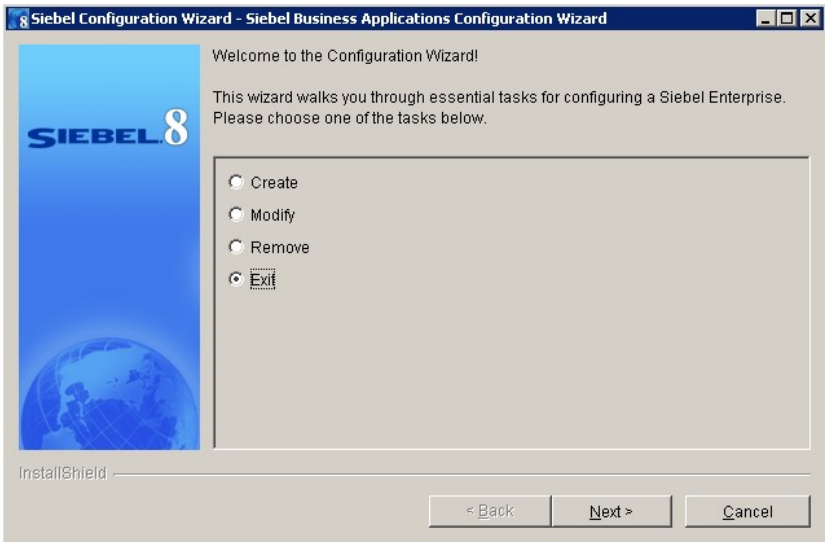

Siebel Configuration Wizard - Siebel Business Applications Configuration Wizard
SIEBEL 8
Enable SSL communication between the Web server and Siebel server
Deploy Secure Sockets Layer (SSL) in the Enterprise
InstallShield
< Back
Next >
Cancel

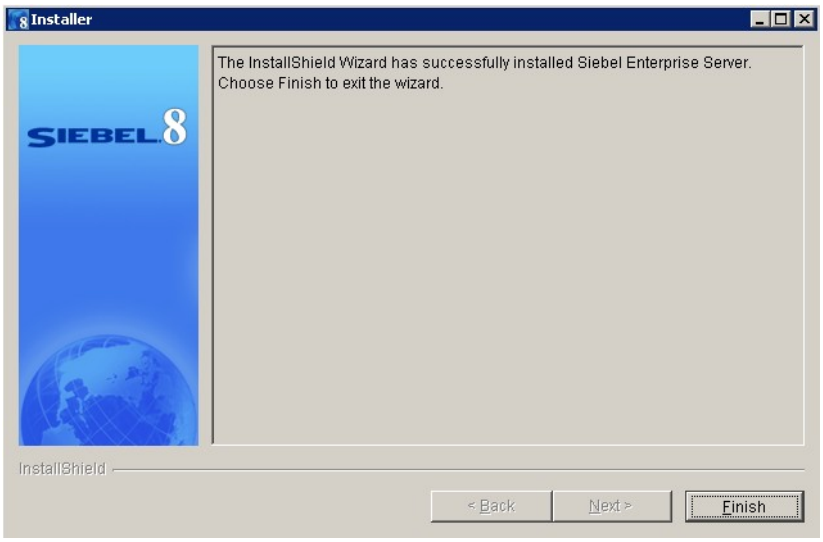

Siebel Configuration Wizard - Siebel Business Applications Configuration Wizard
SIEBEL 8
The Siebel Configuration Wizard will execute using the following settings:)
Main Task Selection : Create
Configuration Task Selection : Configure a New Siebel Web Server Extension Logical Profile
Siebel Enterprise Name : siebel
Siebel Web Server Extension Logical Profile Name : Webserver
Pick a Primary Language : English (American)
Collect Application-Specific Statistics : false
Compression Type : None
HTTP 1.1-Compliant Firewall / Enable Web Compression : true
Login Session (guest session) Timeout Value (seconds) : 300
Active Session Timeout Value (seconds) : 900
HTTP Port Number : 80
HTTPS Port Number (default 443, range 0-65535) : 443
Fully Qualified Domain Name :
High Interactivity or Employee User Login Name : ********
High Interactivity or Employee User Password (validation: must not be empty) : ********
Standard Interactivity Password Encryption : false
InstallShield
< Back
Next >
Cancel


Siebel Configuration Wizard - Siebel Business Applications Configuration Wizard
SIEBEL 8
The Siebel Configuration Wizard will execute using the following settings:)
HTTP 1.1-Compliant Firewall / Enable Web Compression : true
Login Session (guest session) Timeout Value (seconds) : 300
Active Session Timeout Value (seconds) : 900
HTTP Port Number : 80
HTTPS Port Number (default 443, range 0-65535) : 443
Fully Qualified Domain Name :
High Interactivity or Employee User Login Name : ********
High Interactivity or Employee User Password (validation: must not be empty) : ********
Standard Interactivity Password Encryption : false
Standard Interactivity or Contact User Login Name : GUEST1
Standard Interactivity or Contact User Password (validation: must not be empty) : ********
webupdateUserName : ********
Siebel Enterprise Security Token (validation: must not be empty) : ********
Default Statistics Page for Web Server : _stats.swe
Deploy Secure Sockets Layer (SSL) in the Enterprise : false
InstallShield
< Back
Next >
Cancel


Siebel Configuration Wizard - Siebel Business Applications Configuration Wizard
The Siebel Configuration Wizard will execute using the following settings:)
HTTP 1.1-Compliant Firewall / Enable Web Compression : true
Login Session (guest session) Timeout Value (seconds) : 300
Active Session Timeout Value (seconds) : 900
HTTP Port Number : 80
HTTPS Port Number (default 443, range 0-65535) : 443
Fully Qualified Domain Name :
Installer
Do you want to execute configuration?
Yes
No
webupdateUserName : ********
Siebel Enterprise Security Token (validation: must not be empty) : ********
Default Statistics Page for Web Server : _stats.swe
Deploy Secure Sockets Layer (SSL) in the Enterprise : false
InstallShield
< Back
Next >
Cancel

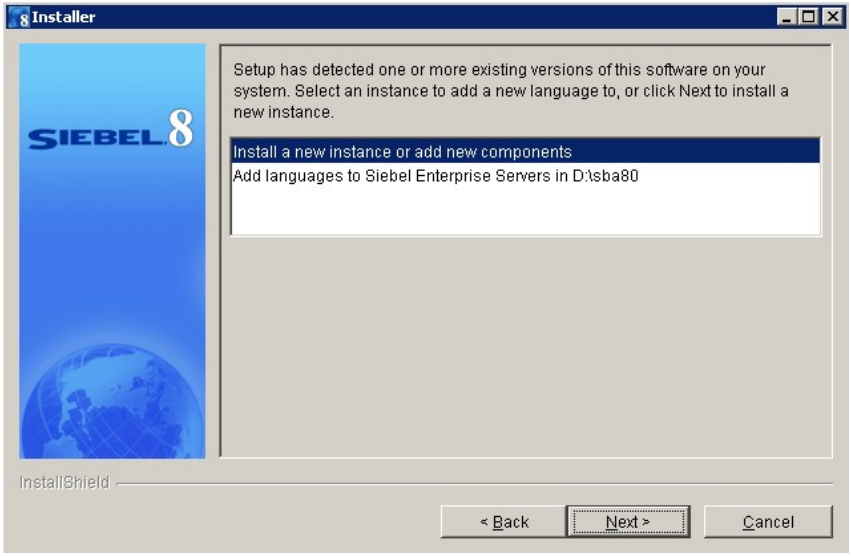

Siebel Configuration Wizard - Siebel Business Applications Configuration Wizard
The Siebel Configuration Wizard will execute using the following settings:)
HTTP 1.1-Compliant Firewall / Enable Web Compression : true
Login Session (guest session) Timeout Value (seconds) : 300
Active Session Timeout Value (seconds) : 900
HTTP Port Number : 80
HTTPS Port Number (default 443, range 0-65535) : 443
Fully Qualified Domain Name :
Information
Execution Successful!
OK
webupdateUserName : ********
Siebel Enterprise Security Token (validation: must not be empty) : ********
Default Statistics Page for Web Server : _stats.swe
Deploy Secure Sockets Layer (SSL) in the Enterprise : false
InstallShield
< Back
Next >
Cancel

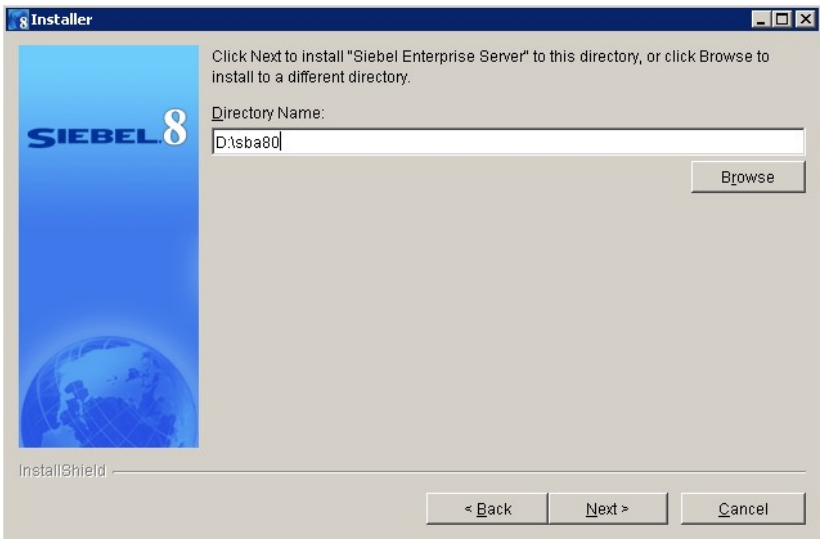

Siebel Configuration Wizard - Siebel Business Applications Configuration Wizard
Welcome to the Configuration Wizard!
This wizard walks you through essential tasks for configuring a Siebel Enterprise.
Please choose one of the tasks below.
Create
Modify
Remove
Exit
InstallShield
< Back
Next >
Cancel

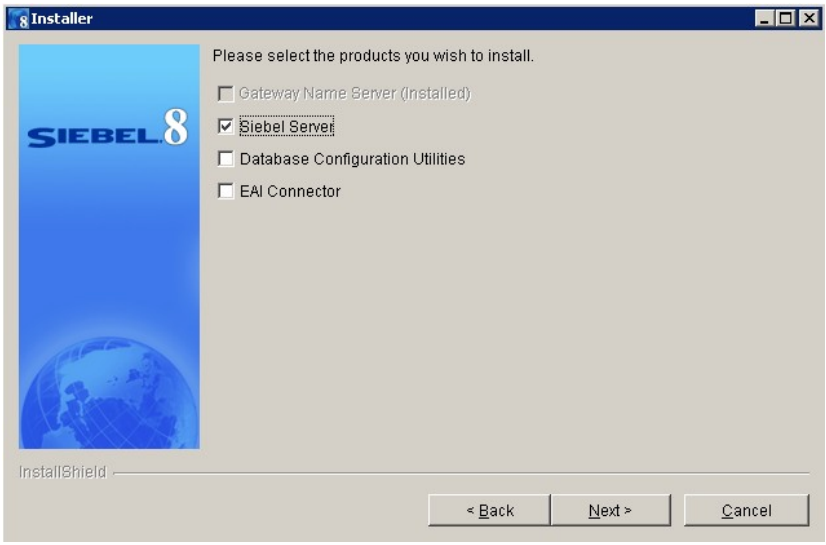

Installer
SIEBEL 8
The InstallShield Wizard has successfully installed Siebel Enterprise Server.
Choose Finish to exit the wizard.
InstallShield
< Back
Next >
Finish

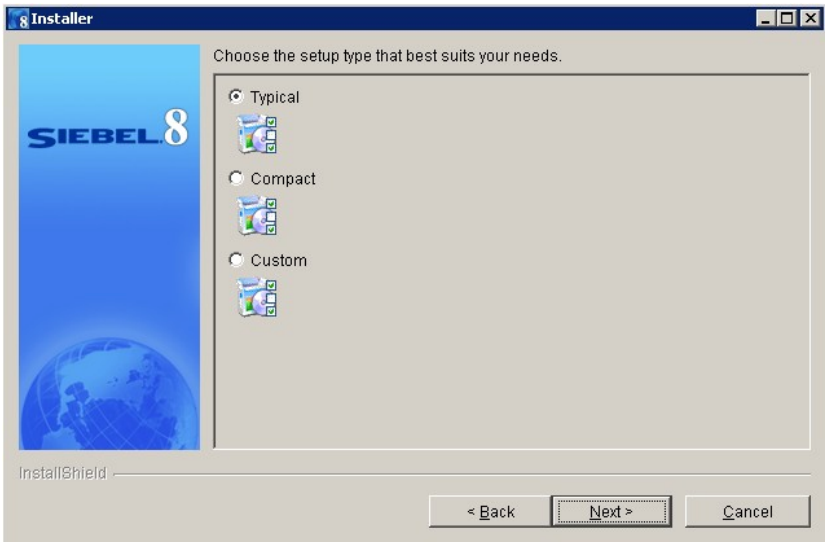
Appendix E: Installation of the Siebel application server

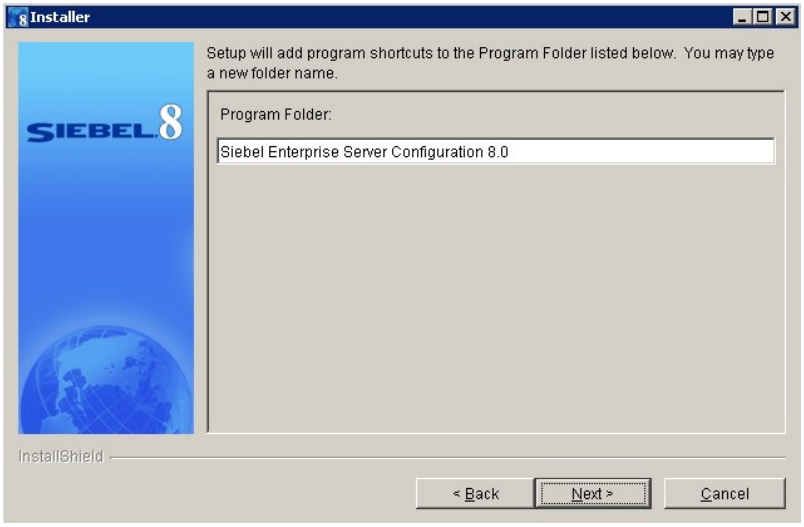
The following screen captures were taken during the installation of the Siebel application server that was used for the Siebel 8 Windows PSPP benchmark.

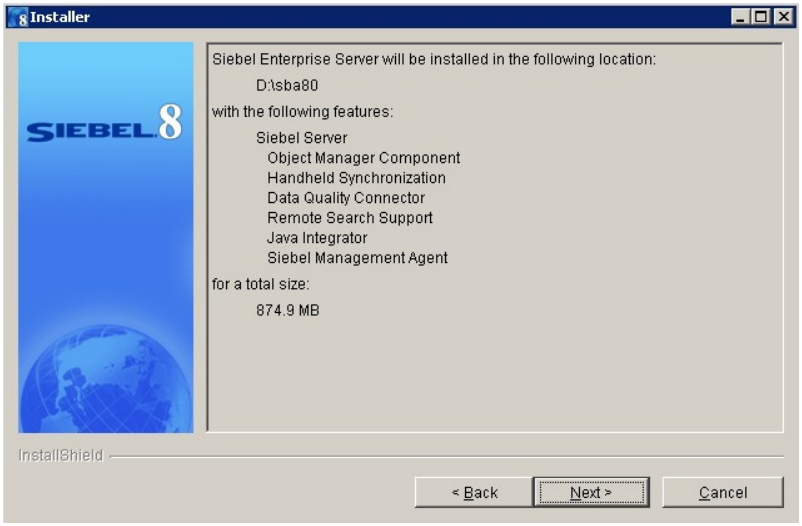


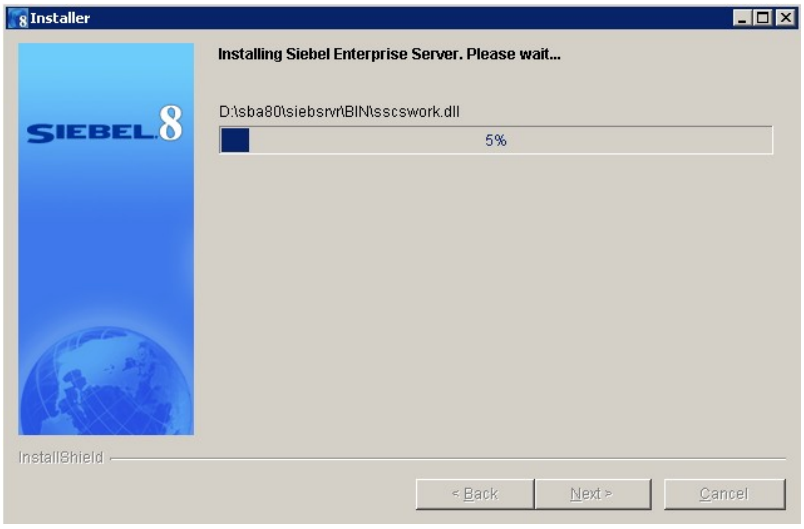

Installer
SIEBEL 8
Click Next to install "Siebel Enterprise Server" to this directory, or click Browse to install to a different directory.
Directory Name:
D:\sba80
Browse
InstallShield
< Back
Next >
Cancel

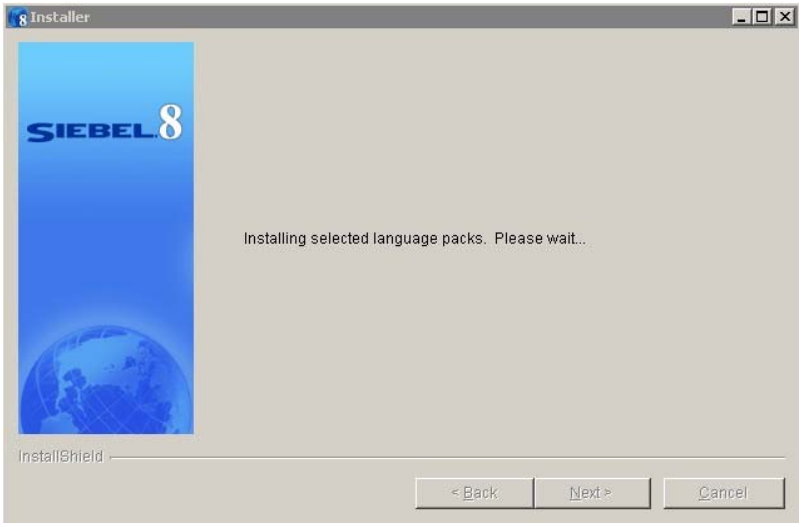

Installer
SIEBEL 8
Please select the products you wish to install.
Gateway Name Server (Installed)
Siebel Server
Database Configuration Utilities
EAI Connector
InstallShield
< Back
Next >
Cancel


Installer
SIEBEL 8
Choose the setup type that best suits your needs.
Typical
Compact
Custom
InstallShield
< Back
Next >
Cancel

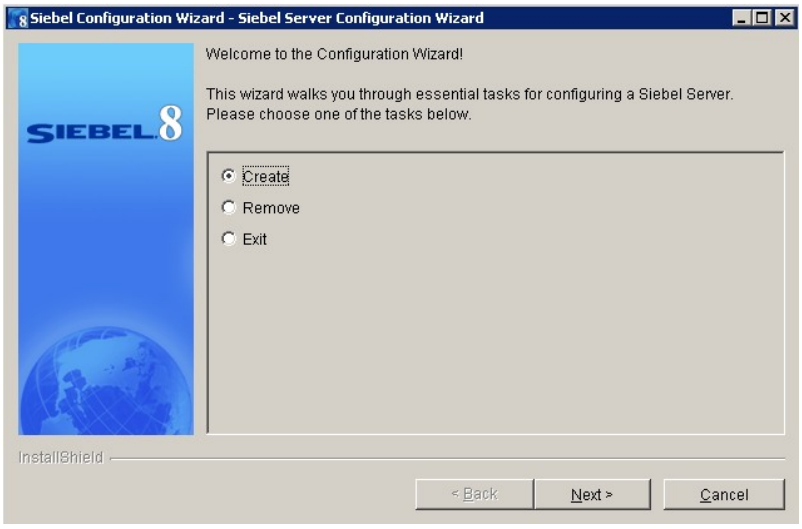

Installer
SIEBEL 8
Setup will add program shortcuts to the Program Folder listed below. You may type a new folder name.
Program Folder:
Siebel Enterprise Server Configuration 8.0
InstallShield
< Back
Next >
Cancel

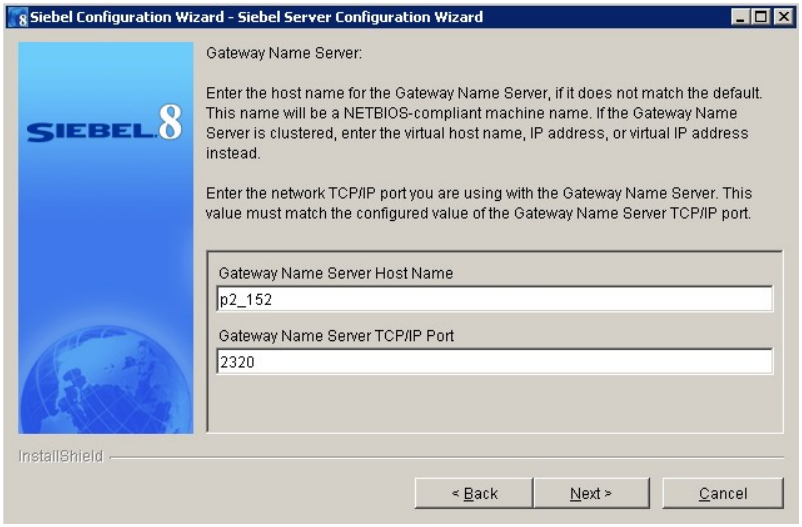

Installer
SIEBEL 8
Siebel Enterprise Server will be installed in the following location:
D:\sba80
with the following features:
Siebel Server
Object Manager Component
Handheld Synchronization
Data Quality Connector
Remote Search Support
Java Integrator
Siebel Management Agent
for a total size:
874.9 MB
InstallShield
< Back
Next >
Cancel


Installer
SIEBEL 8
Installing Siebel Enterprise Server. Please wait...
D:\sba80\siebsrvr\BIN\sscswork.dll
5%
InstallShield
< Back
Next >
Cancel


Installer
SIEBEL 8
Installing selected language packs. Please wait...
InstallShield
< Back
Next >
Cancel

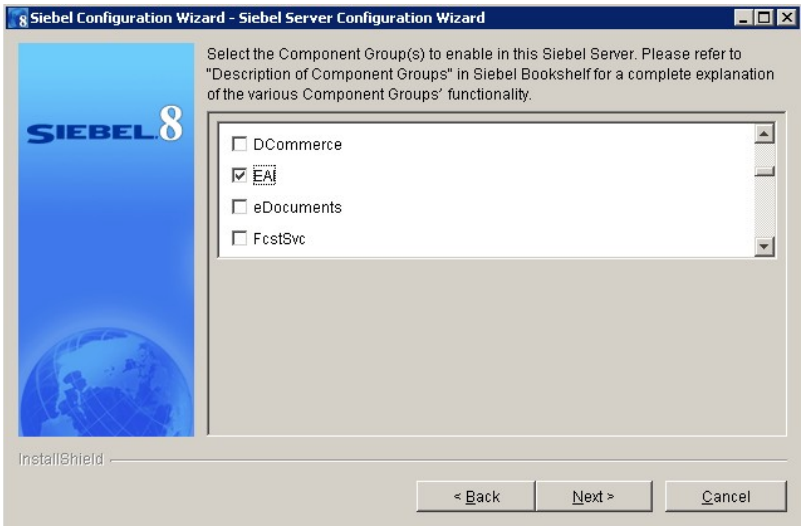

Installer
SIEBEL 8
Installing Siebel Enterprise Server. Please wait...
11%
InstallShield
< Back
Next >
Cancel

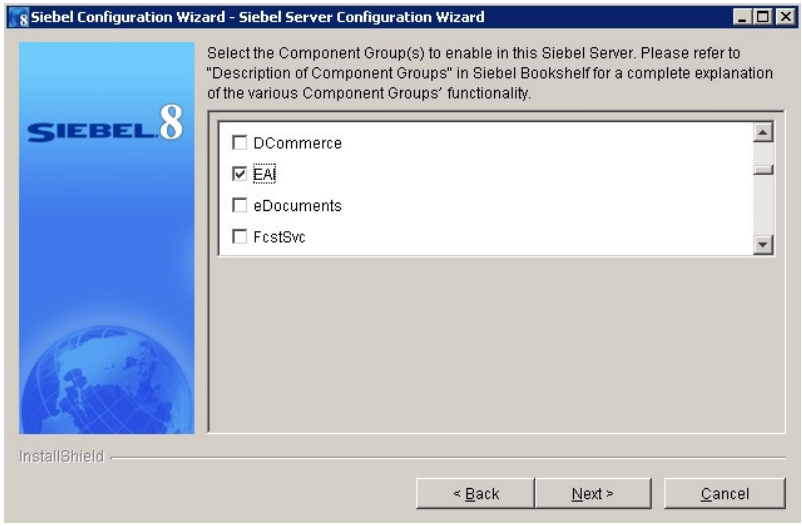

Siebel Configuration Wizard - Siebel Server Configuration Wizard
SIEBEL 8
Welcome to the Configuration Wizard!
This wizard walks you through essential tasks for configuring a Siebel Server.
Please choose one of the tasks below.
Create
Remove
Exit
InstallShield
< Back
Next >
Cancel

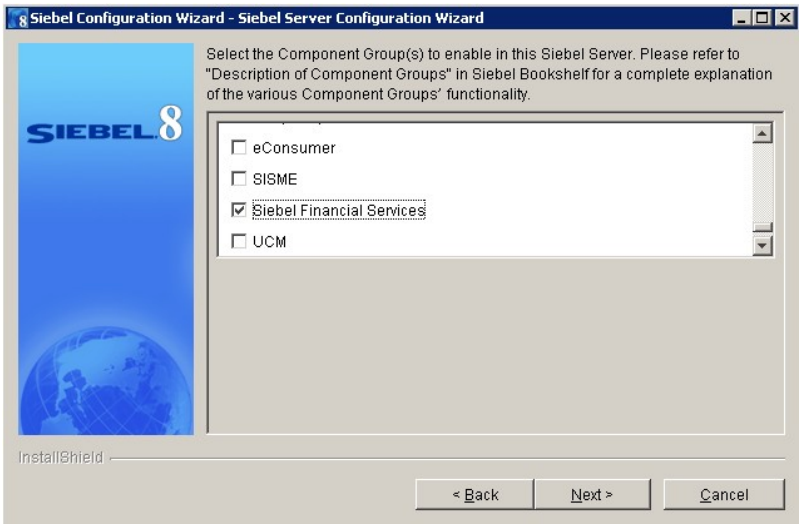

Siebel Configuration Wizard - Siebel Server Configuration Wizard
SIEBEL 8
Gateway Name Server:
Enter the host name for the Gateway Name Server, if it does not match the default. This name will be a NETBIOS-compliant machine name. If the Gateway Name Server is clustered, enter the virtual host name, IP address, or virtual IP address instead.
Enter the network TCP/IP port you are using with the Gateway Name Server. This value must match the configured value of the Gateway Name Server TCP/IP port.
Gateway Name Server Host Name
p2_152
Gateway Name Server TCP/IP Port
2320
InstallShield
< Back
Next >
Cancel

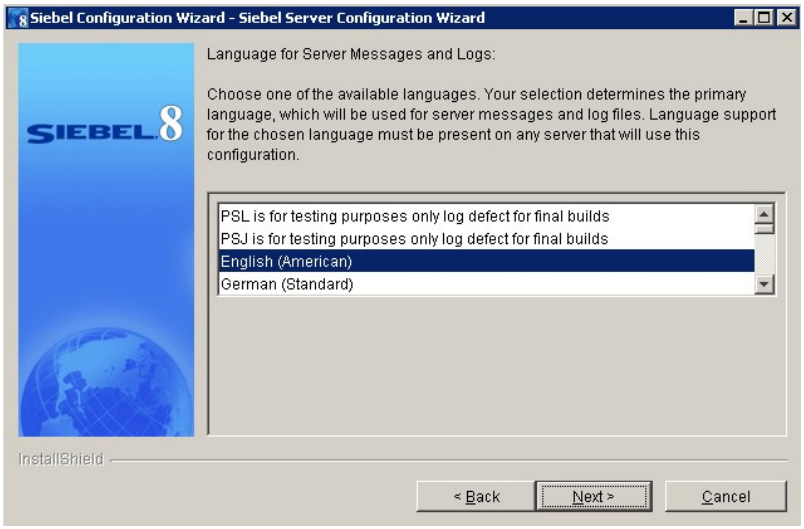

Siebel Configuration Wizard - Siebel Server Configuration Wizard
SIEBEL 8
Siebel Enterprise Name:
Specify a name for the Siebel Enterprise. The name may contain alphabetic, numeric, and underscore characters and is limited to 12 characters. Special characters are not supported. The name of the Enterprise must be unique when this Enterprise is created.
Siebel Server Logical Profile Name:
A Siebel Server logical profile name may contain alphabetic, numeric, and underscore characters and is limited to 12 characters. Special characters are not supported. The name of a Siebel Server must be unique in the Enterprise.
Siebel Enterprise Name
siebel
Siebel Server Logical Profile Name
p2_152
InstallShield
< Back
Next >
Cancel

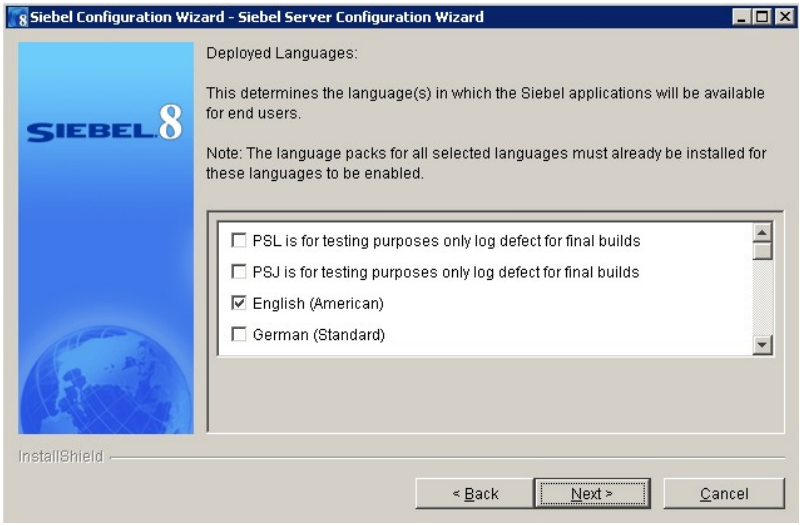

Siebel Configuration Wizard - Siebel Server Configuration Wizard
SIEBEL 8
Siebel Server Description:
The description of the Siebel Server is used for your reference. It may be used to identify "test" or "production" servers, for example, or identify a physical location. It is also useful to identify cluster members.
Siebel Server Description
Siebel Server p2_152
InstallShield
< Back
Next >
Cancel

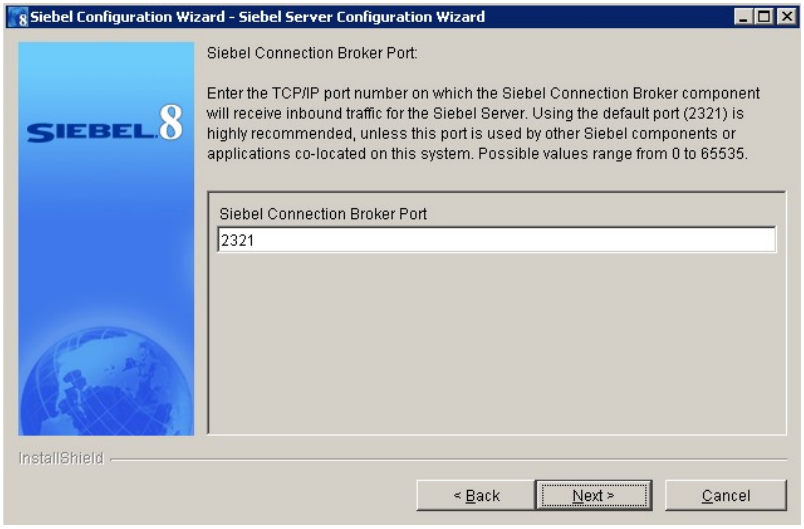

Siebel Configuration Wizard - Siebel Server Configuration Wizard
SIEBEL 8
Select the Component Group(s) to enable in this Siebel Server. Please refer to "Description of Component Groups" in Siebel Bookshelf for a complete explanation of the various Component Groups' functionality.
DCommerce
EAI
eDocuments
FcstSvc
InstallShield
< Back
Next >
Cancel

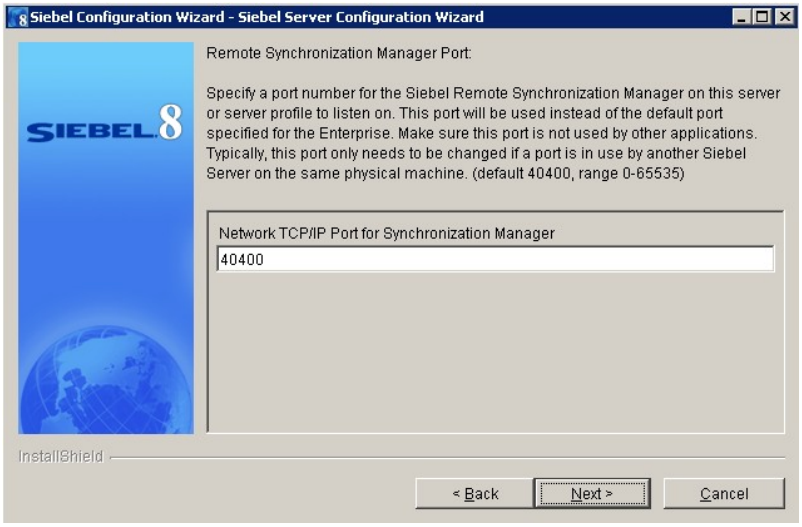

Siebel Configuration Wizard - Siebel Server Configuration Wizard
SIEBEL 8
Select the Component Group(s) to enable in this Siebel Server. Please refer to "Description of Component Groups" in Siebel Bookshelf for a complete explanation of the various Component Groups' functionality.
DCommerce
EAI
eDocuments
FcstSvc
InstallShield
< Back
Next >
Cancel

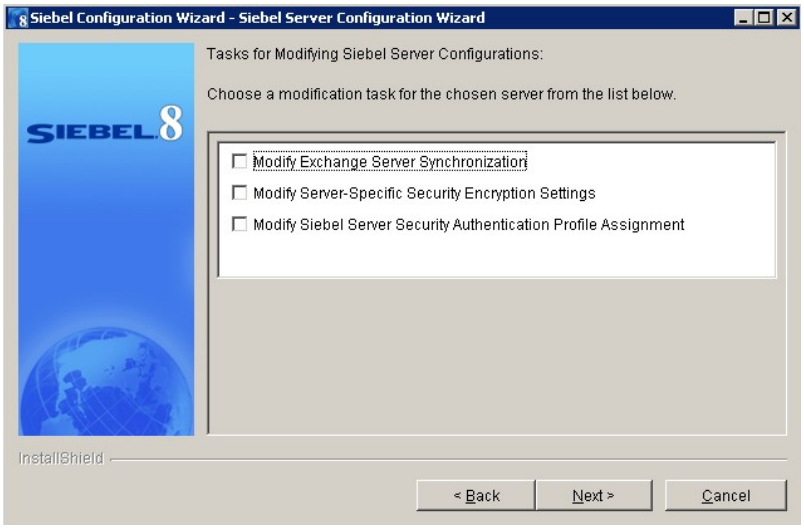

Siebel Configuration Wizard - Siebel Server Configuration Wizard
SIEBEL 8
Select the Component Group(s) to enable in this Siebel Server. Please refer to "Description of Component Groups" in Siebel Bookshelf for a complete explanation of the various Component Groups' functionality.
eConsumer
SISME
Siebel Financial Services
UCM
InstallShield
< Back
Next >
Cancel

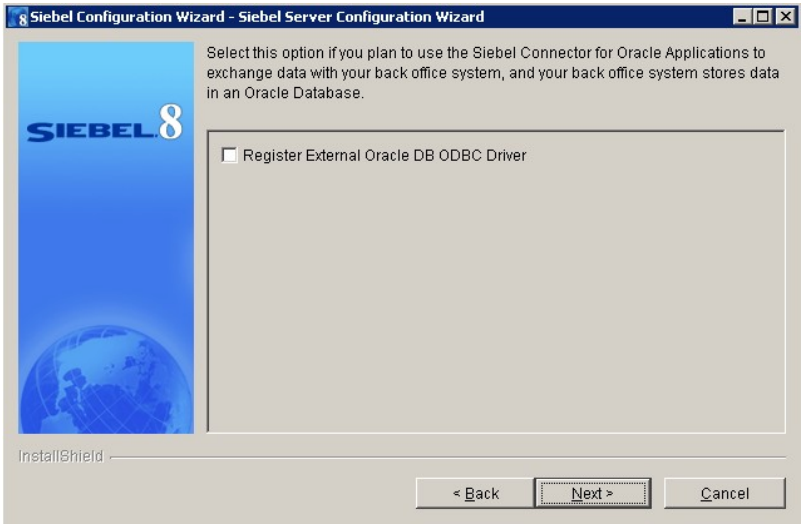

Siebel Configuration Wizard - Siebel Server Configuration Wizard
SIEBEL 8
Language for Server Messages and Logs:
Choose one of the available languages. Your selection determines the primary language, which will be used for server messages and log files. Language support for the chosen language must be present on any server that will use this configuration.
PSL is for testing purposes only log defect for final builds
PSJ is for testing purposes only log defect for final builds
English (American)
German (Standard)
InstallShield
< Back
Next >
Cancel

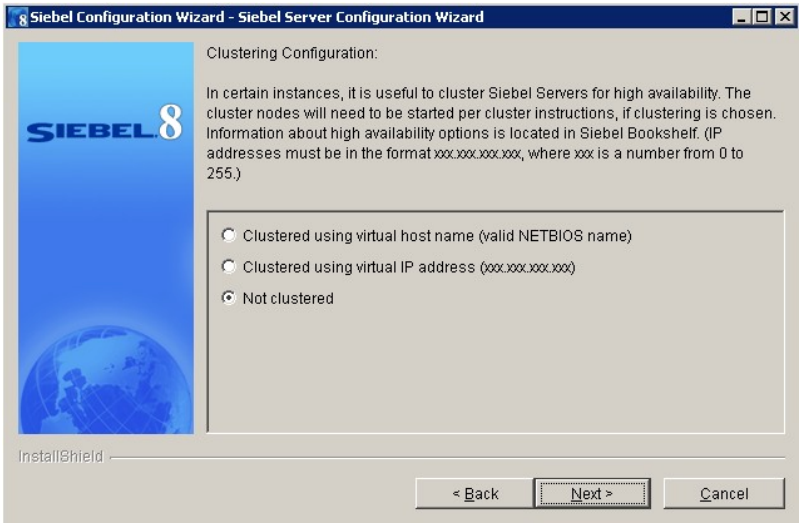

Siebel Configuration Wizard - Siebel Server Configuration Wizard
SIEBEL 8
Deployed Languages:
This determines the language(s) in which the Siebel applications will be available for end users.
Note: The language packs for all selected languages must already be installed for these languages to be enabled.
PSL is for testing purposes only log defect for final builds
PSJ is for testing purposes only log defect for final builds
English (American)
German (Standard)
InstallShield
< Back
Next >
Cancel

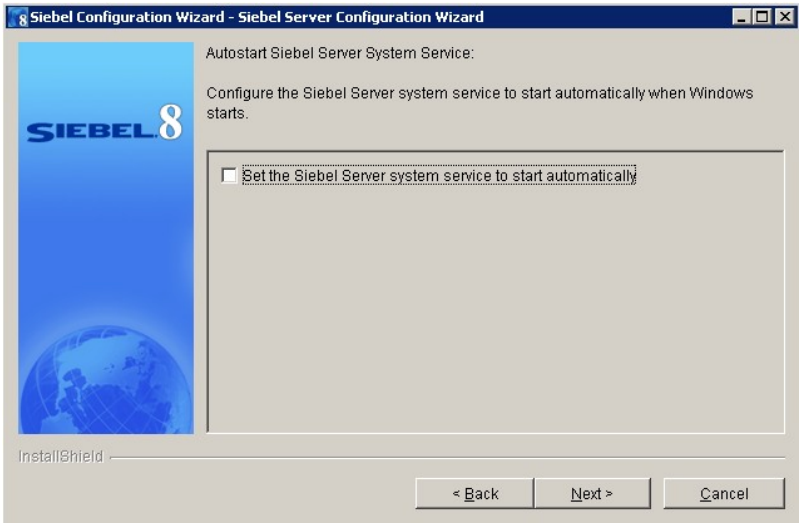

Siebel Configuration Wizard - Siebel Server Configuration Wizard
SIEBEL 8
Siebel Connection Broker Port:
Enter the TCP/IP port number on which the Siebel Connection Broker component will receive inbound traffic for the Siebel Server. Using the default port (2321) is highly recommended, unless this port is used by other Siebel components or applications co-located on this system. Possible values range from 0 to 65535.
Siebel Connection Broker Port
2321
InstallShield
< Back
Next >
Cancel

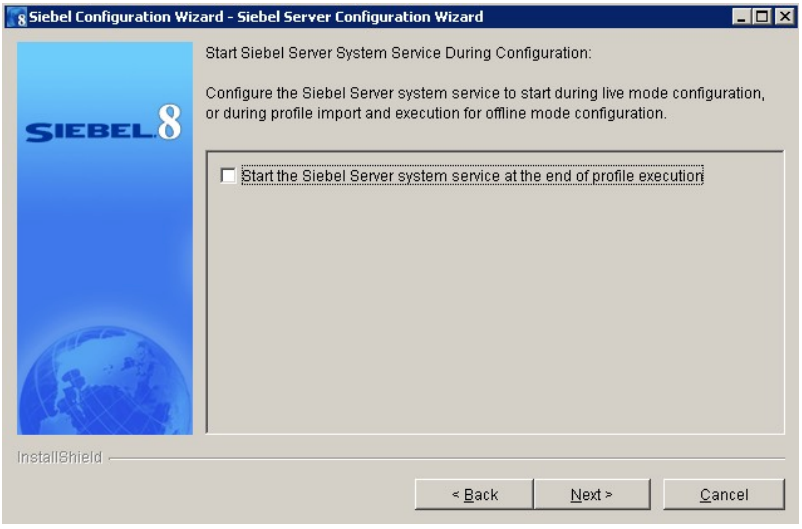

Siebel Configuration Wizard - Siebel Server Configuration Wizard
SIEBEL 8
Remote Synchronization Manager Port:
Specify a port number for the Siebel Remote Synchronization Manager on this server or server profile to listen on. This port will be used instead of the default port specified for the Enterprise. Make sure this port is not used by other applications. Typically, this port only needs to be changed if a port is in use by another Siebel Server on the same physical machine. (default 40400, range 0-65535)
Network TCP/IP Port for Synchronization Manager
40400
InstallShield
< Back
Next >
Cancel

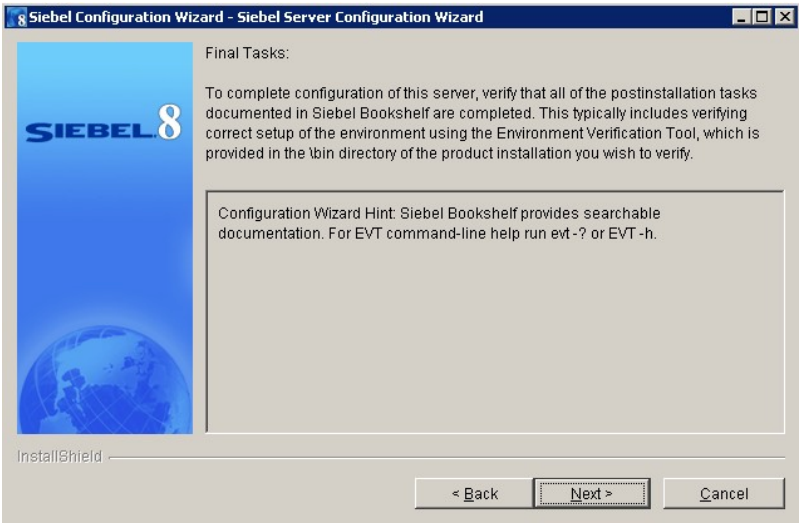

Siebel Configuration Wizard - Siebel Server Configuration Wizard
SIEBEL 8
Tasks for Modifying Siebel Server Configurations:
Choose a modification task for the chosen server from the list below.
Modify Exchange Server Synchronization
Modify Server-Specific Security Encryption Settings
Modify Siebel Server Security Authentication Profile Assignment
InstallShield
< Back
Next >
Cancel

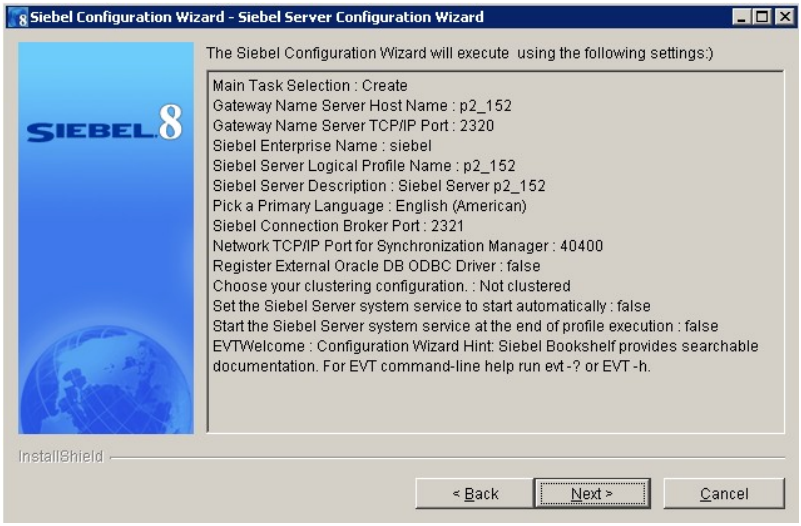

Siebel Configuration Wizard - Siebel Server Configuration Wizard
SIEBEL 8
Select this option if you plan to use the Siebel Connector for Oracle Applications to exchange data with your back office system, and your back office system stores data in an Oracle Database.
Register External Oracle DB ODBC Driver
InstallShield
< Back
Next >
Cancel

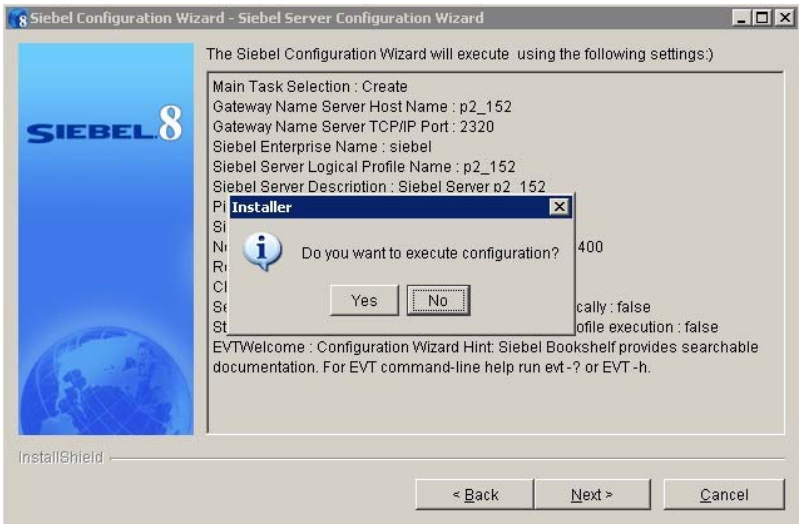

Siebel Configuration Wizard - Siebel Server Configuration Wizard
SIEBEL 8
Clustering Configuration:
In certain instances, it is useful to cluster Siebel Servers for high availability. The cluster nodes will need to be started per cluster instructions, if clustering is chosen. Information about high availability options is located in Siebel Bookshelf. (IP addresses must be in the format xxx.xxx.xxx.xxx, where xxx is a number from 0 to 255.)
Clustered using virtual host name (valid NETBIOS name)
Clustered using virtual IP address (xxx.xxx.xxx.xxx)
Not clustered
InstallShield
< Back
Next >
Cancel

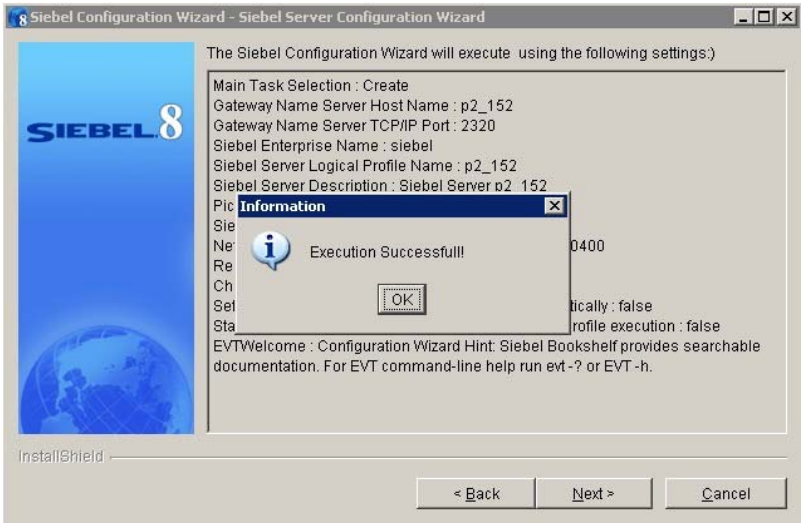

Siebel Configuration Wizard - Siebel Server Configuration Wizard
SIEBEL 8
Autostart Siebel Server System Service:
Configure the Siebel Server system service to start automatically when Windows starts.
Set the Siebel Server system service to start automatically
InstallShield
< Back
Next >
Cancel


Siebel Configuration Wizard - Siebel Server Configuration Wizard
SIEBEL 8
Start Siebel Server System Service During Configuration:
Configure the Siebel Server system service to start during live mode configuration, or during profile import and execution for offline mode configuration.
Start the Siebel Server system service at the end of profile execution
InstallShield
< Back
Next >
Cancel

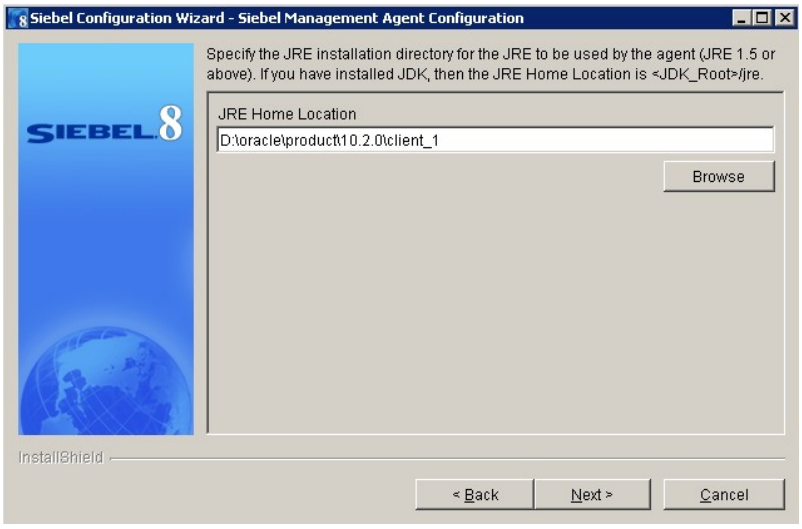

Siebel Configuration Wizard - Siebel Server Configuration Wizard
SIEBEL 8
Final Tasks:
To complete configuration of this server, verify that all of the postinstallation tasks documented in Siebel Bookshelf are completed. This typically includes verifying correct setup of the environment using the Environment Verification Tool, which is provided in the \bin directory of the product installation you wish to verify.
Configuration Wizard Hint: Siebel Bookshelf provides searchable documentation. For EVT command-line help run evt -? or EVT -h.
InstallShield
< Back
Next >
Cancel

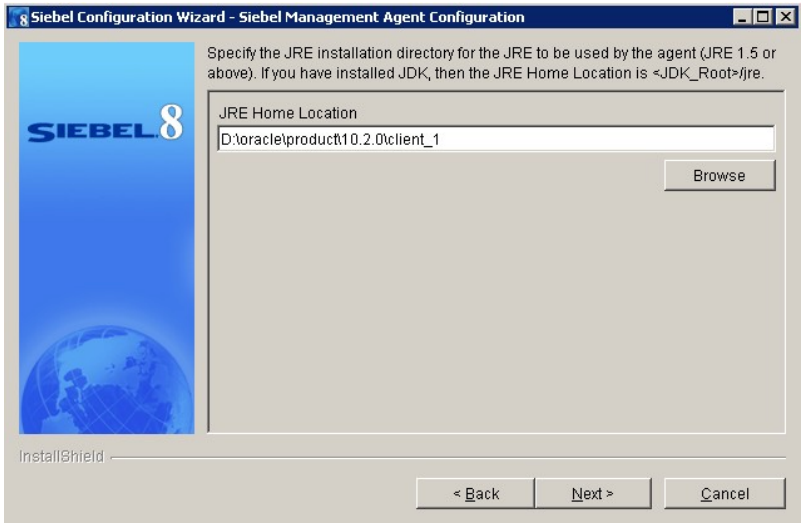

Siebel Configuration Wizard - Siebel Server Configuration Wizard
SIEBEL 8
The Siebel Configuration Wizard will execute using the following settings:)
Main Task Selection : Create
Gateway Name Server Host Name : p2_152
Gateway Name Server TCP/IP Port : 2320
Siebel Enterprise Name : siebel
Siebel Server Logical Profile Name : p2_152
Siebel Server Description : Siebel Server p2_152
Pick a Primary Language : English (American)
Siebel Connection Broker Port : 2321
Network TCP/IP Port for Synchronization Manager : 40400
Register External Oracle DB ODBC Driver : false
Choose your clustering configuration. : Not clustered
Set the Siebel Server system service to start automatically : false
Start the Siebel Server system service at the end of profile execution : false
EVTWelcome : Configuration Wizard Hint: Siebel Bookshelf provides searchable documentation. For EVT command-line help run evt -? or EVT -h.
InstallShield
< Back
Next >
Cancel

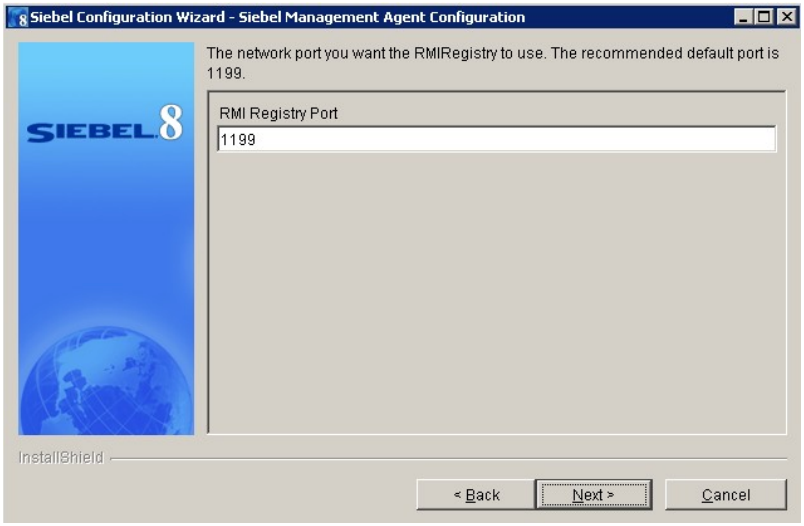

Siebel Configuration Wizard - Siebel Server Configuration Wizard
SIEBEL 8
The Siebel Configuration Wizard will execute using the following settings:)
Main Task Selection : Create
Gateway Name Server Host Name : p2_152
Gateway Name Server TCP/IP Port : 2320
Siebel Enterprise Name : siebel
Siebel Server Logical Profile Name : p2_152
Siebel Server Description : Siebel Server p2_152
Installer
Do you want to execute configuration?
Yes
No
400
cally : false
ofile execution : false
EVTWelcome : Configuration Wizard Hint: Siebel Bookshelf provides searchable documentation. For EVT command-line help run evt -? or EVT -h.
InstallShield
< Back
Next >
Cancel

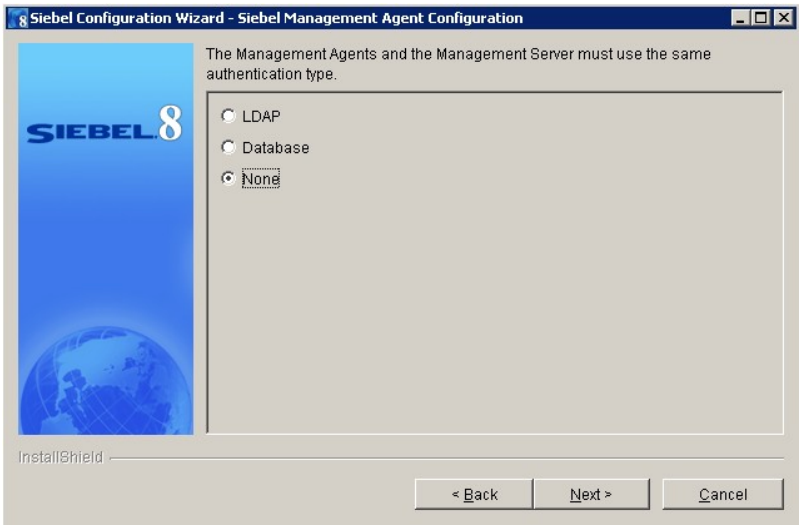

Siebel Configuration Wizard - Siebel Server Configuration Wizard
The Siebel Configuration Wizard will execute using the following settings:)
Main Task Selection : Create
Gateway Name Server Host Name : p2_152
Gateway Name Server TCP/IP Port : 2320
Siebel Enterprise Name : siebel
Siebel Server Logical Profile Name : p2_152
Siebel Server Description : Siebel Server p2_152
Information
Execution Successfull!
OK
EVTWelcome : Configuration Wizard Hint: Siebel Bookshelf provides searchable documentation. For EVT command-line help run evt -? or EVT -h.
InstallShield
< Back
Next >
Cancel


Siebel Configuration Wizard - Siebel Management Agent Configuration
The name of the Siebel account under which the Siebel Management Agent should run.
The password of the Siebel account.
Siebel User Account
sadmin
Siebel User Account Password
Siebel User Account Password--(confirm)
InstallShield
< Back
Next >
Cancel

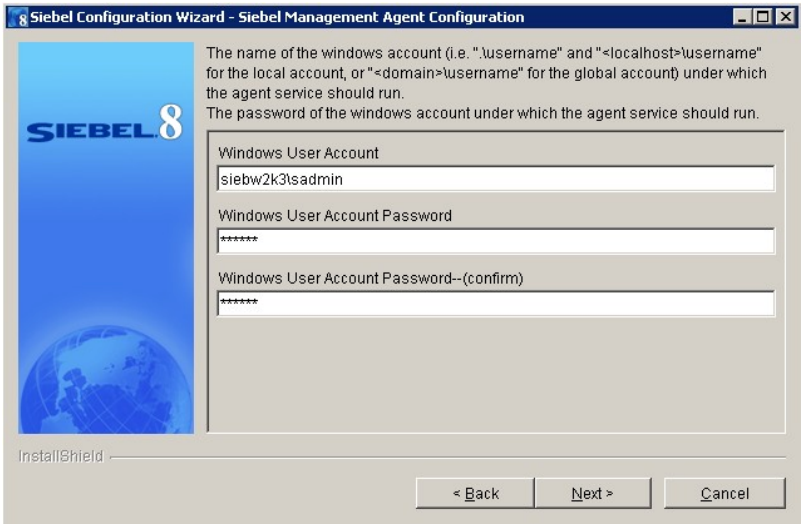

Siebel Configuration Wizard - Siebel Management Agent Configuration
Specify the JRE installation directory for the JRE to be used by the agent (JRE 1.5 or above). If you have installed JDK, then the JRE Home Location is <JDK_Root>/jre.
JRE Home Location
D:\oracle\product\10.2.0\client_1
Browse
InstallShield
< Back
Next >
Cancel

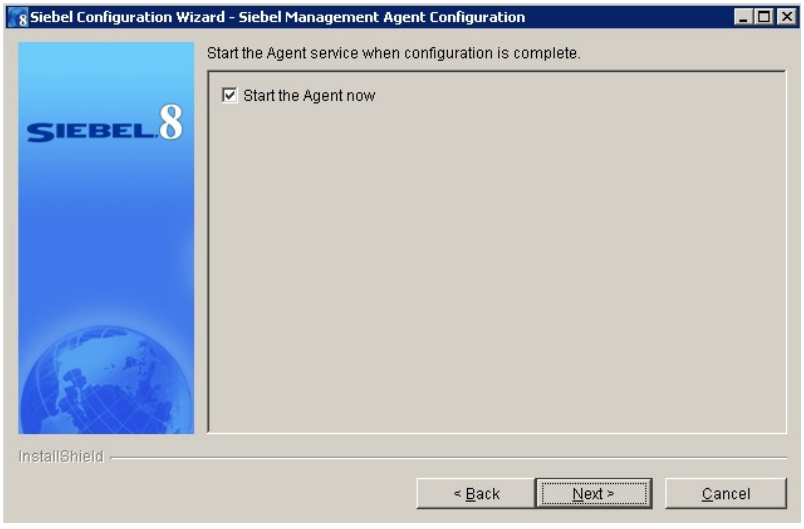

Siebel Configuration Wizard - Siebel Management Agent Configuration
SIEBEL 8
Specify the JRE installation directory for the JRE to be used by the agent (JRE 1.5 or above). If you have installed JDK, then the JRE Home Location is <JDK_Root>/jre.
JRE Home Location
D:\oracle\product\10.2.0\client_1
Browse
InstallShield
< Back
Next >
Cancel


Siebel Configuration Wizard - Siebel Management Agent Configuration
SIEBEL 8
The network port you want the RMIRegistry to use. The recommended default port is 1199.
RMI Registry Port
1199
InstallShield
< Back
Next >
Cancel


Siebel Configuration Wizard - Siebel Management Agent Configuration
SIEBEL 8
The Management Agents and the Management Server must use the same authentication type.
LDAP
Database
None
InstallShield
< Back
Next >
Cancel

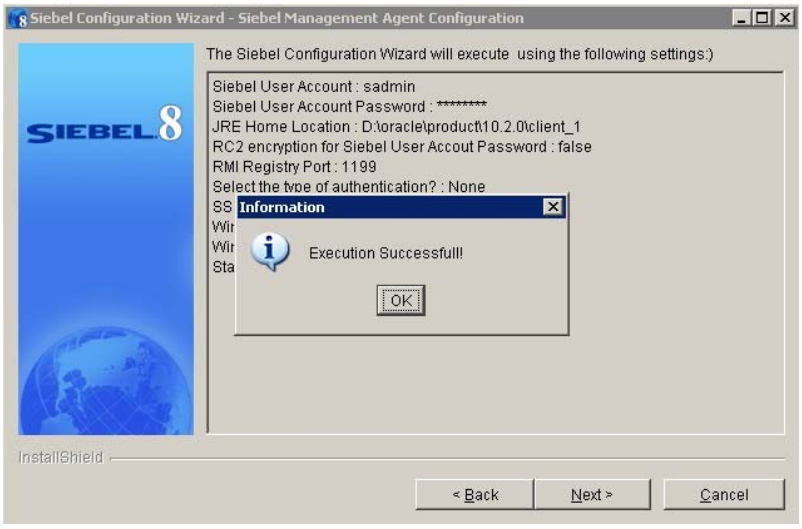

Siebel Configuration Wizard - Siebel Management Agent Configuration
Use SSL for the agent ?
SSL
InstallShield
< Back
Next >
Cancel

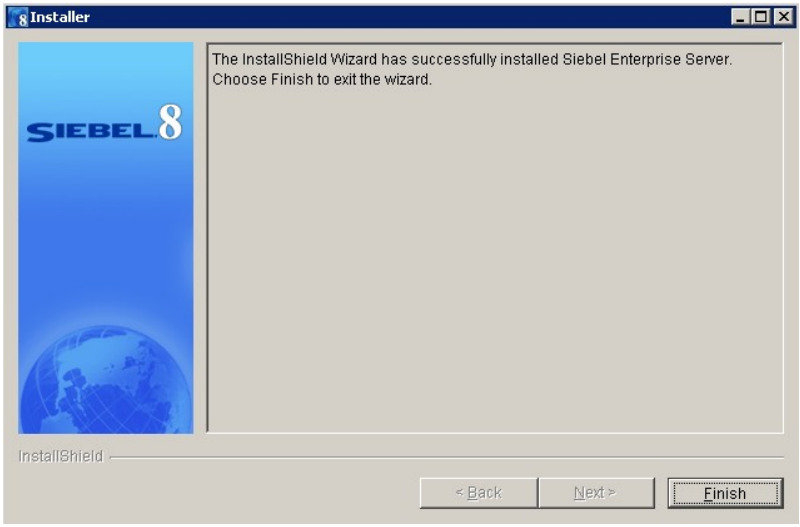

Siebel Configuration Wizard - Siebel Management Agent Configuration
The name of the windows account (i.e. ".\username" and "<localhost>\username" for the local account, or "<domain>\username" for the global account) under which the agent service should run.
The password of the windows account under which the agent service should run.
Windows User Account
siebw2k3\sadmin
Windows User Account Password
******
Windows User Account Password--(confirm)
******
InstallShield
< Back
Next >
Cancel


Siebel Configuration Wizard - Siebel Management Agent Configuration
Start the Agent service when configuration is complete.
Start the Agent now
InstallShield
< Back
Next >
Cancel


Siebel Configuration Wizard - Siebel Management Agent Configuration
The Siebel Configuration Wizard will execute using the following settings:)
Siebel User Account : sadmin
Siebel User Account Password : ********
JRE Home Location : D:\oracle\product\10.2.0\client_1
RC2 encryption for Siebel User Accout Password : false
RMI Registry Port : 1199
Select the type of authentication? : None
SSL : false
Windows User Account : siebw2k3\sadmin
Windows User Account Password : ********
Start the Agent now : true
InstallShield
< Back
Next >
Cancel

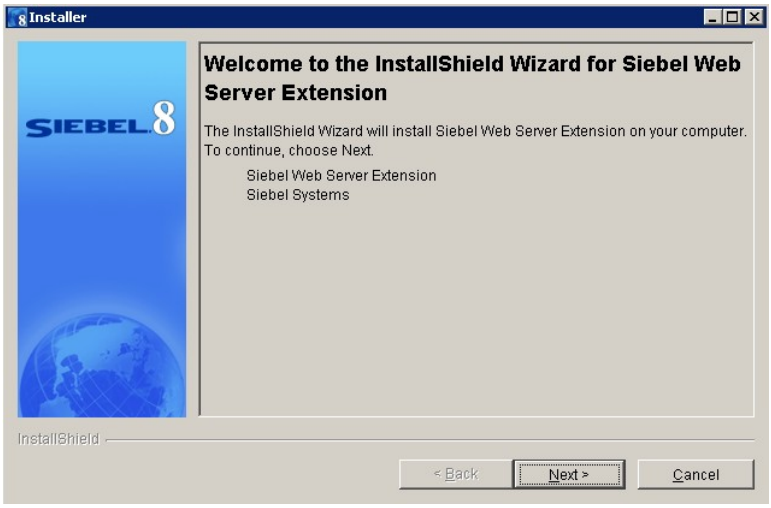

Siebel Configuration Wizard - Siebel Management Agent Configuration
The Siebel Configuration Wizard will execute using the following settings:)
Siebel User Account : sadmin
Siebel User Account Password : ********
JRE Home Location : D:\oracle\product\10.2.0\client_1
RC2 encryption for Siebel User Accout Password : false
RMI Registry Port : 1199
Select the type of authentication? : None
Installer
Do you want to execute configuration?
Yes
No
InstallShield
< Back
Next >
Cancel

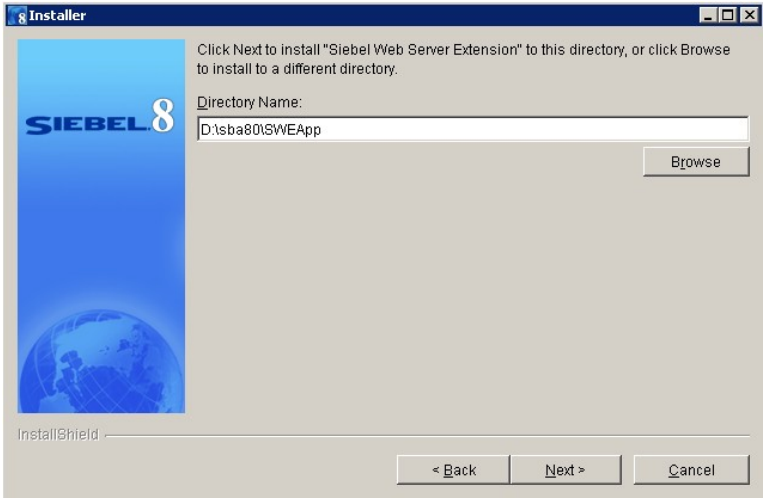

Siebel Configuration Wizard - Siebel Management Agent Configuration
The Siebel Configuration Wizard will execute using the following settings:)
Siebel User Account : sadmin
Siebel User Account Password : ********
JRE Home Location : D:\oracle\product\10.2.0\client_1
RC2 encryption for Siebel User Accout Password : false
RMI Registry Port : 1199
Select the type of authentication? : None
Information
Execution Successfull!
OK
InstallShield
< Back
Next >
Cancel

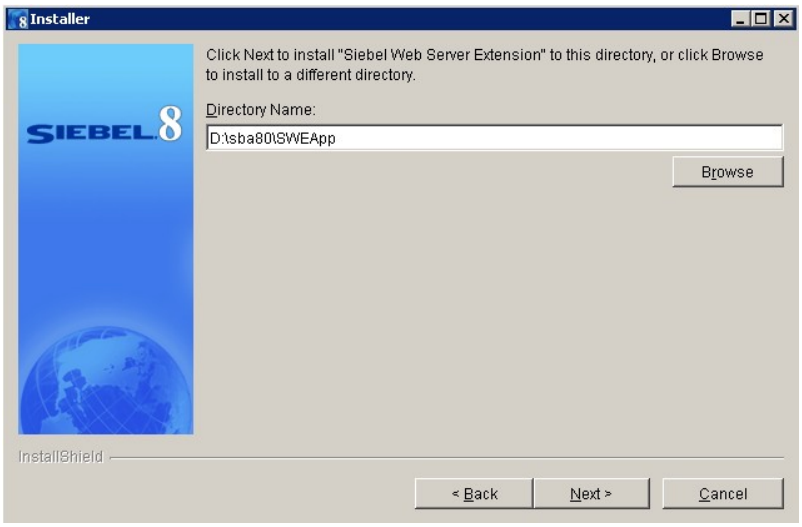

Installer
The InstallShield Wizard has successfully installed Siebel Enterprise Server.
Choose Finish to exit the wizard.
SIEBEL 8
InstallShield
< Back
Next >
Finish

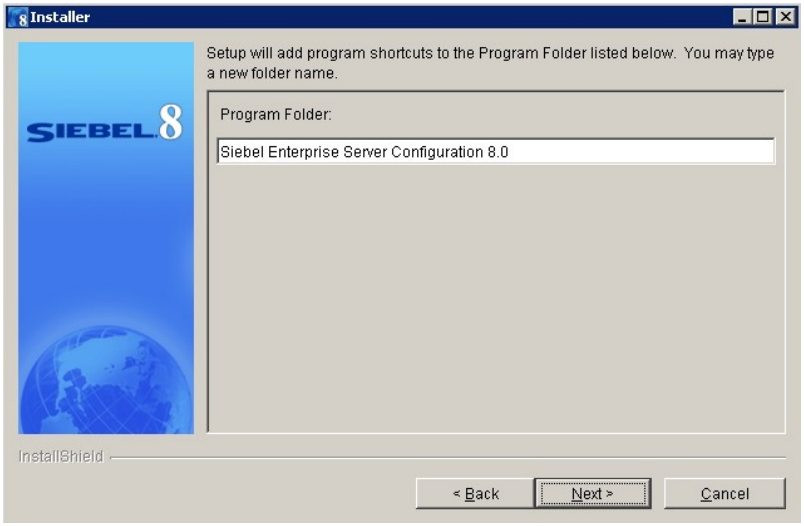
Appendix F: Installation of the Siebel SWSE plug-in

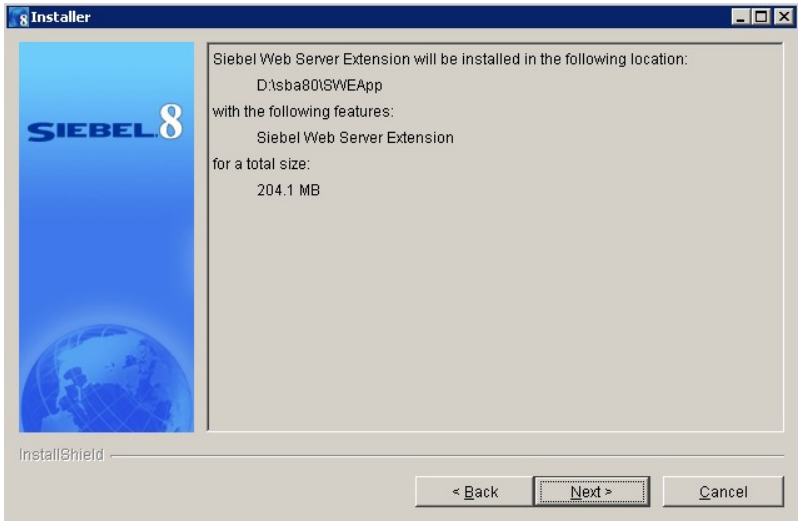
The following screen captures were taken during the installation of the Siebel SWSE Web server plug-in that was used for the Siebel 8 Windows PSPP benchmark.

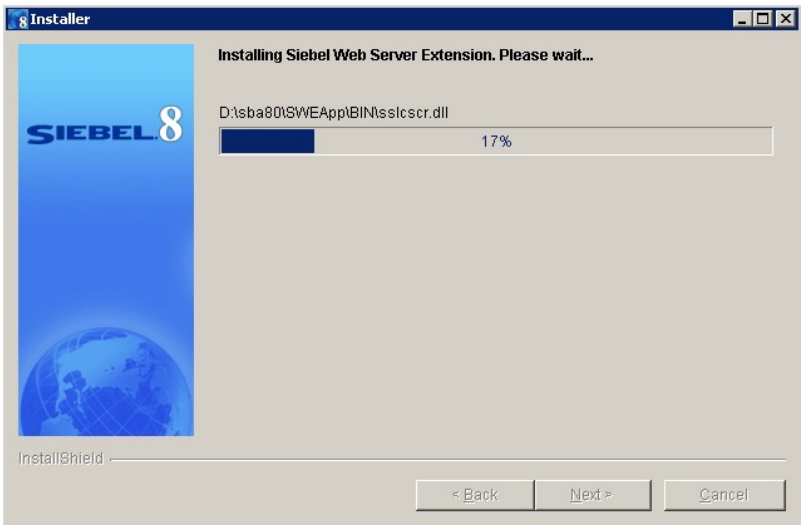


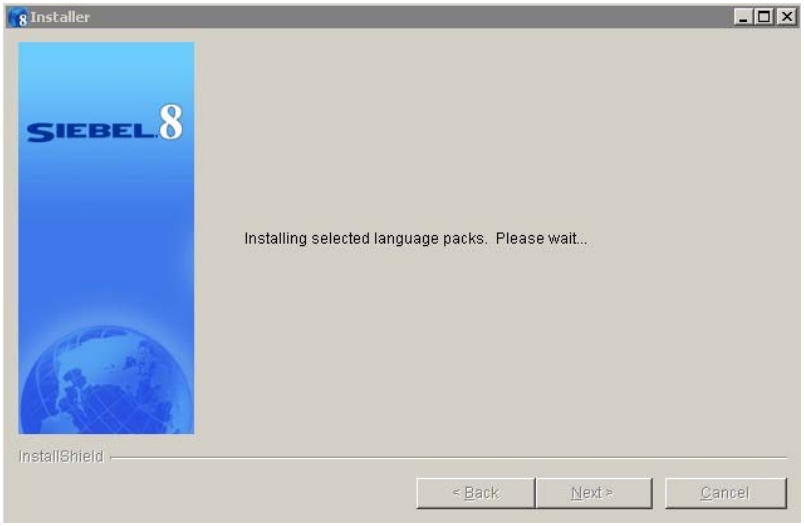


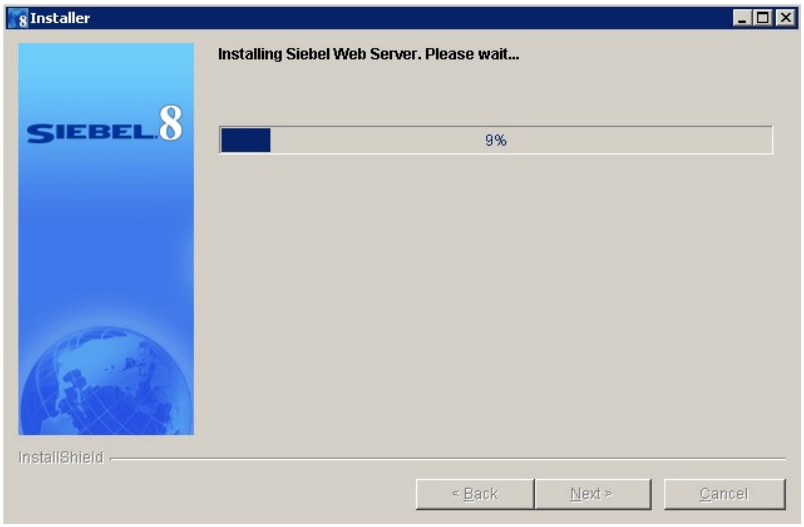

Installer
Click Next to install "Siebel Web Server Extension" to this directory, or click Browse to install to a different directory.
Directory Name:
D:\sba80\SWEApp
Browse
InstallShield
< Back
Next >
Cancel


Installer
Setup will add program shortcuts to the Program Folder listed below. You may type a new folder name.
Program Folder:
Siebel Enterprise Server Configuration 8.0
InstallShield
< Back
Next >
Cancel

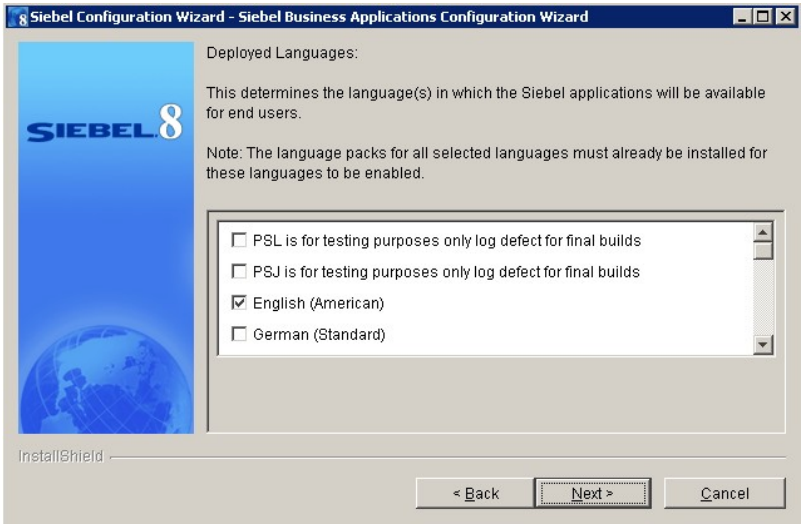

Installer
Siebel Web Server Extension will be installed in the following location:
D:\sba80\SWEApp
with the following features:
Siebel Web Server Extension
for a total size:
204.1 MB
InstallShield
< Back
Next >
Cancel

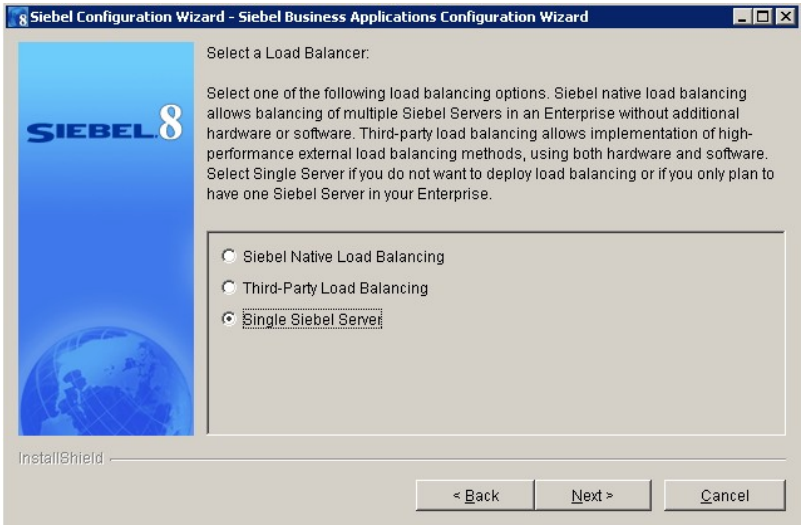

Installer
Installing Siebel Web Server Extension. Please wait...
D:\sba80\SWEApp\BIN\sslcscr.dll
17%
SIEBEL 8
InstallShield
< Back
Next >
Cancel

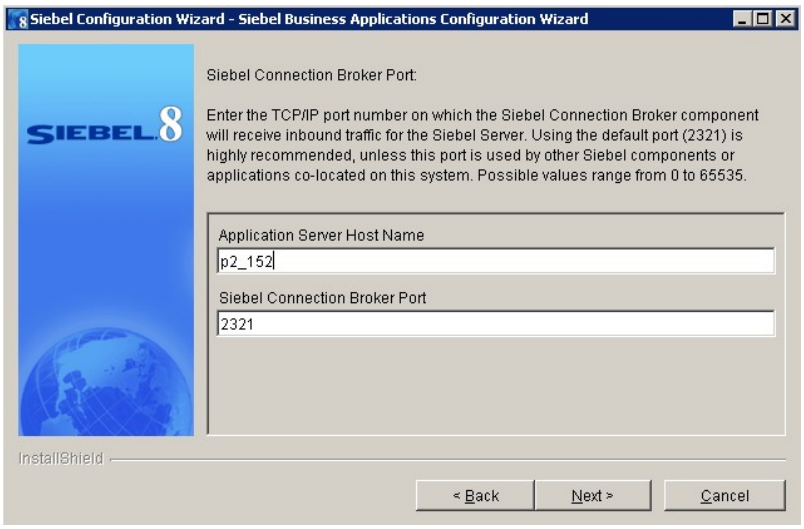

Installer
Installing selected language packs. Please wait...
SIEBEL 8
InstallShield
< Back
Next >
Cancel

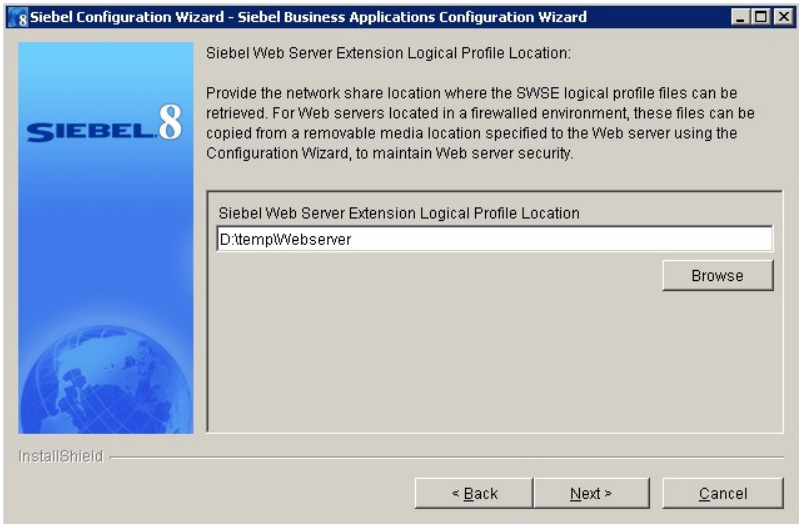

Installer
Installing Siebel Web Server. Please wait...
9%
SIEBEL 8
InstallShield
< Back
Next >
Cancel


Siebel Configuration Wizard - Siebel Business Applications Configuration Wizard
SIEBEL 8
Welcome to the Siebel Web Server Extension Configuration Wizard!
This wizard walks you through essential Siebel Web Server Extension (SWSE) configuration tasks. Choose one of the tasks below. Create configures a new SWSE. This task requires access to an existing SWSE logical profile. Remove removes configuration settings for a SWSE.
Create a New SWSE Logical Profile Within an Enterprise
Remove a SWSE Logical Profile
InstallShield
< Back
Next >
Cancel


Siebel Configuration Wizard - Siebel Business Applications Configuration Wizard
SIEBEL 8
Deployed Languages:
This determines the language(s) in which the Siebel applications will be available for end users.
Note: The language packs for all selected languages must already be installed for these languages to be enabled.
PSL is for testing purposes only log defect for final builds
PSJ is for testing purposes only log defect for final builds
English (American)
German (Standard)
InstallShield
< Back
Next >
Cancel


Siebel Configuration Wizard - Siebel Business Applications Configuration Wizard
SIEBEL 8
Select a Load Balancer:
Select one of the following load balancing options. Siebel native load balancing allows balancing of multiple Siebel Servers in an Enterprise without additional hardware or software. Third-party load balancing allows implementation of high-performance external load balancing methods, using both hardware and software. Select Single Server if you do not want to deploy load balancing or if you only plan to have one Siebel Server in your Enterprise.
Siebel Native Load Balancing
Third-Party Load Balancing
Single Siebel Server
InstallShield
< Back
Next >
Cancel


Siebel Configuration Wizard - Siebel Business Applications Configuration Wizard
SIEBEL 8
Siebel Connection Broker Port:
Enter the TCP/IP port number on which the Siebel Connection Broker component will receive inbound traffic for the Siebel Server. Using the default port (2321) is highly recommended, unless this port is used by other Siebel components or applications co-located on this system. Possible values range from 0 to 65535.
Application Server Host Name
p2_152
Siebel Connection Broker Port
2321
InstallShield
< Back
Next >
Cancel


Siebel Configuration Wizard - Siebel Business Applications Configuration Wizard
SIEBEL 8
Siebel Web Server Extension Logical Profile Location:
Provide the network share location where the SWSE logical profile files can be retrieved. For Web servers located in a firewalled environment, these files can be copied from a removable media location specified to the Web server using the Configuration Wizard, to maintain Web server security.
Siebel Web Server Extension Logical Profile Location
D:\temp\Webserver
Browse
InstallShield
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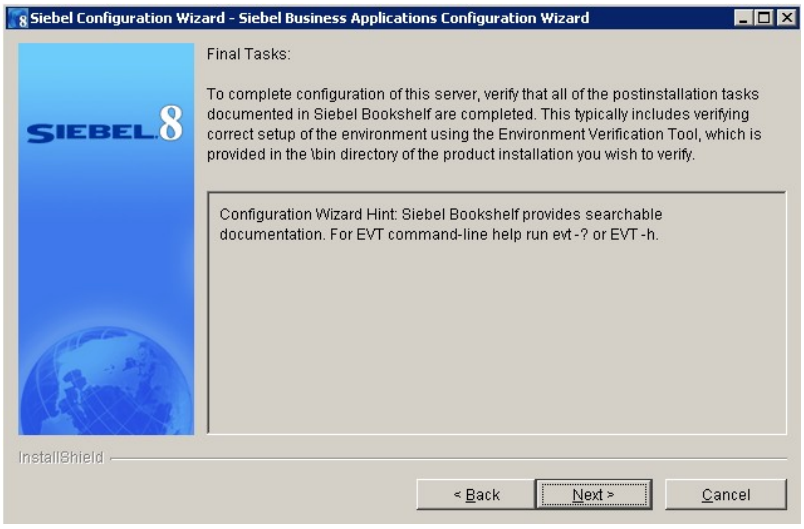
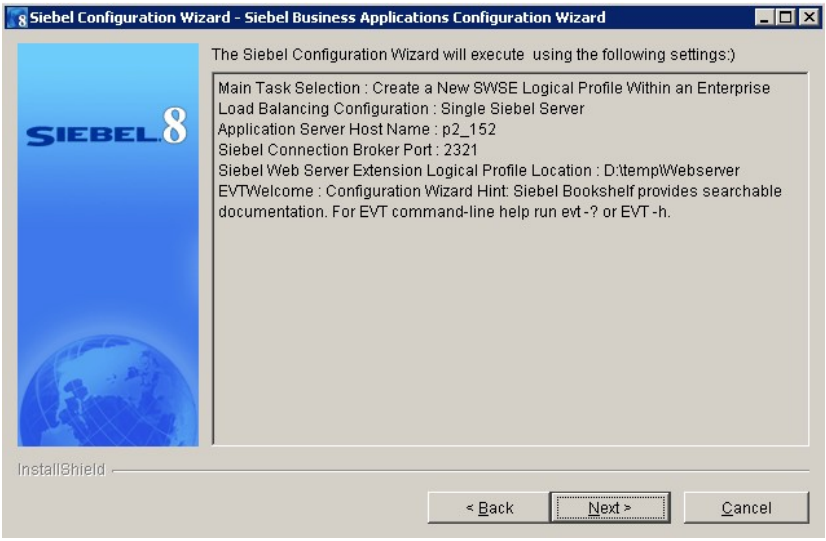
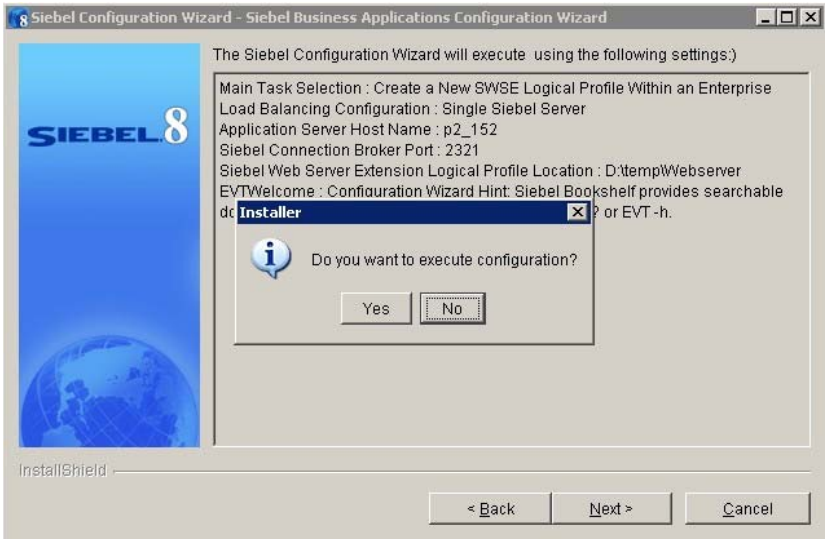
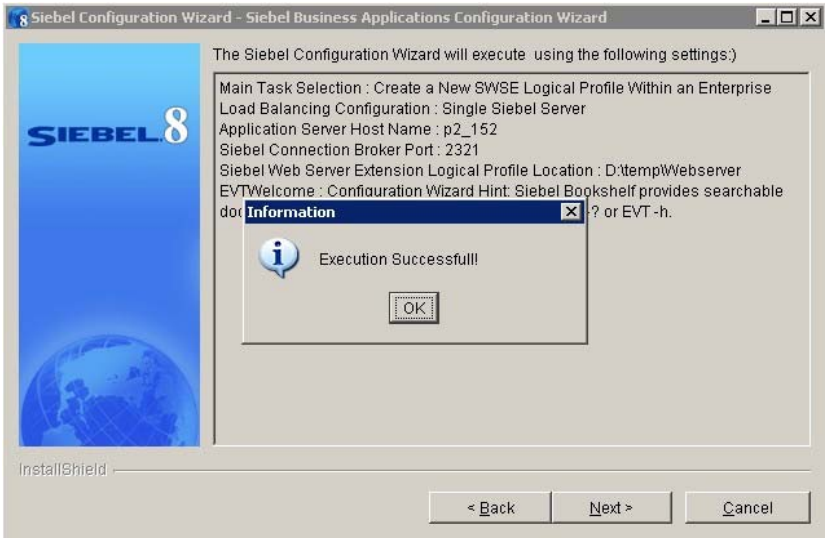
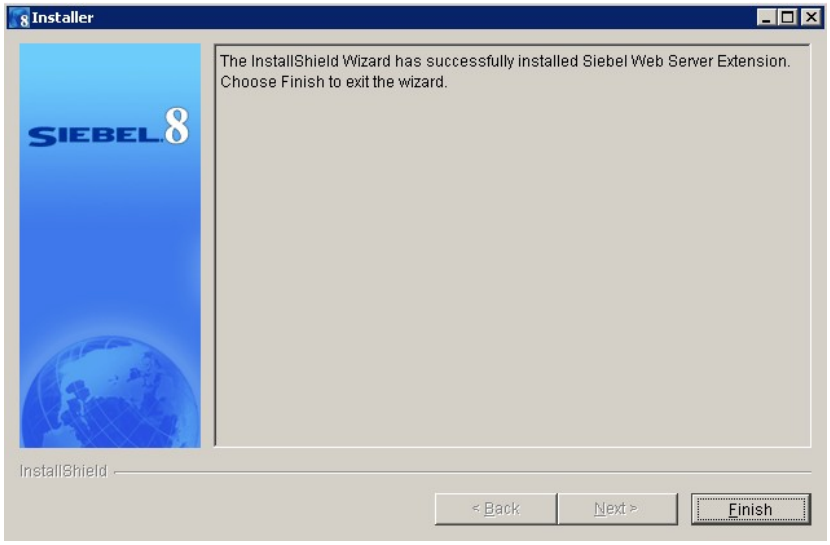
Next >
Cancel


Siebel Configuration Wizard - Siebel Business Applications Configuration Wizard
SIEBEL 8
Final Tasks:
To complete configuration of this server, verify that all of the postinstallation tasks documented in Siebel Bookshelf are completed. This typically includes verifying correct setup of the environment using the Environment Verification Tool, which is provided in the \bin directory of the product installation you wish to verify.
Configuration Wizard Hint: Siebel Bookshelf provides searchable documentation. For EVT command-line help run evt -? or EVT -h.
InstallShield
< Back
Next >
Cancel


Siebel Configuration Wizard - Siebel Business Applications Configuration Wizard
SIEBEL 8
The Siebel Configuration Wizard will execute using the following settings:)
Main Task Selection : Create a New SWSE Logical Profile Within an Enterprise
Load Balancing Configuration : Single Siebel Server
Application Server Host Name : p2_152
Siebel Connection Broker Port : 2321
Siebel Web Server Extension Logical Profile Location : D:\temp\Webserver
EVTWelcome : Configuration Wizard Hint: Siebel Bookshelf provides searchable documentation. For EVT command-line help run evt -? or EVT -h.
InstallShield
< Back
Next >
Cancel


Siebel Configuration Wizard - Siebel Business Applications Configuration Wizard
SIEBEL 8
The Siebel Configuration Wizard will execute using the following settings:)
Main Task Selection : Create a New SWSE Logical Profile Within an Enterprise
Load Balancing Configuration : Single Siebel Server
Application Server Host Name : p2_152
Siebel Connection Broker Port : 2321
Siebel Web Server Extension Logical Profile Location : D:\tempWebserver
Installer
Do you want to execute configuration?
Yes
No
InstallShield
< Back
Next >
Cancel


Siebel Configuration Wizard - Siebel Business Applications Configuration Wizard
SIEBEL 8
The Siebel Configuration Wizard will execute using the following settings:)
Main Task Selection : Create a New SWSE Logical Profile Within an Enterprise
Load Balancing Configuration : Single Siebel Server
Application Server Host Name : p2_152
Siebel Connection Broker Port : 2321
Siebel Web Server Extension Logical Profile Location : D:\tempWebserver
Information
Execution Successfull!
OK
InstallShield
< Back
Next >
Cancel


Installer
SIEBEL 8
The InstallShield Wizard has successfully installed Siebel Web Server Extension.
Choose Finish to exit the wizard.
InstallShield
< Back
Next >
Finish

Appendix G: Resources

These Web sites provide useful references to supplement the information contained in this document:

- IBM Publications Center
  www.elink.ibmlink.ibm.com/public/applications/publications/cgibin/pbi.cgi?CTY=US

- IBM Redbooks®
  ibm.com/redbooks

- IBM System x3850 product information
  ibm.com/systems/x/rack/x3850/index.html

- IBM System Storage DS4700 product information
  ibm.com/systems/storage/disk/ds4000/ds4700/index.html

- Oracle Siebel PSPP benchmark white papers
  www.oracle.com/apps_benchmark/html/white-papers-siebel.html

- IBM System x3850 performance running the Siebel 8.0 for Linux PSPP benchmark
  www.ibm.com/partnerworld/wps/technical/wp/cnt4cXbIXRpHM44MDAD

Appendix H: About the author

Mark Trbojevic is an advisory software engineer with the ISV Business Strategy and Enablement Group based in Beaverton, Oregon. Mark has more than 21 years of experience in the computing industry and has been with IBM for nine years. He has a background in developing and designing bespoke customer relationship management (CRM) software solutions for blue-chip companies. Mark has been supporting Siebel Systems solutions on System p and System x hardware for more than seven years and has been a key contributor during all industry-leading Siebel benchmarks that have been published for the System p and System x platforms by IBM and Siebel during this time.

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The author thanks the following person for his valuable contributions to this paper:

- **Joe Meerscheidt:** I/T specialist, Solutions-Storage Alliance ISVs, Advanced Technical Support (ATS)

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