Expense Management

Installation and Configuration Guide

NEC Corporation

November 2010
NDA-30973, Revision 4

Liability Disclaimer

NEC Corporation reserves the right to change the specifications, functions, or features, at any time, without notice.

NEC Corporation has prepared this document for the exclusive use of its employees and customers. The information contained herein is the property of NEC Corporation and shall not be reproduced without prior written approval from
NEC Corporation

© 2010 NEC Corporation

Windows® and Microsoft® are registered trademarks of Microsoft Corporation.

All other brand or product names are or may be trademarks or registered trademarks of, and are used to identify products or services of, their respective owners.

Contents

Introduction 1-1

Expense Management Overview 1-1

Requirements 2-1

Hardware Requirements 2-1

Software Requirements 2-3

SQL Server Express Database 2-4
SQL – License Guidance 2-4
Scalability & Hardware Support: 2-4
SQL Express Edition and EM Partitioning Mechanism 2-4

Other Requirements 2-5

Installation 3-1

Installing the Application 3-1

Database Server Requirements and Distributed Installation 3-15
Remote Database Connectivity for MA4000 Expense Management 3-15
Distributed Installation 3-15
Remote SQL Configuration 3-16

Basic Configuration 4-1

MA4000 Management System Data Sync 4-1

Rates Import 4-2

Configure Import/Export of VList file - General Tab 4-3
Configure Import/Export of VList File - Component Tab 4-4

Call Data Collection 4-5
Configure Data Collector - General Tab, Data Sources 4-5
Configure Data Collector - Collector Tab 4-6
Configure Data Collector - Parser Tab 4-7

NEC CAS and Expense Management Integration 5-1

Role of NEC Centralized Authentication Service (NEC CAS) 5-1

Adding a Login Account to Expense Management 5-2

Logging in to NEC CAS 5-7

Creating a CAS User 5-7

Changing a Login Password 5-7

Renaming a Login Account in Expense Management 5-8

Deleting a Login Account from Expense Management 5-9

Data Collector Definitions Appendix A-1

DC File Collector Parameter . . . . . Appendix A-1

DC Comm No Buffer Parameter . . . . . Appendix A-3

DC Comm Parameter . . . . . Appendix A-4

DC Comm Dialed Parameter . . . . . Appendix A-5

DC TCP Parameter . . . . . Appendix A-6

DC iS3000 Buffered Parameter . . . . . Appendix A-7

DC iS3000 Streaming Parameter . . . . . Appendix A-8

Figures

Figure	Title	Page
3-1	Choose Setup Language	3-1
3-2	NEC MA4000 Expense Management - InstallShield Wizard - Welcome	3-2
3-3	NEC MA4000 Expense Management - InstallShield Wizard - License Agreement	3-3
3-4	NEC MA4000 Expense Management - InstallShield Wizard - Customer Information	3-4
3-5	NEC MA4000 Expense Management - InstallShield Wizard - Choose Destination Location	3-5
3-6	NEC MA4000 Expense Management - InstallShield Wizard - NEC MA4000 Settings	3-6
3-7	NEC MA4000 Expense Management - InstallShield Wizard - Application Settings	3-8
3-8	NEC MA4000 Expense Management - InstallShield Wizard - Database Settings	3-9
3-9	NEC MA4000 Expense Management - InstallShield Wizard - Advanced Settings	3-10
3-10	NEC MA4000 Expense Management - InstallShield Wizard - NEC LIcense Server	3-11
3-11	NEC MA4000 Expense Management - InstallShield Wizard - Start Copying Files	3-12
3-12	Installation Wizard - NEC MA4000 Expense Management SMTP Settings	3-13
3-13	MA4000 Expense Management Desktop Shortcut	3-14
3-14	InstallShield Wizard - Choose Setup Language	3-16
3-15	InstallShield Wizard - Preparing to Install	3-17
3-16	InstallShield Wizard - Welcome - MAS Database Component	3-18
3-17	InstallShield Wizard - Customer Information	3-19
3-18	InstallShield Wizard - Choose Destination Location	3-20
3-19	InstallShield Wizard - SQL Server Instance	3-21
3-20	InstallShield Wizard - Start Copying Files	3-22
3-21	InstallShield Wizard - Setup Status	3-23
4-1	Configure VList Import - General	4-3
4-2	Configure VList Import - Component	4-4
4-3	Configure Data Collector - Data Sources	4-5
4-4	Collector Tab	4-6
4-5	Parser Tab	4-7
5-1	My Portal - Personnel - Create Person	5-2

5-2 Organization Units Selection 5-3
5-3 Personnel Details Editor - Details Tab 5-4
5-4 Personnel Details Editor - User Tab 5-5
5-5 Roles List Page 5-6
5-6 Personnel Details Editor - Edit - User Tab 5-8
5-7 Personnel Details Editor - User Tab - Delete Login Account 5-9
Appendix A-1 Collector - Type Parameters - DC File . . . . . Appendix A-1
Appendix A-2 Collector - Type Parameters - DC Comm No Buffer . . . . . Appendix A-3
Appendix A-3 Collector - Type Parameters - DC Comm . . . . . Appendix A-4
Appendix A-4 Collector - Type Parameters - DC Comm Dialed . . . . . Appendix A-5
Appendix A-5 Collector - Type Parameters - DC TCP . . . . . Appendix A-6
Appendix A-6 Collector - Type Parameters - DC iS300o Buffered . . . . . Appendix A-7
Appendix A-7 Collector - Type Parameters - DC iS3000 Streaming . . . . . Appendix A-8

Tables

Table	Title	Page
2-1	Minimum Hardware Requirements	2-1
2-2	Number of Extension Versus Hardware Requirements	2-2
2-3	Software Requirements	2-3
2-4	Additional Mandatory Requirements	2-5
2-5	Optional	2-5
2-6	Other Requirements	2-5
3-1	Agile.config File Keys	3-7
3-2	Minimum Hardware Requirements	3-15
3-3	Minimum Software Requirements	3-16
4-1	CDR Format	4-7
Appendix A-1	DC File Parameter Field Descriptions	Appendix A-2
Appendix A-2	DC Comm No Buffer Field Descriptions	Appendix A-3
Appendix A-3	DC Comm Field Descriptions	Appendix A-4
Appendix A-4	DC Comm Dialed Field Descriptions	Appendix A-5
Appendix A-5	DC TCP Field Descriptions	Appendix A-6
Appendix A-6	DC iS3000 Buffered Field Descriptions	Appendix A-7
Appendix A-7	DC iS300 Buffered Streaming Field Descriptions	Appendix A-8

1

Introduction

Chapter Topic
- *Expense Management Overview*

The *Expense Management Installation and Configuration Guide* defines the installation requirements and step-by-step instructions for the installation and set up of Expense Management.

Expense Management Overview

Expense Management provides an integrated, scalable IT management solution for businesses of almost every size and market segment. Organizations can become more productive using its tools to effectively manage IT operations and services while controlling IT-related expenses. Features include:

- **Integration with Back Office Accounting Systems** - Expense Management seamlessly integrates with back office accounting systems to provide detailed reports of voice and data use. The information provided can be used in compliance reports, to properly attribute time to specific customers, and for other budgeting purposes. Invoice management integrates with accounts payable to provide payment commands and receive paid transaction numbers.
- **Improving Customer Service** - Provides the tools to manage IT services such as usage, routing and scheduling, Expense Management enables enterprises to improve customer service. Customer registration and organization tools are offered, and registered customers can be assigned relevant services and resources. Customers are served with speed and accuracy, and customers' satisfaction with those services improves.
- **Monitoring Performance and Controls Expense** - Invoice management provides an ultimately accurate inventory list, facilitates term simulations and best-package allocation, identifies policy abuse and erroneous charges, and enables accurate bill-back of organizational units and convergent invoice issuance to employees. The policy-planning module implements and monitors real time performance and system usage based on policies and criteria defined by the organization.

- **Working for Organizations of Any Size** - Powerful, scalable and totally secure, Expense Management can handle jobs of nearly any size; it works as well for a global corporation's multiple high-traffic, heavy-volume sites as it does for a small organization with minimal traffic. It also provides multi-vendor PBX support and additional inputs including online mobile call detail records.
- **Supporting Business Growth** - The system's modular architecture supports the ongoing expansion of system functionality. Additional modules may be added based on customer request. The application is designed around a multi-tier processes, queues and services architecture, which offers the benefit of distributing loads across multiple servers and provides growth opportunities and flexibility.

2

Requirements

Chapter Topics

- *Hardware Requirements*
- *Software Requirements*
- *SQL Server Express Database*
- *Other Requirements*

Hardware Requirements

Table 2-1 lists the minimum hardware requirements needed to achieve reasonable system performance for a small system up to 200 extensions.

Table 2-1 *Minimum Hardware Requirements*

	Minimum Requirement	
Hardware	**Enterprise**	**Light**
CPU	Dual Processor Pentium 4 - (2.8 GHz)	Pentium 4 - (2.8 GHz) (see **Note 1**)
RAM	4 GB	2 GB
Installation Hard Disk Space	160 GB	40 GB (see **Note 2**)
Disk Space (C:)	3 GB	3GB
56K Modem for Remote Support	Depending on Remote Access	Depending on Remote Access
Drive	DVD	DVD
Serial Port	Optional	Optional
Keyboard, Mouse, and Monitor	Required	Required
USB Port	Optional	Optional
Network Card	10 Mbps - 100 Mbps (100 Mbps recommended)	10 Mbps - 100 Mbps (100 Mbps recommended)

Note 1: *Hyperthreading (HT) disabled in bios if applicable to the CPU.*

Note 2: *Hard Drive: 20 GB free space on installation drive. This space is both for the application and the SQL installation.*

Table 2-2 *Number of Extension Versus Hardware Requirements*

Number of Extension Versus Hardware Requirements							
Hardware Requirements	**200**	**500**	**1000**	**3000**	**5000**	**10000**	**>10000**
RAM (GB)	2	2	4	4	4	8	Project
CPU (Ghz)	2.8	3.0	3.2	3.2	3.2	3.4	Project
Disk space (GByte)	60	60	80	80	120	120	Project
Disk for Data only	Recomm.	Required	Required	Required	Required	Required	Required
Raid Disk	Recomm.	Recomm.	Required	Required	Required	Required	Required
Distributed				Recomm.	Recomm.	Required	Required

Software Requirements

Table 2-3 lists the software requirements.

Table 2-3 *Software Requirements*

Software	Requirement
Light Operating System	Windows Server 2003 32bit SP2 Windows Server 2003 64bit SP2 Windows Server 2008 32bit SP2 Windows Server 2008 64bit SP2 Windows XP Pro SP2 Windows 7 32bit Windows 7 64bit VISTA 32 bit (See **Note 1**)
Enterprise Operating System	Windows Server 2003 32bit SP2 Windows Server 2003 64bit SP2 Windows Server 2008 32bit SP2 Windows Server 2008 64bit SP2 VISTA 32 bit
Microsoft Message Queuing (MSMQ)	
Internet Information Services (IIS)	Windows XP - Ver. 5.1 or higher Windows Server 2003 or Vista - Ver. 6.0
Internet Explorer 8	6.0 SP2 through 7.0
Adobe Acrobat Reader	7 or above (see **Note 2**)
NEC CAS	2.1.x through 3.0.2
MA4000 License Manager	1.0 through 2.0
Light Database	MSDE SQL 2000 SP4, Microsoft SQL Server Express 2005 SP2, Microsoft SQL Server Express SQL 2008. (See **Note 3**)
Enterprise Database	Microsoft SQL Server 2000 Service Pack 4 (all editions), Microsoft SQL 2005 Service Pack 2 (all editions), SQL 2008 (all editions)

Note 1: *On Vista,* ***User Account Control*** *should be deactivated.*

Note 2: *Adobe Reader must be installed in order to print reports from preview.*

Note 3: *SQL Server Express 2005 can be installed from the Expense Management installation.*

SQL Server Express Database

SQL – License Guidance

Installations which have up to five thousand devices, or up to 1 million calls per month, can use the SQL Server Express which is freely-downloadable. For larger installations, it is recommended you use Microsoft SQL Server which requires a license fee for each machine on which it runs.

Scalability & Hardware Support:

Microsoft Datasheet - SQL Server Express Edition:

- Supports up to 1 CPU, but can be installed on any server
- 1 GB Addressable RAM
- 4 GB Maximum Database Size

When using SQL Server Express Edition, Expense Management can function on any size of system. The Express Edition uses only 1GB of RAM and 1 CPU, which does affect the performance of Expense Management to some extent. In cases where the system is very high end and where the volume of calls per day is higher than 1 million calls per month, it is not recommended to use a SQL Server Express database.

Any other process in Expense Management uses the full number of CPUs of the system.

SQL Express Edition and EM Partitioning Mechanism

Database Partitioning is a process that splits the calls information database to smaller databases. This operation increases performance and also keeps the database size below some limitations of the SQL Server Express edition.

The **Light** package of Expense Management is configured by default to perform the Database Partitioning and does not require any additional configuration by the installer or the end user. The application will perform the Partitioning once a day and will keep a separate database for each calendar month.

The **Enterprise** package, which is usually installed in an SQL Enterprise environment, does not require the partitioning by default. To enable the partitioning on the Enterprise package we recommend contacting the Technical Support staff. They are more familiar with the different options and settings of the Partitioning process.

Table 2-4 *Additional Mandatory Requirements*

Component	Compatible Versions
MA4000 License Manager	1.0 through 2.0
NEC CAS	NEC CAS 2.1.x through NEC CAS 3.0.2

Table 2-5 *Optional*

Component	Compatible Versions
MA4000 Management System	5.0.0 through 8.x.x

Other Requirements

Table 2-6 lists additional requirements.

Table 2-6 *Other Requirements*

Hardware/Software/Other	Note
Printer	A printer must be installed on the computer even if the computer does not have a printer.
Print Spooler	Look for a service named **Print Spooler** in **Start/Control Panel/ Administrative Tools/Services**. Verify that the **Status** is **Started**. If it is not, click **Start the Service** in the middle of the screen under **Services (Local)**. Also, assure that the **Startup Type** is set to **Automatic**.
Remote Access	Internet, other.
VList	A required file to allow costs to be applied to call records.

3

Installation

Chapter Topics
- *Installing the Application*
- *Database Server Requirements and Distributed Installation*

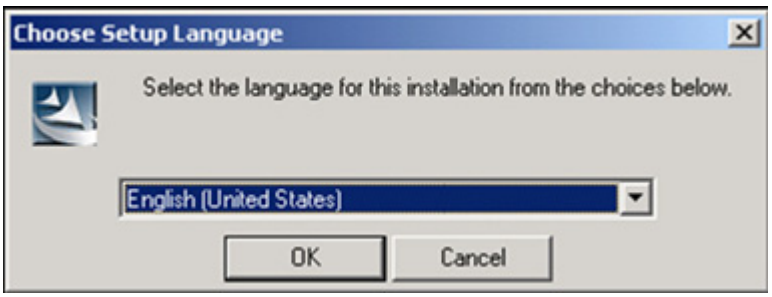
Installing the Application

IMPORTANT

In some instances, an installation may require the database server to be installed on a separate computer from the MA4000 Expense Management server. In this case, before installing MA4000 Expense Management, first follow the steps in the Database Server Requirements and Distributed Installation section of this chapter

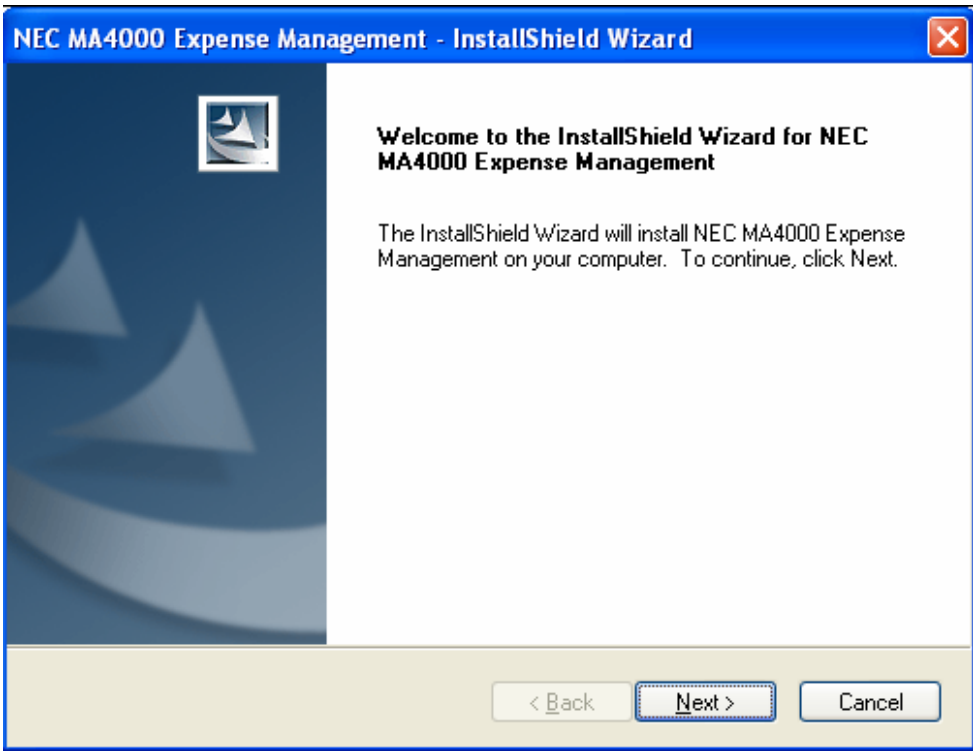
Step 1 Insert the disk into the computer's DVD drive. A Readme file with a link to the Expense Management installation will display. Read the content of the Readme file. After all requirements have been met, click the link to begin installation. Figure 3-1 displays.

Figure 3-1 *Choose Setup Language*



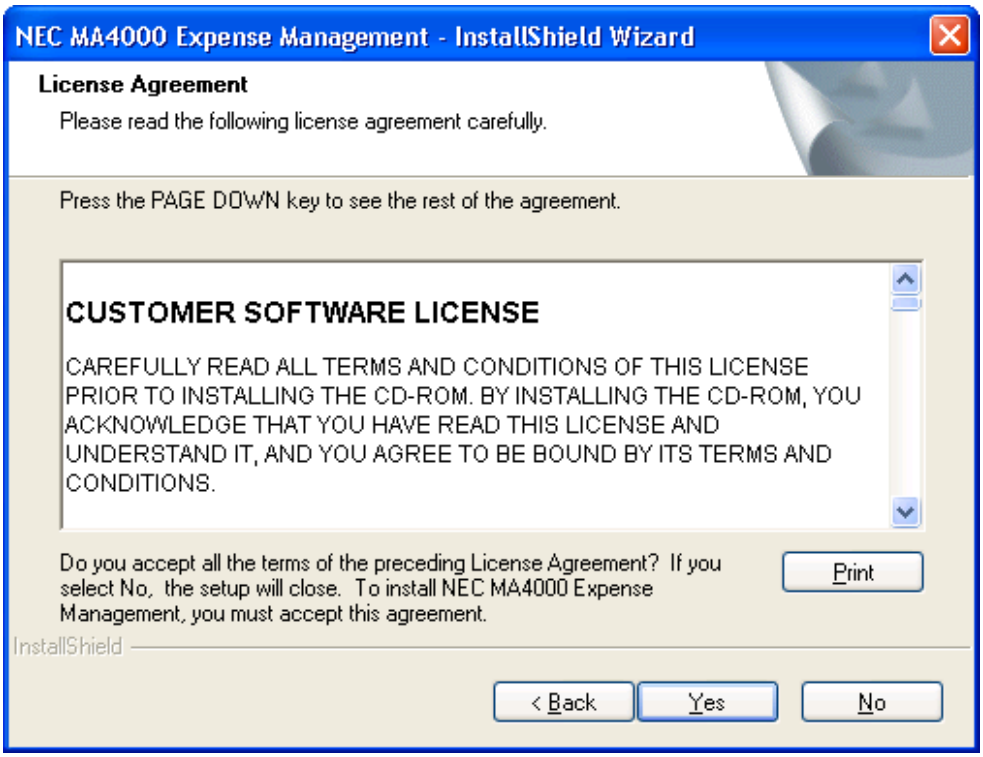
Step 2 Select the installation language. Click **OK**. Figure 3-2 displays.

Figure 3-2 *NEC MA4000 Expense Management - InstallShield Wizard - Welcome*



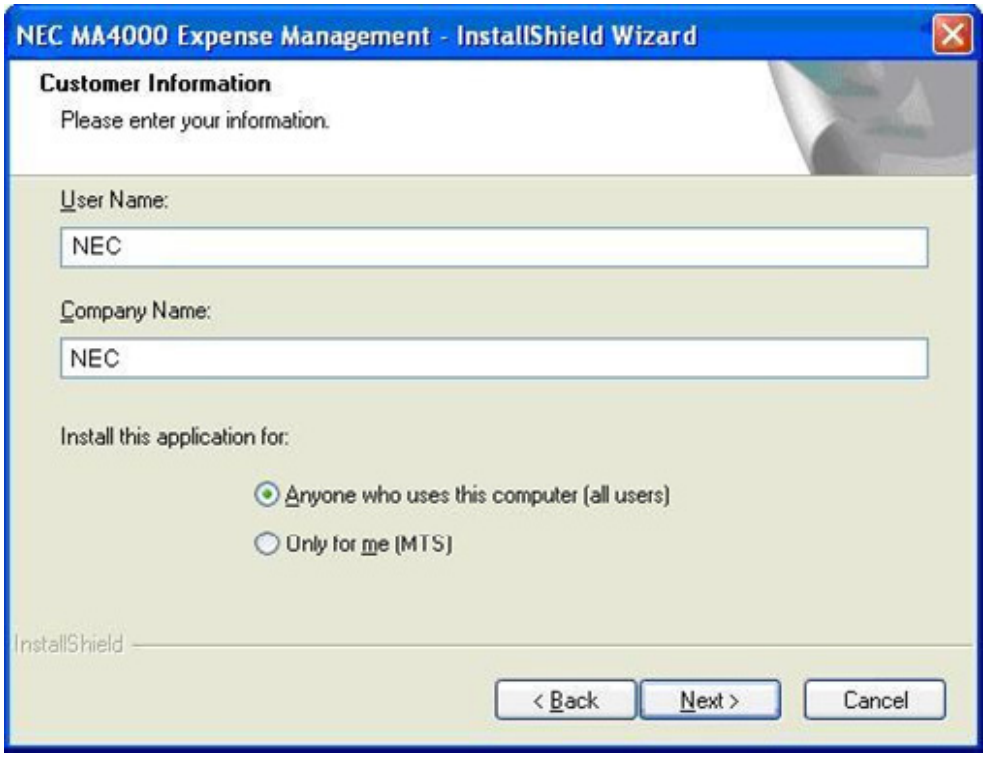
Step 3 Click **Next**. Figure 3-3 displays.

Figure 3-3 *NEC MA4000 Expense Management - InstallShield Wizard - License Agreement*



Step 4 Read the License Agreement and then click the **Yes** button. Figure 3-4 displays.

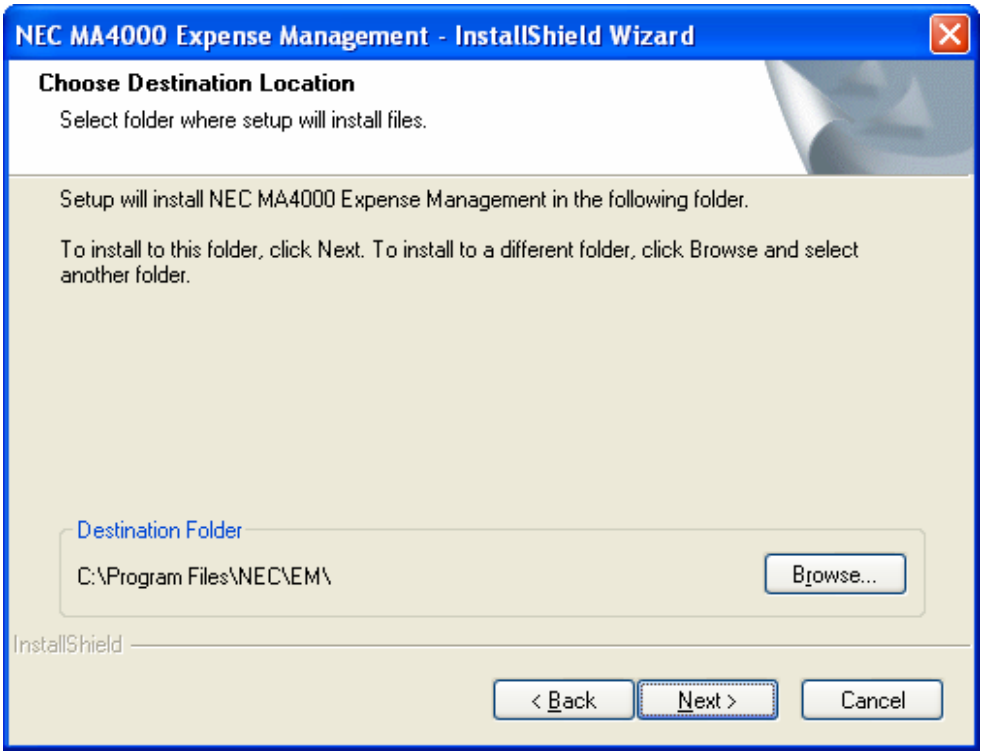
Figure 3-4 *NEC MA4000 Expense Management - InstallShield Wizard - Customer Information*



Step 5 Enter the appropriate information in the **User Name** and **Company Name** fields. Then select either the **Anyone who uses this computer (all users)** or the **Only for me (MTS)** option.

Step 6 Click **Next**. Figure 3-5 displays.

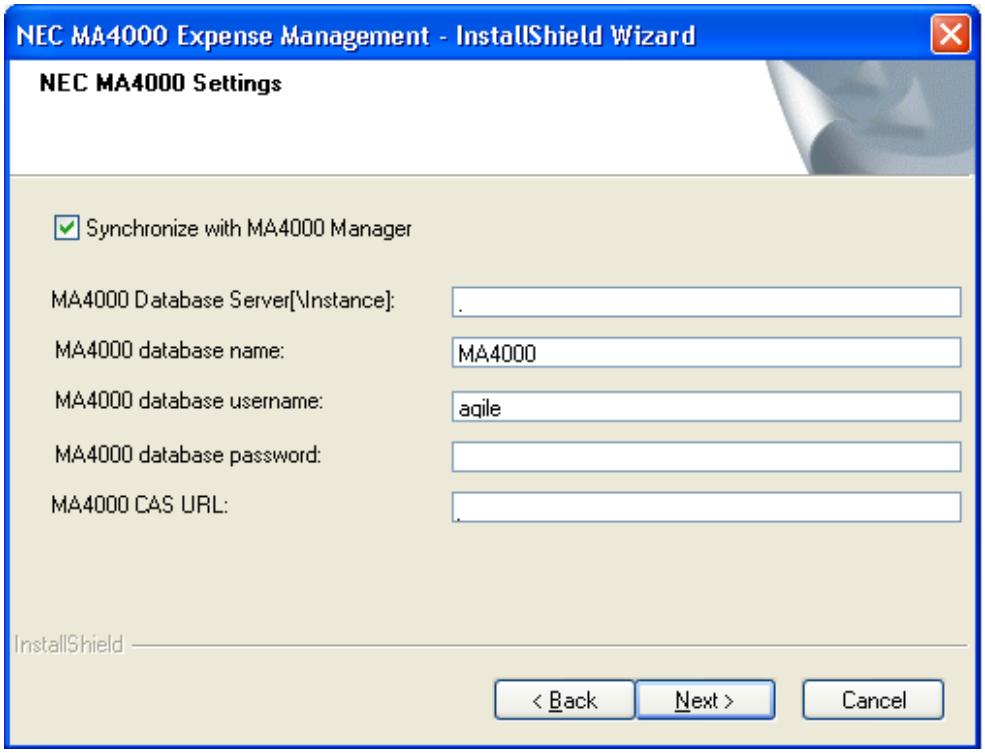
Figure 3-5 *NEC MA4000 Expense Management - InstallShield Wizard - Choose Destination Location*



Step 7 Click **Browse** in the **Destination Folders** section and select the preferred destination folder.

Step 8 Click **Next**. Figure 3-6 displays.

Figure 3-6 *NEC MA4000 Expense Management - InstallShield Wizard - NEC MA4000 Settings*



Step 9 To synchronize with MA4000 Management System, select the **Synchronize with MA4000 Manager** check box.

—When this check box is selected, all of the fields in Figure 3-6 can be edited.

Step 10 To set data fields when the **Synchronize with MA4000 Manager** check box is selected, do the following:

—All required information for these fields can be found in the **Agile.config** file located on the MA4000 Management System server in **<drive>:\Program Files\NEC\Agile\Manager\PrivateBin**. Do not alter this file in any way. MA4000 may not function if the **Agile.config** file is altered. A backup copy of **Agile.config** file should be created and placed in **C:**, then open the backup copy of the file and leave the original file alone.

—The **Agile.config** file is in XML format. To locate the needed information within the file, search for the 'key' listed in Table 3-1. For example, search for key=**DB:UnivergeAgile**. In the **Agile.config** file, there are two keys that contain the required information on this page. The keys are listed in Table 3-1 along with the corresponding entry on this dialog box. Once the key is located, note the value. The **Value Example** column shows what to look for in the 'key=' row. See Table 3-1 notes.

—-If the **Synchronize with MA4000 Manager** check box is not set, then only the **MA4000 CAS URL** field can be edited. In either case though, the **MA4000 CAS URL** must be entered.

Table 3-1 *Agile.config File Keys*

GUI Text	Key from Agile.config	Value Example	Example as seen on install GUI
MA4000 database server [\instance]	**DB:UnivergeAgile**	data source= '<computer name>\[<database instance>]	'FastCat -or, if db instance-FastCat\EMDB
MA4000 database name	**DB:UnivergeAgile**	catalog= '<MA4000 Database>	MA4000
MA4000 database username	**DB:UnivergeAgile**	user id= '<username>' (typically agile)	agile
MA4000 database password	**DB:UnivergeAgile**	password='<password>'	Wb2.v?8Ut6vtt8?_J2F74-S45xW_oem,)UVbs9
MA4000 CAS URL	**AuthUrl**	value= "http://<computername>/NECCAS/	http://FastCat/NECCAS/

Note 1: *The text within the < > symbols should be replaced by the text found in the* ***Agile.config*** *file.*

Note 2: *The single or double quotes are not required when entering the data in the installation.*

Note 3: *Values enclosed in brackets [] are optional.*

NOTE

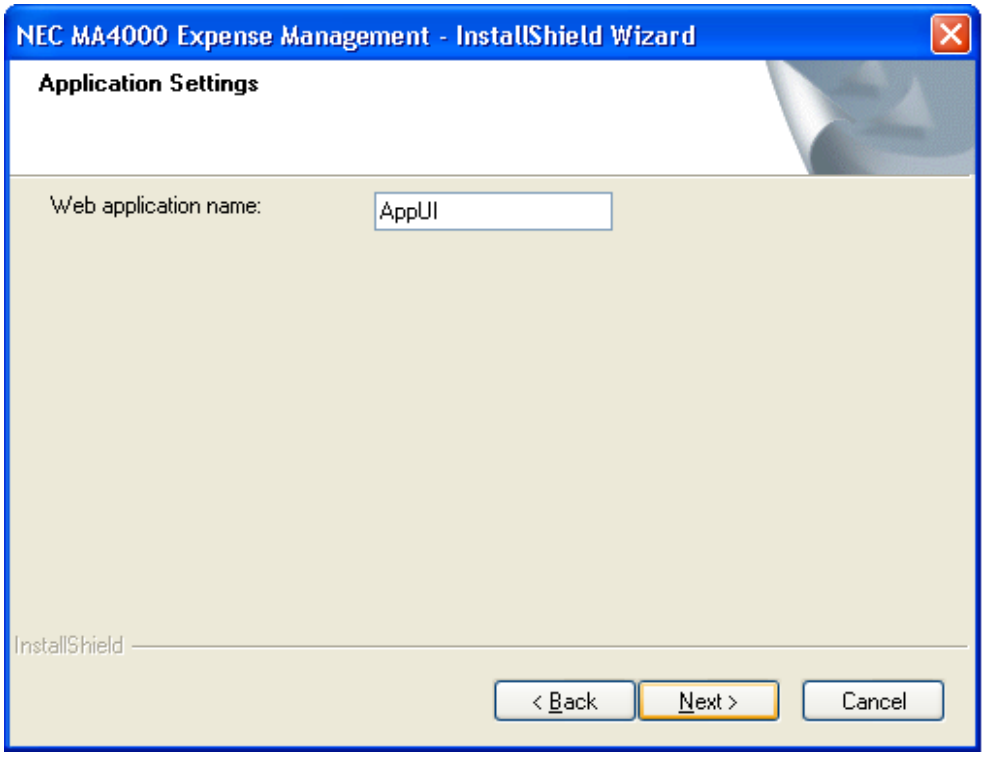
A synchronization with MA4000 Manager needs to be performed after installation. These steps are provided later in this guide.

NOTE

The ***MA4000 CAS URL*** *field is mandatory regardless if the* ***Synchronize with MA4000 Manager*** *check box is set and regardless if MA4000 is installed.*

Step 11 Click **Next**. Figure 3-7 displays.

Figure 3-7 *NEC MA4000 Expense Management - InstallShield Wizard - Application Settings*

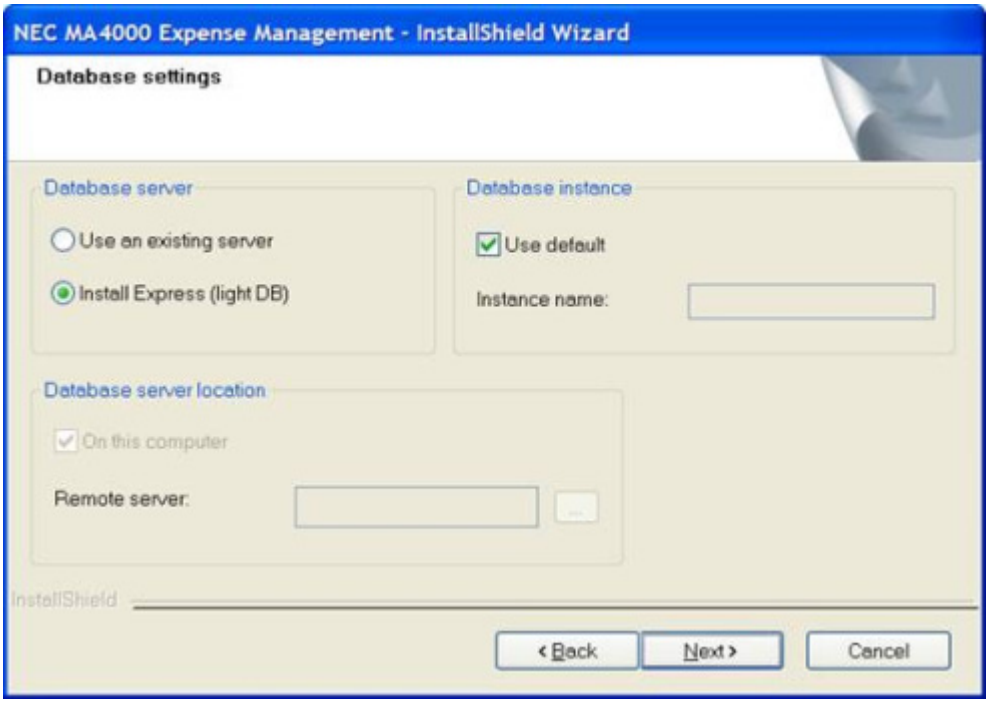


Step 12 In the **Web application** name field, type the IIS virtual directory name that is to be used for the Expense Management application.

- To view IIS virtual directories first navigate to **Control Panel** → **Administrative Tools** → **Internet Information Services**.
- Then, navigate to **Internet Information Services** → **Local Computer** → **Web Sites** → **Default Web Site**. In this directory, look for the virtual directory name that was set during installation.

Step 13 Click **Next**. Figure 3-8 displays.

Figure 3-8 *NEC MA4000 Expense Management - InstallShield Wizard - Database Settings*



Step 14 On this GUI, define the Expense Management database settings.

—**Database Server** section:

Select the **Use an existing server** option button if a database compatible with Expense Management is already installed. Refer to Table 2-3, “Software Requirements,” on page 2-3 for database version and service pack information.

If the **Install Express (light DB)** option is selected, ensure that the Expense Management system follows the guidelines set forth in the “SQL Server Express Database” on page 2-4.

—**Database Instance** section:

When installing the **Light** version the **Install Express (light DB)** option button will be selected by default. If the **Enterprise** version is being installed, the **Use an existing server** option button is selected by default. If a database instance was used, such as when SQL Server 2005 Express is installed, then clear the **Use default** check box then select, or enter, the instance name.

NOTE

*If this is the **Light** installation, there is no drop-down and the Instance name must be typed in. If this is the **Enterprise** version, then the instance name can be selected from the **Instance name** drop-down.*

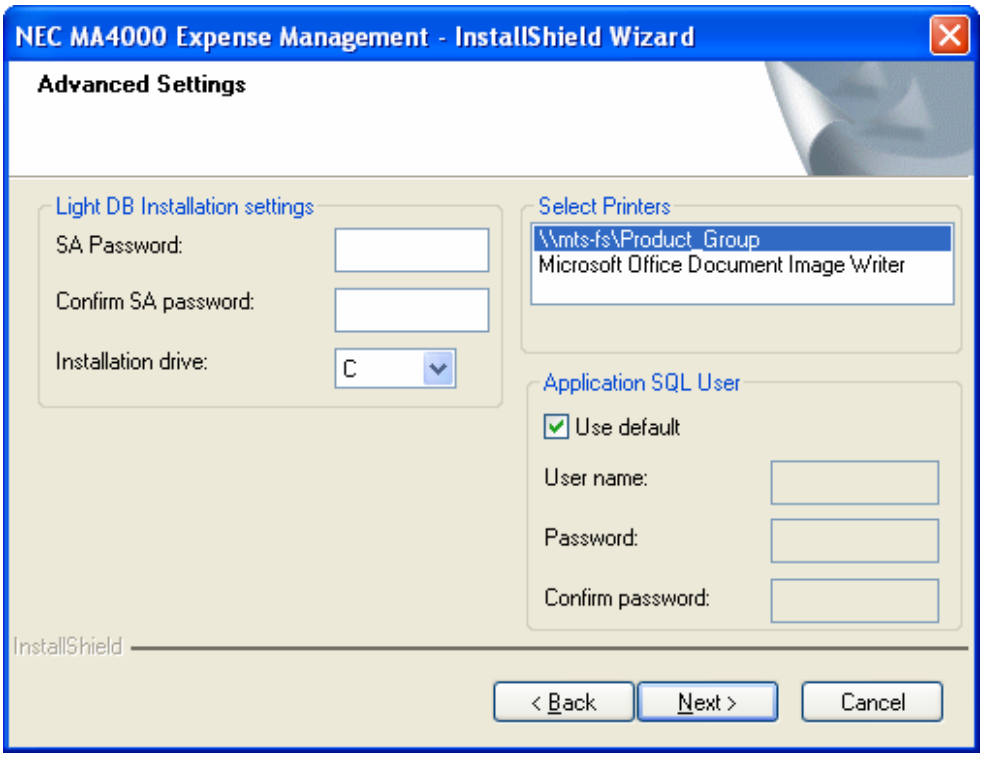
—**Database server location** section:

If the database is on the local machine, set the **On this computer** checkbox.

In the case of a distributed installation (see NEC Special Settings), clear the **On this computer** checkbox.

The **Remote Server:** field will become enabled. Type in the name of the Remote SQL Server or click the ellipsis and select the remote server name. Click **Next**. Figure 3-9 displays.

Figure 3-9 *NEC MA4000 Expense Management - InstallShield Wizard - Advanced Settings*



Step 15 In the Advanced Settings GUI the SQL Express installation settings, Printers, and Application SQL User' settings are defined as follows:

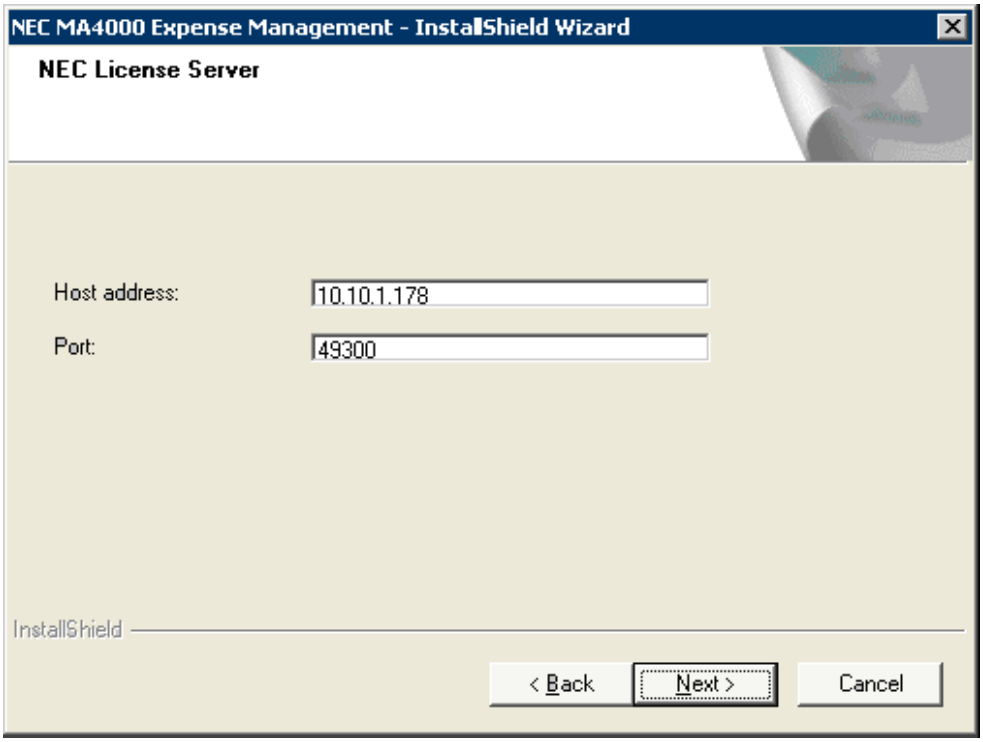
—If, on the Database settings GUI, the **Install Express (light DB)** radio button is selected then the contents of the frame named **Light DB Installation** settings can be set. If this is the case then enter a password of the SA user for the Expense Management database to be installed. If the Use an Existing Server radio button is selected then this frame is not editable and grayed.

—The application can automatically send reports to a printer. Select one or multiple printers in the **Select Printers** section. As the application may be available for many users, it is recommended to select a printer that is assigned to the administrator (installer) that will be available for the application. Note that remote users cannot change the printer selection from their station.

—The option to define a user name and password for the SQL user on the Expense Management SQL server is shown in the **Application SQL User** section. This user is an internal user that is used to access data from the SQL server for reporting purposes. It is recommended to choose the default settings but in some cases the system administrator of the organization will want to choose an organization standard user name and password.

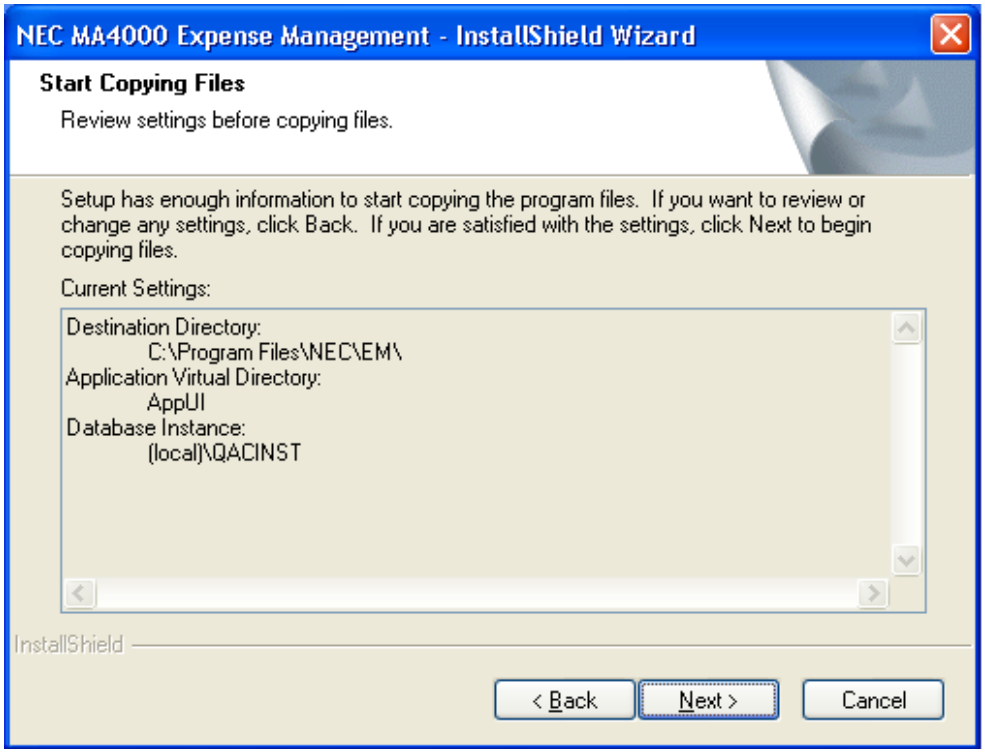
—Click **Next** after completing this section. Figure 3-10 displays.

Figure 3-10 *NEC MA4000 Expense Management - InstallShield Wizard - NEC LIcense Server*



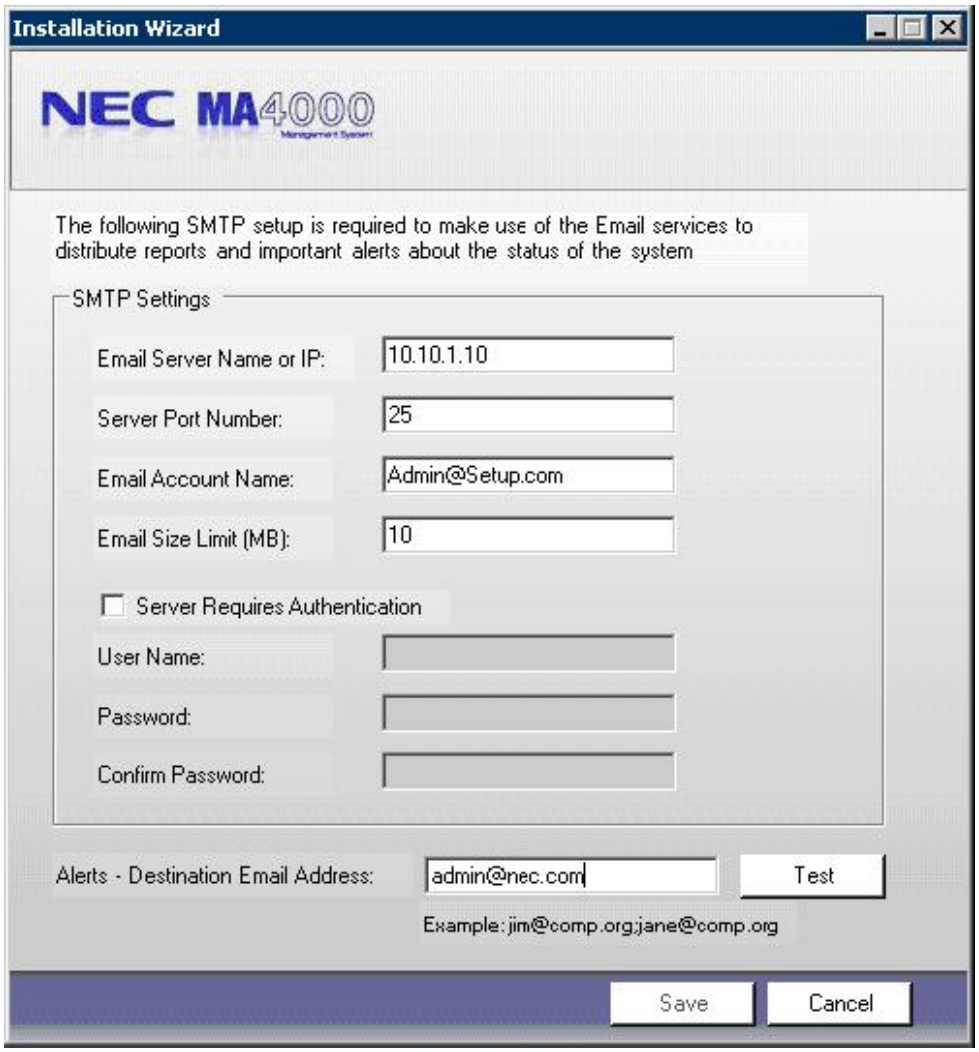
Step 16 Define the NEC MA4000 License Manager information in the GUI shown below. Click **Next** when complete. Figure 3-11 displays.

Figure 3-11 *NEC MA4000 Expense Management - InstallShield Wizard - Start Copying Files*



Step 17 Review and assure that the settings for the Destination Directory, Application Virtual Directory, and Database Instance are correct as shown in Figure 3-11. Click the **Next** button. Figure 3-12 displays.

Figure 3-12 *Installation Wizard - NEC MA4000 Expense Management SMTP Settings*



Step 18 Following application installation, the E-Mail Server (SMTP) (Figure 3-12) needs to be configured to allow the transmission of alerts using the server's e-mail service. To set the E-Mail Server enter the following information:

—**Email Server Name or IP** - Enter the IP address of the e-mail server.

—**Server Port Number** - Enter the port number of the server.

—**Email Account Name** - Enter the account name for the e-mail.

—**Email Size Limit (MB)** - Enter the e-mail server size limit.

—**Alerts - Destination Email Address** - Enter the e-mail address where the alerts will be sent to. Use the **Test** button to verify the settings entered.

—Click the **Save** button when complete.

Step 19 Verify that the installation has been successful by logging in to Expense Management.

NOTE

During installation a shortcut to MA4000 Expense Management is created on the Desktop of the server. See Figure 3-13.

Figure 3-13 *MA4000 Expense Management Desktop Shortcut*

Database Server Requirements and Distributed Installation

Remote Database Connectivity for MA4000 Expense Management

Some installations may require the database server to be installed on a separate computer from the MA4000 Expense Management server. The following procedures must be performed when a server needs to remotely access a MA4000 Expense Management database. This is necessary when MA4000 Expense Management is installed on a server that does not contain it's database.

A list of database server requirements as well as an installation guide for this setup are shown below.

Distributed Installation

Table 3-2 *Minimum Hardware Requirements*

Computer A (MA4000 Expense Management Server)	Computer B (SQL Server)
CPU: Pentium 4 (or equivalent) 2.8 GHz	CPU: Pentium 4 (or equivalent) 2.8 GHz
RAM: 1 GB	RAM: 1 GB
Hard Drive: 60 GB free space on installation drive. The disk should be NTFS partition enabled in order to support SQL data files larger than 4 GB.	Hard Drive: 60 GB free space on installation drive. The disk should be NTFS partition enabled in order to support SQL data files larger than 4 GB.
Network Card: 10 Mbps - 100 Mbps (preferred)	Network Card: 10 Mbps - 100 Mbps (preferred)
Serial Port	Serial Port
56K Modem for remote support	56K Modem for remote support
Keyboard; Mouse; Monitor	Keyboard; Mouse; Monitor
CD Drive	CD Drive
USB Port (optional)	USB Port (optional)
Note: *Space needed on the server:* *For Backup: 2 times the Size of the Activity SQL* *For Archive - The same size as the Database*	

Table 3-3 *Minimum Software Requirements*

Computer A (MA4000 Expense Management Server)	Computer B (SQL Server)
Operating System: Windows Server 2003 32bit SP2 Windows Server 2003 64bit SP2 Windows Server 2008 32bit SP2 Windows Server 2008 64bit SP2 Windows 7 32bit Windows 7 64bit	Operating System: Windows Server 2003 32bit SP2 Windows Server 2003 64bit SP2 Windows Server 2008 32bit SP2 Windows Server 2008 64bit SP2
MSMQ (Microsoft Message Queuing) Installed	Microsoft SQL 2000 with latest service pack. Microsoft SQL 2008
IIS (Internet Information Services). - Windows XP, 5.1 or higher - Windows Server 2003, 6.0	Microsoft SQL 2005 with SP 1

Remote SQL Configuration

Install the SQL software on the SQL Server (Computer B) according to the installation instructions.

The **RemoteSQL.exe** must be installed on the SQL Server before the MA4000 Expense Management is installed on the MA4000 Expense Management Server.

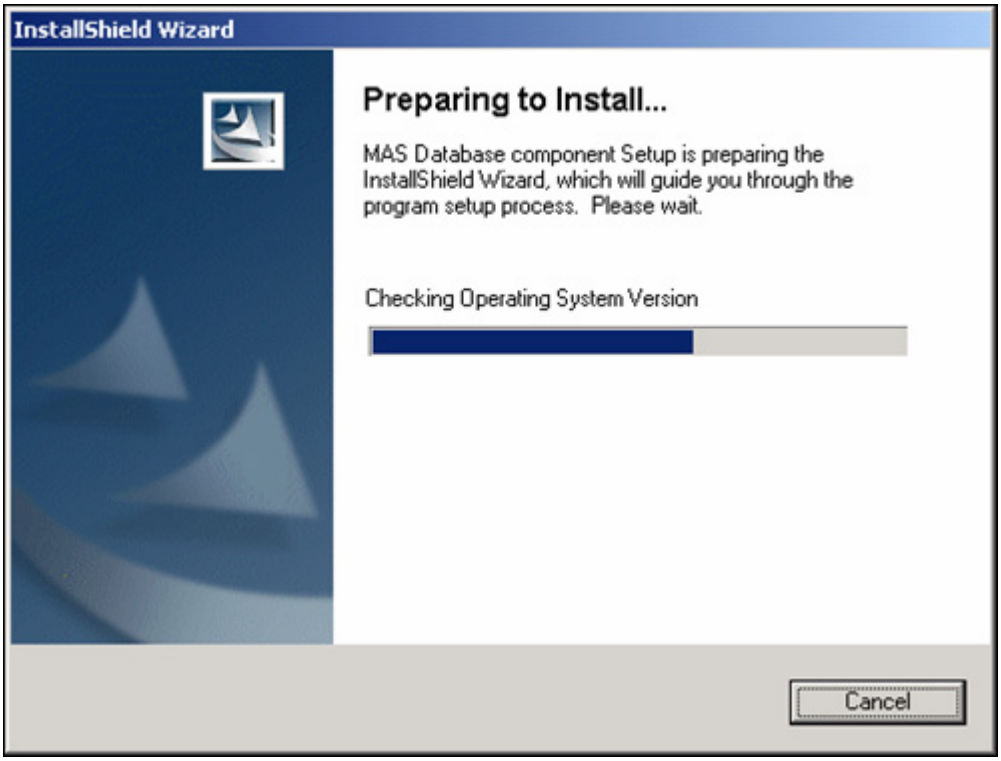
Following are step by step instructions for the installation of the distributed installation component:

Step 1 Copy Distributed Folder from the installation media to the SQL server and run **Setup.exe**. Figure 3-14 displays.

Figure 3-14 *InstallShield Wizard - Choose Setup Language*

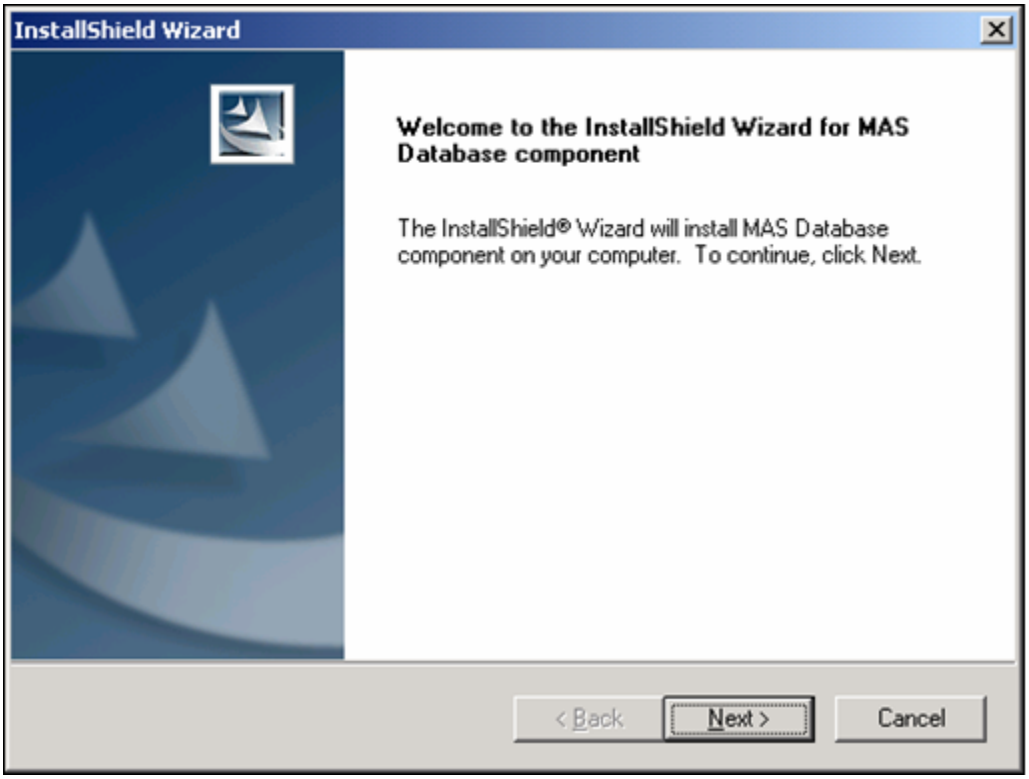
Step 2 Open the combo box to select the installation language. Click **OK**. Figure 3-15 displays.

Figure 3-15 *InstallShield Wizard - Preparing to Install*



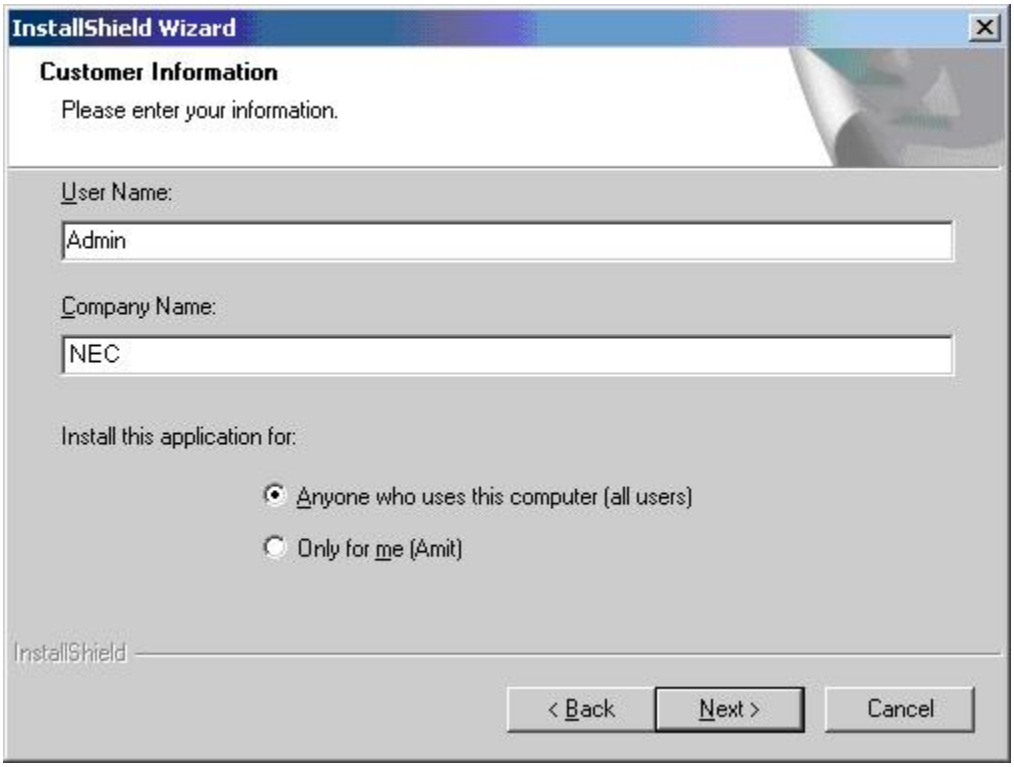
Step 3 Wait while the InstallShield Wizard is being prepared. Figure 3-16 displays.

Figure 3-16 *InstallShield Wizard - Welcome - MAS Database Component*



Step 4 Click **Next**. Figure 3-17 displays.

Figure 3-17 *InstallShield Wizard - Customer Information*

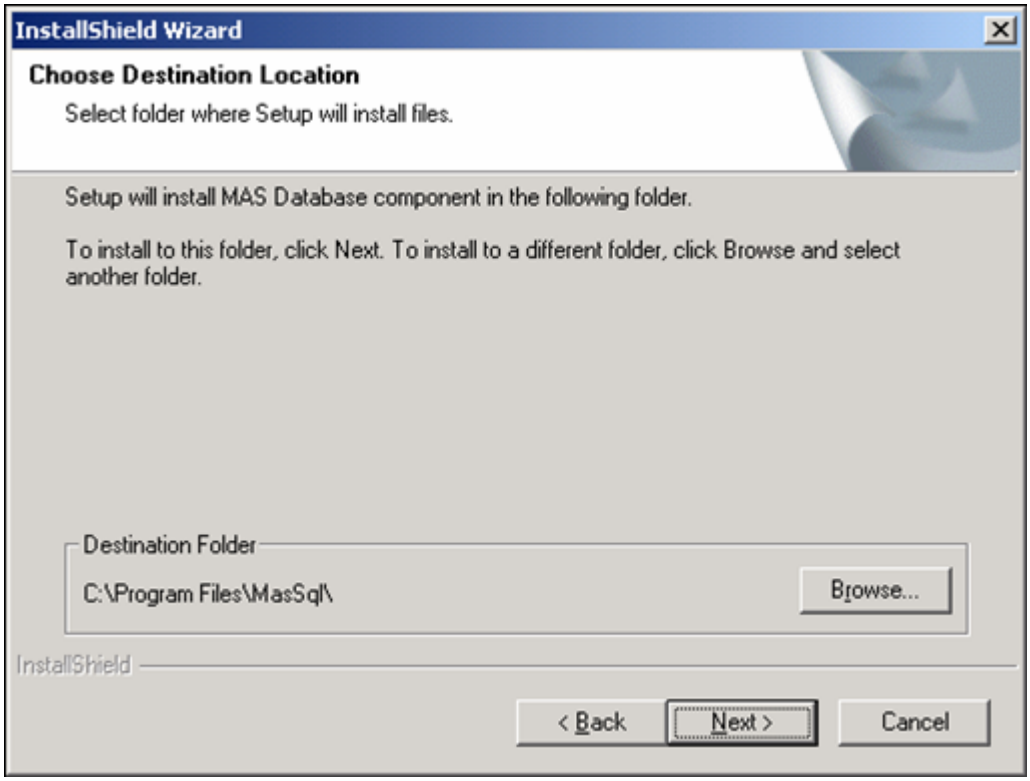


Step 5 Enter the appropriate information in the **User Name** and **Company Name** field.

—The **Anyone who uses this computer (all users)** option button is selected by default. It is possible to change it by selecting the **Only for me** options button.

Step 6 Click **Next**. Figure 3-18 displays.

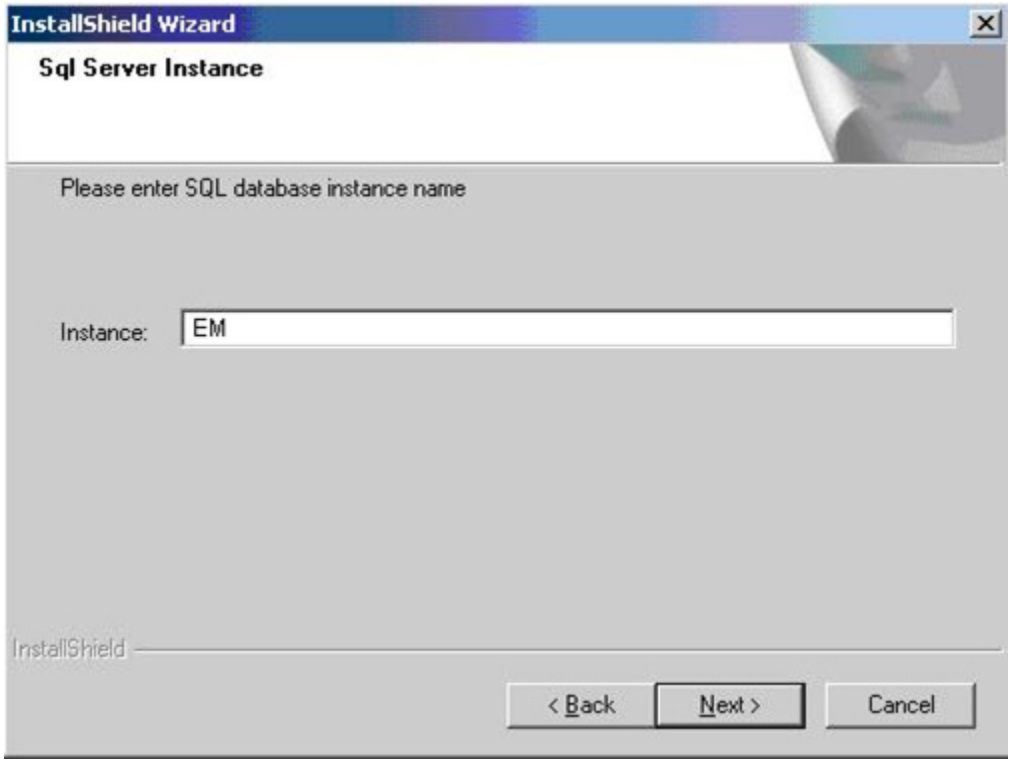
Figure 3-18 *InstallShield Wizard - Choose Destination Location*



Step 7 The Wizard displays the destination folder. Click **Browse** to choose a different folder.

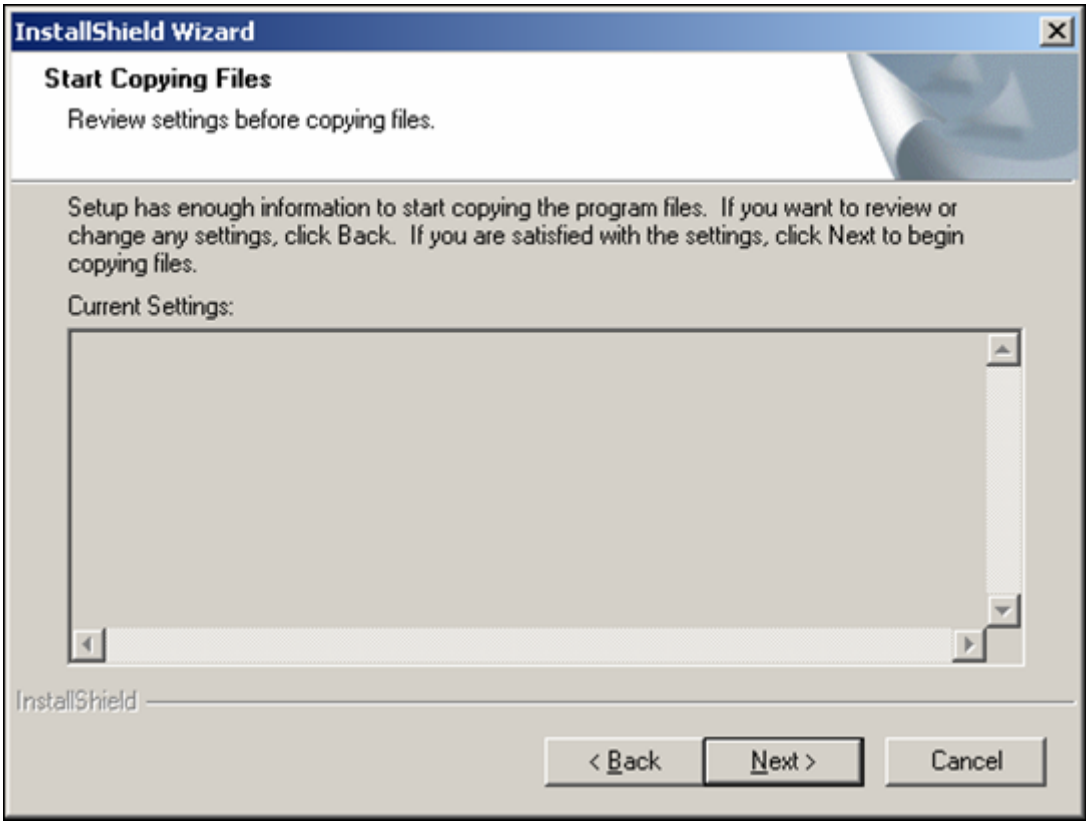
Step 8 Click **Next**. Figure 3-19 displays.

Figure 3-19 *InstallShield Wizard - SQL Server Instance*



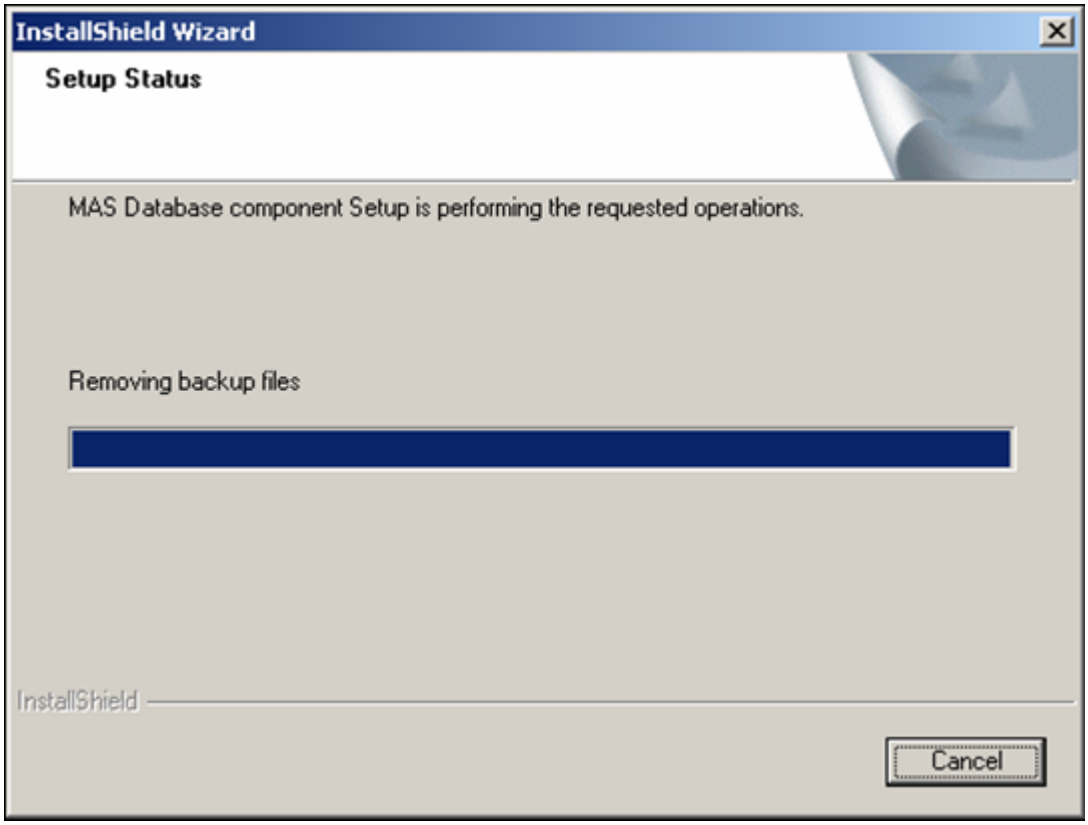
Step 9 If the user used the default instance on the SQL server the Instance field should be left blank. Otherwise type in the instance name entered during SQL installation. Click **Next**. Figure 3-20 displays.

Figure 3-20 *InstallShield Wizard - Start Copying Files*



Step 10 Click **Next**. Figure 3-21 displays.

Figure 3-21 *InstallShield Wizard - Setup Status*



Remote SQL Configuration is complete. It is now possible to begin the MA4000 Expense Management installation on the MA4000 Expense Management Server.

SQL Server 2005 Surface Area Configuration

If your database server is running SQL Server 2005 or SQL Server 2005 Express Edition, please follow the procedures provided in Microsoft Knowledge Base Article ID 914277 on ***How to configure SQL Server 2005 to allow remote connections***.

SQL Server 2008 Surface Area Configuration

If your database server is running SQL Server 2008 or SQL Server 2008 Express Edition, please follow the procedures provided in Microsoft Knowledge Based Article ID 961946 on ***Error message when you use the Office Communications Server Deployment Wizard to create a new Enterprise pool.***

4

Basic Configuration

The configuration section of this document assumes that the MA4000 Management System integration was completed during the installation process. If this is not the case, refer to the *MA4000 Expense Management Admin Guide*.

Chapter Topic

- *MA4000 Management System Data Sync*
- *Rates Import*
- *Call Data Collection*

MA4000 Management System Data Sync

After the installation of MA4000 Expense Management, it must be synchronized with MA4000 Management System. In order to accomplish this, refer to the following steps:

Step 1 Click the **Maintenance** tab and then click **Task Manager** from the lower left of the page.

Step 2 Select the row in the table for the task named **MA4000 Data Sync**.

Step 3 Click the **Enable job** check mark icon to enable the task to repeat.

Step 4 Click the **Run Job Now** button (**Play** icon).

Rates Import

In order to apply costs to collected calls correctly, the VList costing table must be imported. The VList costing table will be in either XML or TDA format. XML files can imported directly into the application. To import data from a **Vlist.TDA** file, it must first be converted into XML format.

To convert the Vlist:

Step 1 Go to the Expense Management install drive. For example, if Expense Management is installed on the C drive:

C:\Program Files\NEC\EM\Utilities\Utilitites. Management.exe

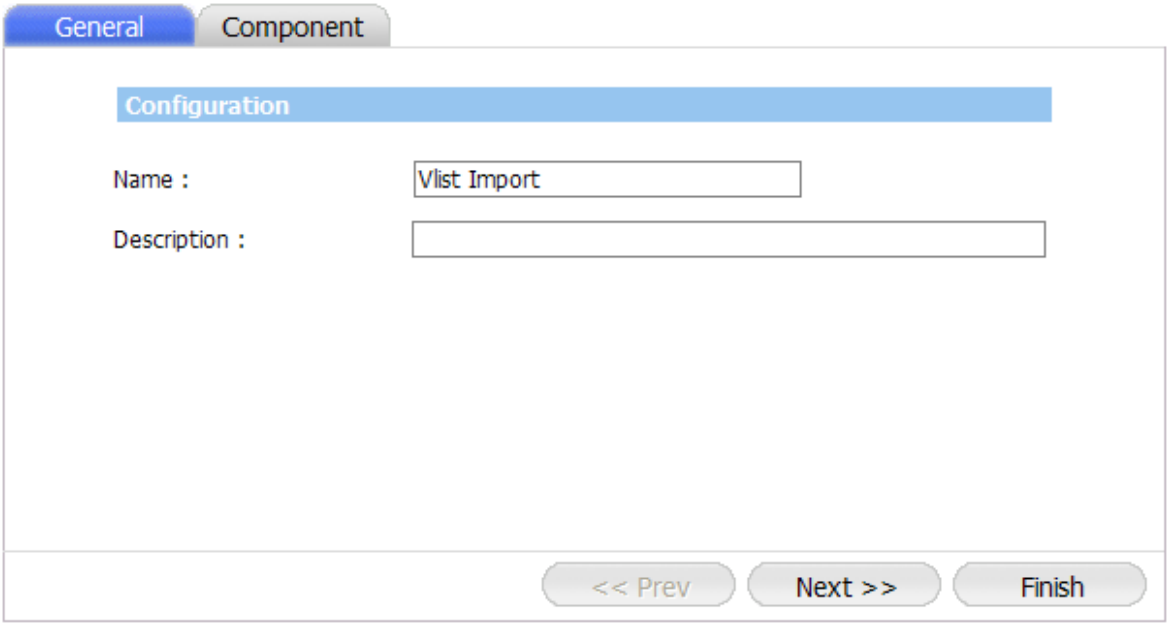
Step 2 Click the **VList Convert** tab. Follow the steps below to convert the VList:

- Click the folder icon for **Source vlist File** (TDA or XML) and select the source .tda file.
- Click the folder icon for **Target XML File**, then select a location and name for the file.
- Next, in the **Parameters Pane,** expand the **General** category and set the service name.
- The service name must be unique in terms of other service names. An example name might be, if this is an outgoing vlist, **AreaCode_Outgoing**.
- Do not change any other parameters.
- Click **Prepare VList** button.
- Click **OK** on the pop-up that is shown upon completion and then click **Close** on main window.

Once the VList file is in XML format proceed to *Configure Import/Export of VList file - General Tab*.

Configure Import/Export of VList file - General Tab

Figure 4-1 *Configure VList Import - General*



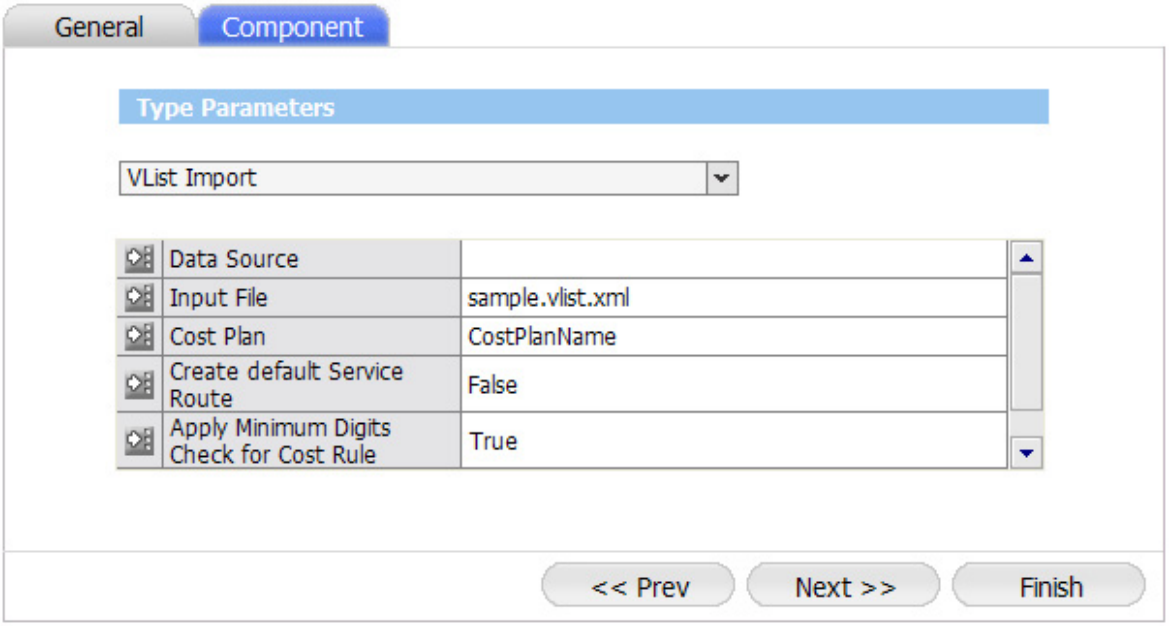
Step 1 Click the **Maintenance** tab and then click **Task Manager** from the lower left of the page and finally click **Import/Export** from the upper left of the page. The **General** tab of the **New Import/Export Configuration** wizard opens.

Step 2 Enter a name and description.

Step 3 Click **Next**. Proceed to *Configure Import/Export of VList File - Component Tab*.

Configure Import/Export of VList File - Component Tab

Figure 4-2 *Configure VList Import - Component*



Step 1 In the field at the top, select **VList Import** from the drop-down list.

Step 2 In the **Data Source** field, select the Data Source that this VList rate table will be used with.

Step 3 In the **Input File** field, select the Vlist.xml file to be imported. This is the file converted in the previous steps.

Step 4 Double-click the **Cost Plan** field and enter a Cost Plan Name.

Step 5 In the **Create Default Service Route** field, select whether or not this import task will define a default route for the cost plan. If set to true, a default route will automatically be defined. This is the recommended setting for first time setup. In any case, a route must be defined (either here or manually) in order for calls to be processed correctly. To manually define a route, refer to the Costing chapter in the *MA4000 Expense Management User Guide*.

Step 6 Set the **Apply Minimum Digits Check for Cost Rule Plan** field to **True**.

Step 7 Set the **Run Costing Refresh** field to **True**.

Step 8 Click Next. A summary of the new data collector is displayed.

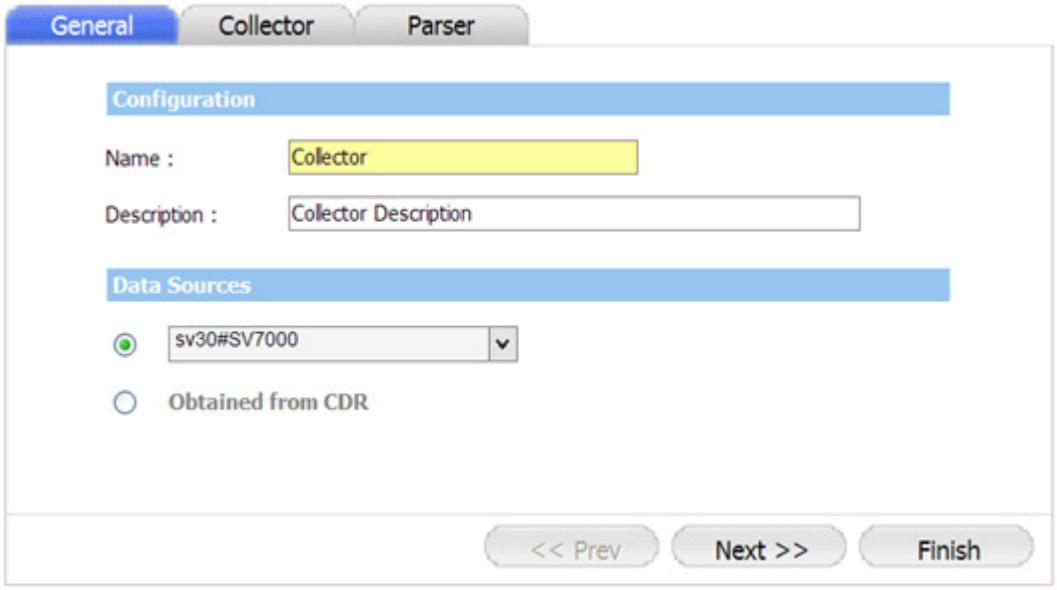
Step 9 Click **Run Job Now to Import the VList**.

Call Data Collection

In order for your application to receive call data, a Data Collector task must be defined.

Configure Data Collector - General Tab, Data Sources

Figure 4-3 *Configure Data Collector - Data Sources*



Step 1 Click the **Maintenance** tab and then click **Task Manager** from the lower left of the page and finally click **Data Collector** from the upper left of the page. The **General** tab of the New Data Collector Configuration wizard opens.

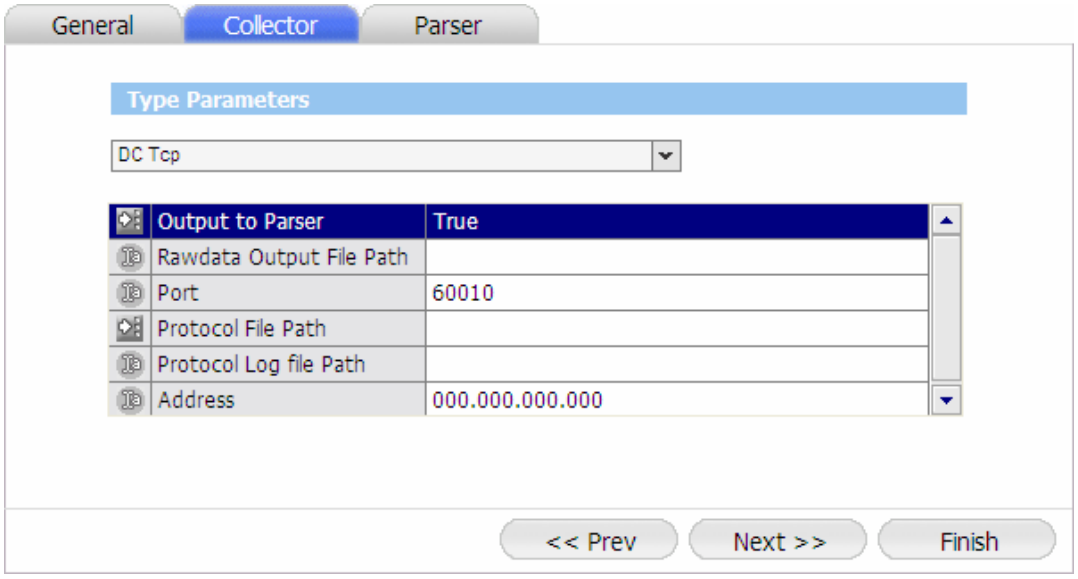
Step 2 Enter a name and description.

Step 3 Select a Data Source from the drop-down list. Note that the integration with MA4000 during installation must have been performed for a data source to be shown.

Step 4 Click **Next**. Proceed to *Configure Data Collector - Collector Tab*.

Configure Data Collector - Collector Tab

Figure 4-4 *Collector Tab*



Step 1 In the drop-down list at the top of the **Collector** tab, select the connection type **DC Tcp**.

NOTE *Only the TCP/IP SMDR collection is supported.*

Step 2 In the **Output to Parser** parameter, select **True**.

Step 3 In the **Rawdata Output File Path** parameter, enter a full file path where you wish to save the raw SMDR data. The file extension must be .txt. An example path and file name might look like **C:\Raw_SMDR.txt**.

Step 4 In the **Port** parameter, enter the port number on which the TCP server is listening. This is typically 60010.

Step 5 Double-click the **Protocol File Path** field.

—Select the appropriate file based upon the PBX connection parity for the TCP connection. There are two designated for NEC; namely **NEC.ParityEven.dctcp.XML** and **NEC.ParityOdd.dctcp.XML**.

—Click the **OK** button when finished.

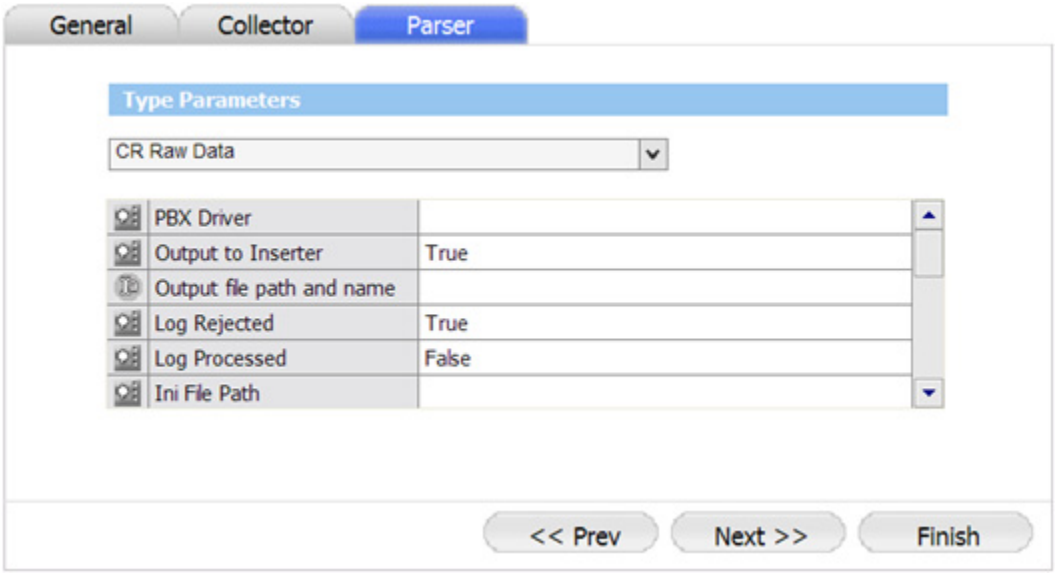
Step 6 The Protocol Log file path is for troubleshooting purposes only and need not be filled in.

Step 7 In the **Address** parameter, enter the IP address of the IP-PBX that is supplying the SMDR.

Step 8 Click **Next**. Proceed to *Configure Data Collector - Parser Tab*.

Configure Data Collector - Parser Tab

Figure 4-5 *Parser Tab*



Step 1 In the field at the top of the **Parser** tab, select **CR Raw Data**.

Step 2 Double-click the **PBX Driver** field, select the appropriate type of CDR. Table 4-1 lists the CDR format as it relates to the file selection.

Table 4-1 *CDR Format*

PBX and SMDR Format Name	PD9 File
NEC 2000 or 2400 using Basic CDR format (No Office Code Support)	NEC_Basic_ANI.PD9
NEC 2000 or 2400 using Expanded CDR format	NEC_Expanded.PD9
NEC 2000 or 2400 using Basic CDR format with Office Code Support	NEC_Basic_OfficeCode.PD9
NEC 2400 or SV7000 using Fusion CDR format including Office Code Support	NEC_FCCS.pd9
NEC IPK	NEC_IPK.pd9
UNIVERGE Spherical	NEC_FCCS.pd9
iS3000 Buffered or iS3000 Streaming	Philips_Sopho_IS3000_Rev001.pd9

Step 3 In the **Output to Inserter** parameter, select **True**.

Step 4 Double-click the **Output file path and name** field and enter a full file path and name where you wish to save the parser output. Ensure the file name type is .txt.

Step 5 Double-click the **Log Rejected** field and select **True**.

Step 6 Double-click the **Log Processed** field and select **False**.

Step 7 Double-click the **Ini File Path** field and select **Config.ini**.

Step 8 Double-click the **Ignore out of Scope Calls** field and select **False**.

Step 9 There are eight more fields, setting min and max parameters, that are used to fine tune the way that SMDR is handled. For initial setup, it is recommended that these are not set up as this will yield the highest success of collecting call records. These can be altered at a later time.

Step 10 Click **Next**. A summary of the new data collector is displayed.

Step 11 Click **Schedule the Job** to define the appropriate frequency for collection. For example: once every Hour or once every day. Note that the collection runs continually until the connection is broken. Thus, setting up an hourly or daily schedule for collection will assure that if the collection process has stopped that it will be restarted at the next scheduled time.

5

NEC CAS and Expense Management Integration

In some markets, a Centralized Authentication Service (CAS) is used. If you are using CAS, the following sections describe the integration between MA4000 Expense Management and CAS.

Chapter Topics

- *Role of NEC Centralized Authentication Service (NEC CAS)*
- *Adding a Login Account to Expense Management*
- *Logging in to NEC CAS*
- *Creating a CAS User*
- *Changing a Login Password*
- *Renaming a Login Account in Expense Management*
- *Deleting a Login Account from Expense Management*

Role of NEC Centralized Authentication Service (NEC CAS)

Expense Management is one of many CAS-enabled applications. MA4000 License Manager is another example.

The NEC CAS performs the following functions:

- Authenticates users who are accessing CAS-enabled applications. By default, CAS prompts the user for username and password.
- Provides single sign-on functionality for all CAS-enabled applications sharing the same NEC Centralized Authentication Service. The user can log in once and then browse between different applications without needing to log in again.
- Manages NEC CAS internal user accounts when using Internal Database Authentication. The usernames and passwords are stored in CAS.

The NEC CAS does not:

- Determine what the user can do within a CAS-enabled application once logged in. In the case of MA4000 Expense Management, this is determined by the roles that are created and assigned to each user.
- Manage user accounts or passwords stored within an external Authentication Source.

NEC CAS supports the following authentication types:

- **Internal Database Authentication** (default)
  The NEC CAS database is used to validate the credentials that are passed to NEC CAS.
- **Windows Authentication**
  Windows validates the credentials that are passed to NEC CAS.
- LDAP Authentication
  The LDAP source validates the credentials that are passed to NEC CAS.

The most important concept, when using the default CAS Internal Database Authentication, is that each account must be set up in CAS and in MA4000 Expense Management. If an account is in one but not the other, the user will not be able to successfully log in to the application.

When using Windows or LDAP authentication, a NEC CAS user need not exist in NEC CAS itself but still must exist in MA4000 Expense Management. If an account is in Windows or LDAP but not MA4000 Expense Management, the user will not be able to successfully log in to the application.

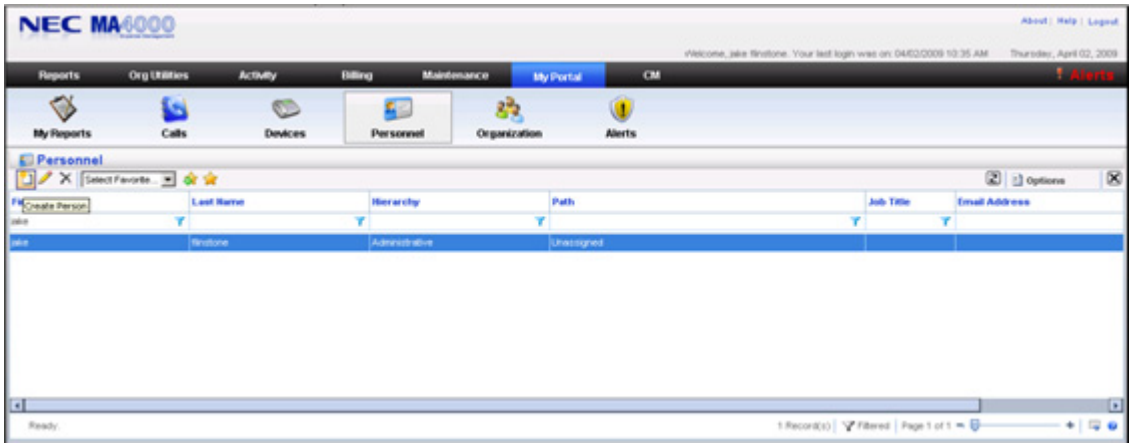
For a complete explanation regarding setting up any of the three authentication types, refer to the NEC CAS documentation.

Adding a Login Account to Expense Management

To add a new login to Expense Management, an Expense Management Person must first be created.

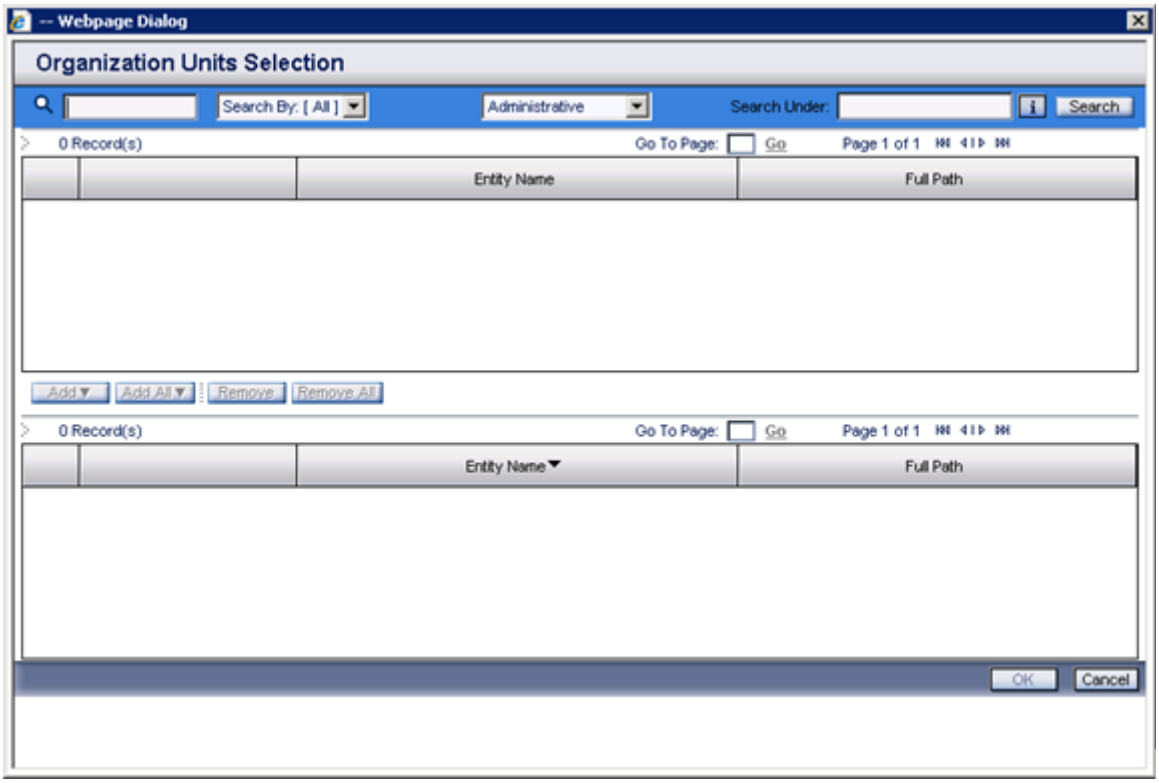
Step 1 In Expense Management, create a new **Person** record by navigating to **My Portal** → **Personnel**. See Figure 5-1.

Figure 5-1 *My Portal - Personnel - Create Person*



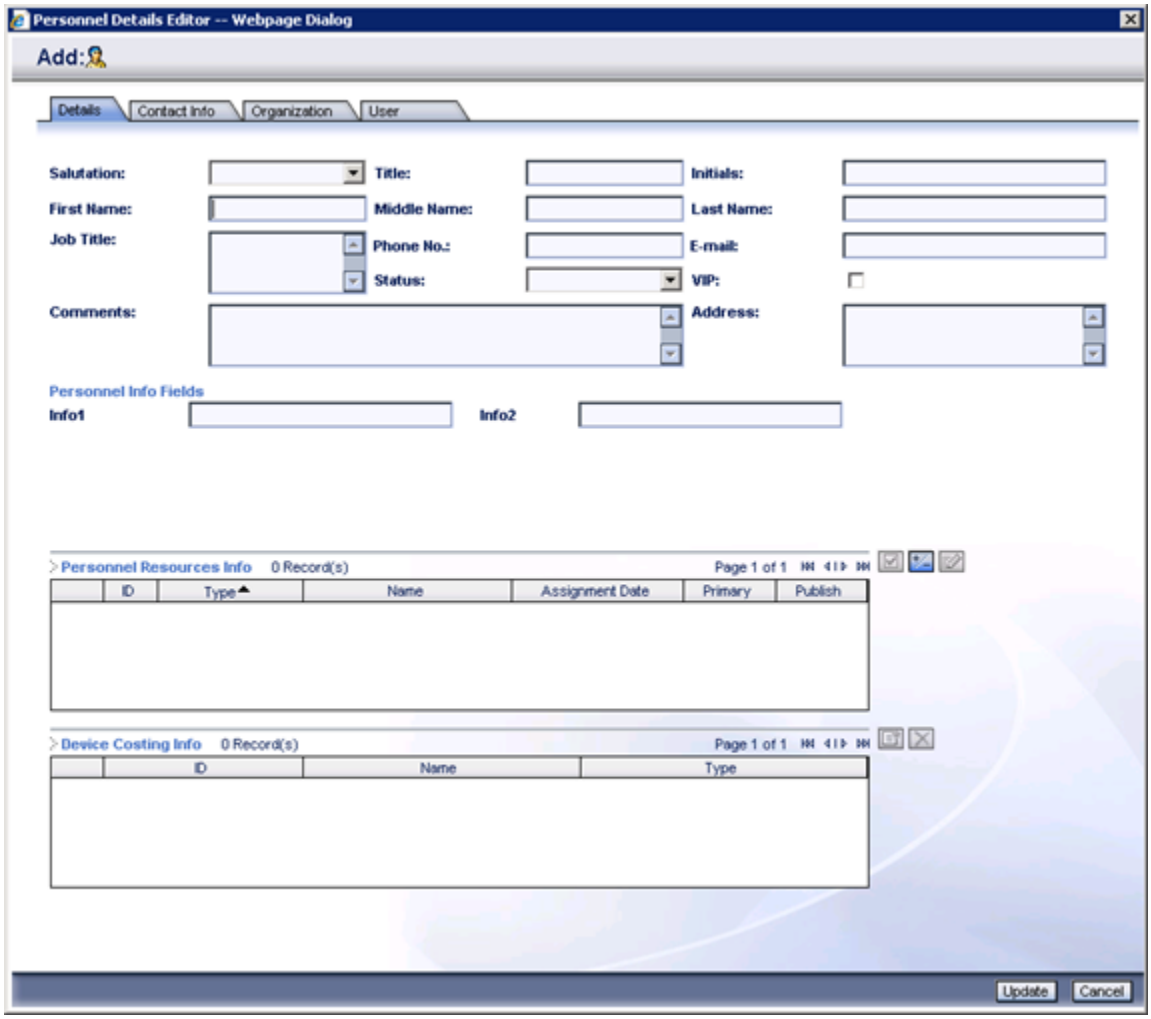
Step 2 Click the **Create Person** icon. Figure 5-2 displays.

Figure 5-2 *Organization Units Selection*



Step 3 Click **OK**. Figure 5-3 displays.

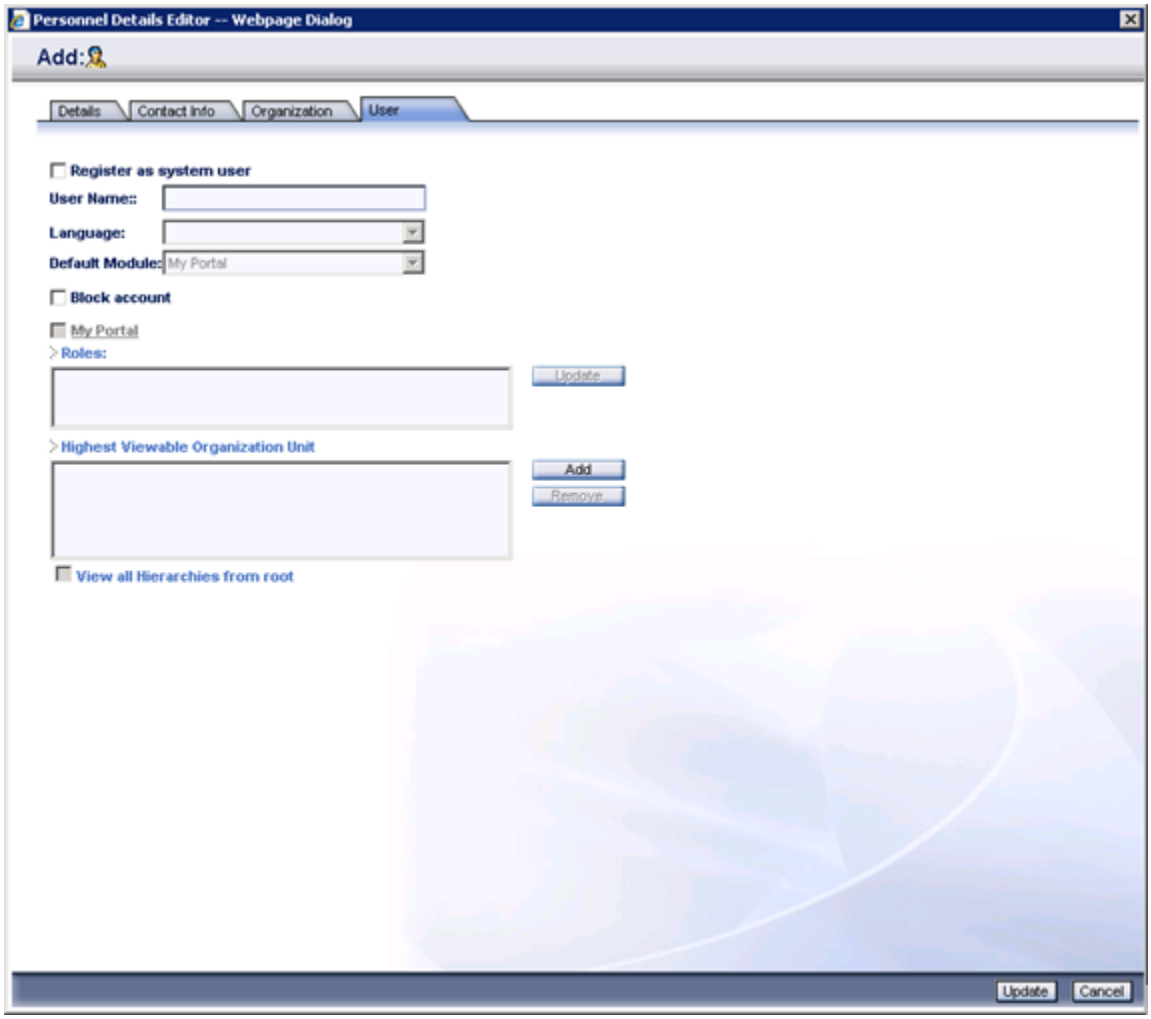
Figure 5-3 *Personnel Details Editor - Details Tab*



Step 4 Enter the user details. Data entered here are shown in the **My Portal\Personnel** results table.

Step 5 Select the **User** tab, Figure 5-4 displays.

Figure 5-4 *Personnel Details Editor - User Tab*

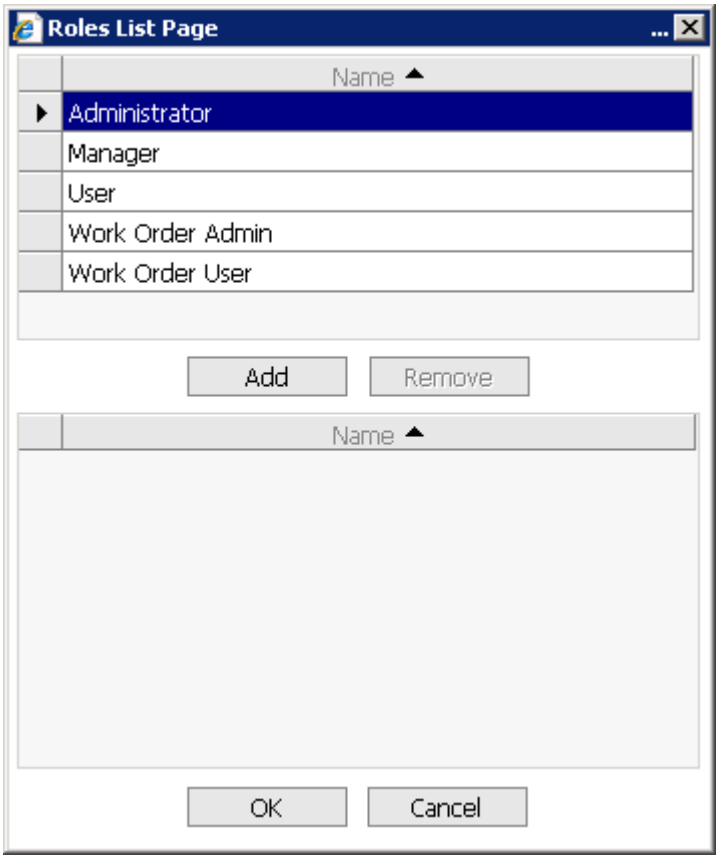


Step 6 Enter the **User Name** exactly as it will appear in CAS or exactly as it appears in Windows or LDAP. If the User Name does not match the CAS, Windows, or LDAP user name exactly, the user cannot be authenticated by CAS and will not be able to log into Expense Management.

—At least one role must be associated with a Person. Roles assigned to a Person are shown in the bottom list. If a Role is not assigned to a Person that is authenticated in CAS, then a blank screen will be shown upon logging into Expense Management.

—To select a role(s), click the **Update** button. Figure 5-5 displays.

Figure 5-5 *Roles List Page*



Step 7 Select any number of Roles from the top list, then click **Add** to add them to the bottom list.

Step 8 Click **OK** when finished.

Step 9 When Figure 5-4 displays, click **Update**.

—The process of adding a user that is authenticated by CAS to MA4000 Expense Management is complete. An existing user can also be given CAS authentication and Expense Management login privileges by selecting an existing person, instead of creating a new person, and following the steps above.

Logging in to NEC CAS

In order to access NEC CAS and create or change a CAS user, you must navigate to CAS using a web browser. To access NEC CAS, use the URL that was entered during the installation of MA4000 Expense Management. This URL can be found in MA4000 Expense Management by doing the following:

Step 1 Navigate to **Maintenance** → **Systems Settings**.

Step 2 From the view by drop-down, select **NEC Settings**.

Step 3 Click the NEC Settings node in the tree.

Step 4 On the right, under NEC MA4000 parameters, an entry can be seen that reads **NEC CAS URL**. Copy this URL and paste it into a browser address bar.

Step 5 Click **Go** or press the **Enter** key. You will be directed to the NEC CAS login page.

Step 6 Log in to CAS using an administrator password.

Creating a CAS User

Step 1 Open a web browser and enter the NEC CAS URL.

Step 2 Log in to NEC CAS using a valid administrator account.

There are no CAS specific requirements for login names. In short, a CAS login name must match the value in Expense Management. For complete instructions for creating CAS login names refer to the NEC CAS Online Help.

Changing a Login Password

Changing a login password must be accomplished from within NEC CAS if Internal Database Authentication is used.

*Refer to the **Resetting a Password** topic in the NEC CAS Online Help for instructions for changing a password.*

Renaming a Login Account in Expense Management

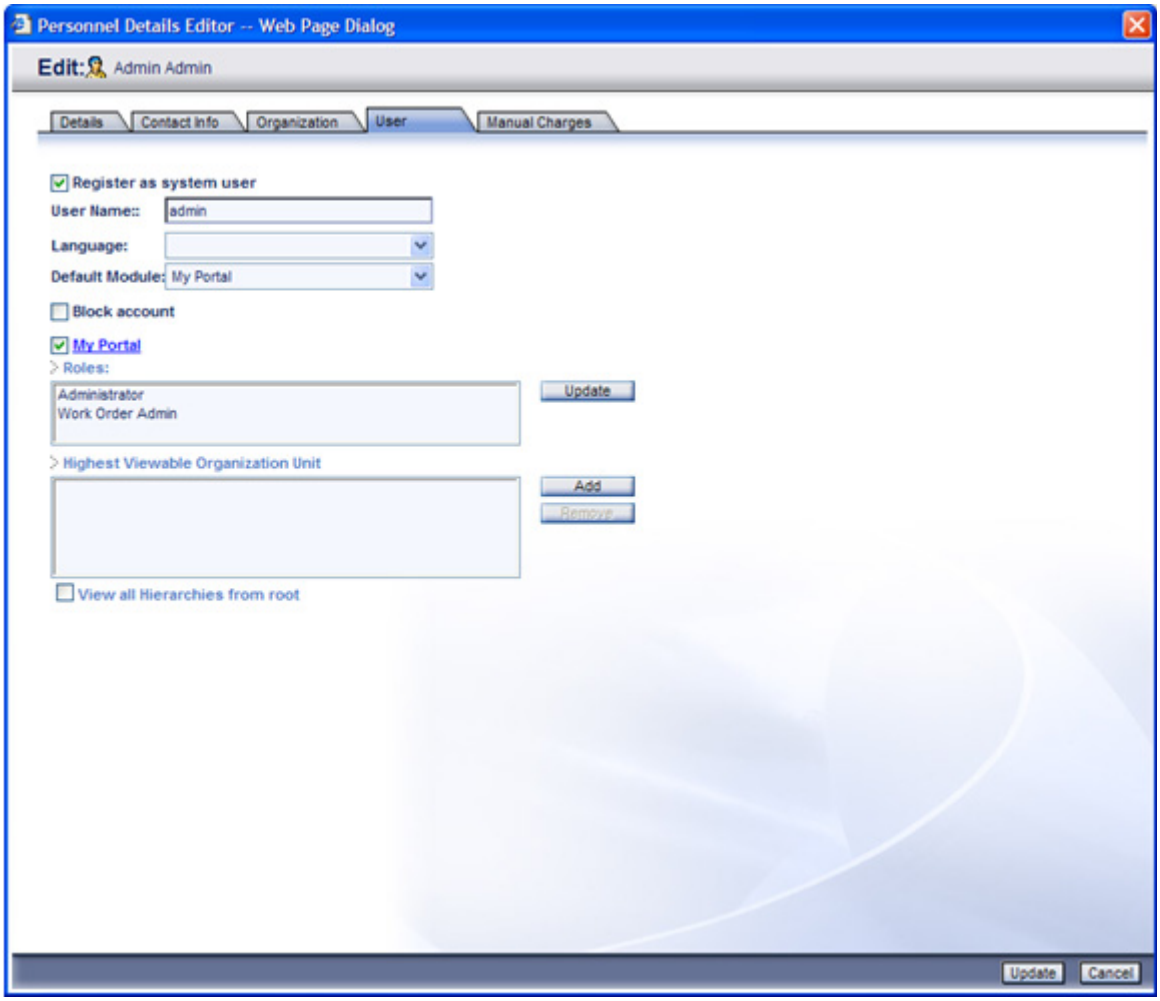
If it is necessary to rename a login account, the renaming must be accomplished in both the MA4000 Expense Management, as well as the NEC CAS if Internal Database Authentication is used.

Step 1 In MA4000 Expense Management, navigate to **My Portal** → **Personnel**.

Step 2 Search for a user that has a login that requires a change.

Step 3 Double click the user in the **Personnel** table. Figure 5-6 displays.

Figure 5-6 *Personnel Details Editor - Edit - User Tab*



Step 4 On the **User** tab, change the **User Name**. Remember that the name must match the name as shown in CAS, Windows, or LDAP.

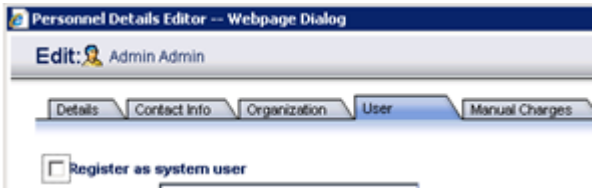
Step 5 Click **Update** to complete the edit.

Deleting a Login Account from Expense Management

To delete a **Login Account** from MA4000 Expense Management, do the following:

Step 1 Navigate to the **Edit** page as described in the *Renaming a Login Account in Expense Management* section, then click the **User** tab. See figure.

Figure 5-7 *Personnel Details Editor - User Tab - Delete Login Account*



Step 2 Clear the **Register as system user** check box.

Step 3 Click Update. This will effectively remove the **User Name** and the **Roles** from this person.

Appendix A

Data Collector Definitions

Appendix Topics

- DC File Collector Parameter
- DC Comm No Buffer Parameter
- DC Comm Parameter
- DC Comm Dialed Parameter
- DC TCP Parameter
- DC iS3000 Buffered Parameter
- DC iS3000 Streaming Parameter

DC File Collector Parameter

Refer to Figure Appendix A-1 for a DC File parameter example and Table Appendix A-1 for a detailed description of the parameter fields.

Figure Appendix A-1 *Collector - Type Parameters - DC File*

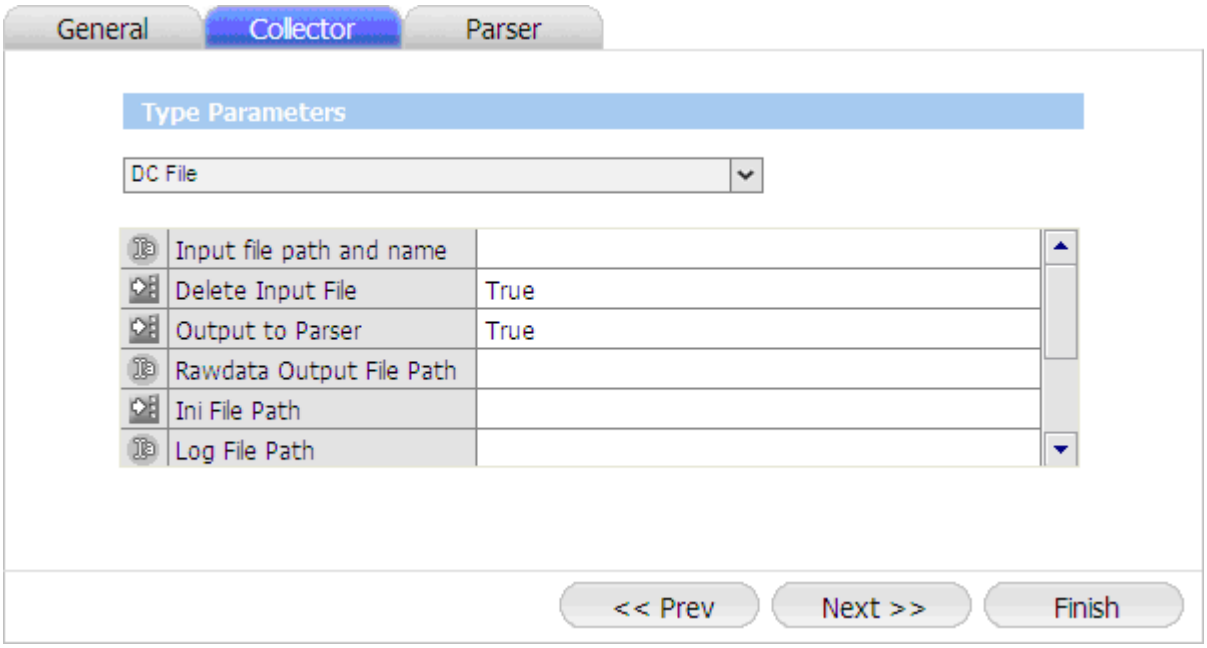


Table Appendix A-1 *DC File Parameter Field Descriptions*

Parameter	Description
Input File	Enter the path location for input file: **Drive\File** name.
Delete Input File	Define whether to delete the input file after collection. For standard Data Collection, the default setting should be **True**.
Output to Parser	Define whether to send the collected CDR data to parsing. For standard Data Collection, the default setting should be **True**.
Output File Path	Enter the path location for saving the input file: **Drive\File** name.
Ini File Path	Select a configuration files with advanced settings. For standard Data Collection, the **Config.ini** file should be selected.
Log File Path	Enter the Data Collection log file path: **Drive\File** name.
Use Remote Access Connection	Indicate whether to use a dial up connection before collecting the input file.
Remote Access User	Enter the Dial-up connection user name.
Remote Access Password	Enter the Dial-up connection password.
Remote Access Number	Enter the Dial-up connection dialed number.

DC Comm No Buffer Parameter

Refer to Figure Appendix A-2 for a DC Comm No Buffer parameter example and Table Appendix A-2 for a detailed description of the parameter fields.

Figure Appendix A-2 *Collector - Type Parameters - DC Comm No Buffer*

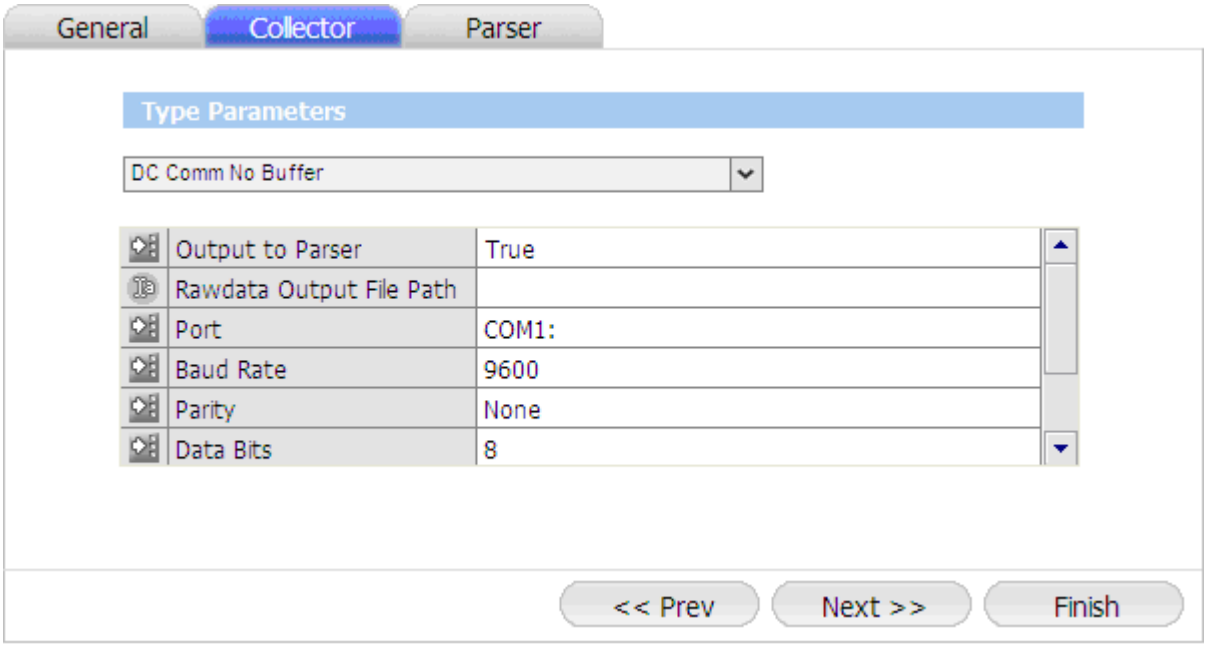


Table Appendix A-2 *DC Comm No Buffer Field Descriptions*

Parameter	Description
Output to Parser	Define whether to send the collected CDR data to parsing. For standard Data Collection, the default setting should be **True**.
RawData Output File Path	Enter the path location for saving the input file: **Drive\File** name.
Log File Path	Enter the Data Collection log file path: **Drive\File** name.
Port	Select the relevant Communication\TCP port.
Baud Rate	Set the AS server Comm Port baud rate to suit the Data Stream from the Data Source Port. (PBX, buffer).
Data bits	Set the AS server Comm Port data bit to suit the Data Stream from the Data Source Port. (PBX, buffer).
Parity	Select the AS server Comm Port Parity check (odd or even) to suit the Parity of the Data Source Port. (PBX, buffer).
Stop Bits	Set the AS server Comm Port stop bits to suit the Data Stream from the Data Source Port. (PBX, buffer).
Handshake	Set the AS server Comm Port Handshake to suit the Data Stream from the Data Source Port. (PBX, buffer).

DC Comm Parameter

Refer to Figure Appendix A-3 for a DC Comm parameter example and Table Appendix A-3 for a detailed description of the parameter fields.

Figure Appendix A-3 *Collector - Type Parameters - DC Comm*

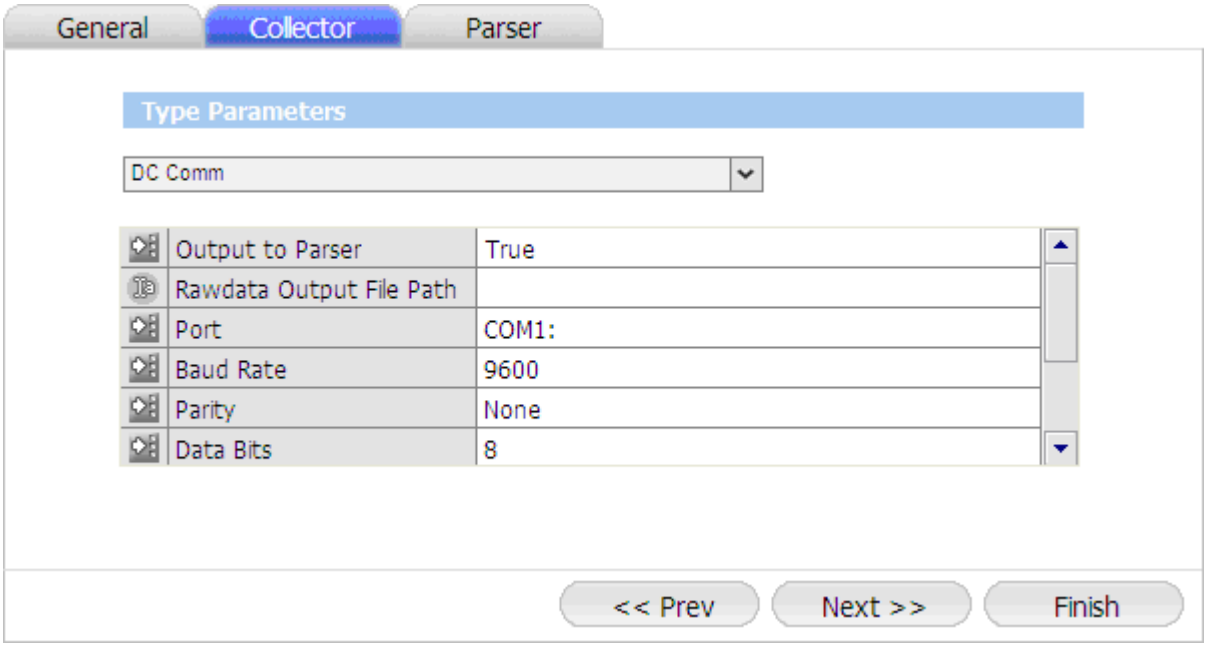


Table Appendix A-3 *DC Comm Field Descriptions*

Parameter	Description
Output to Parser	Define whether to send the collected CDR data to parsing. For standard Data Collection, the default setting should be **True**.
RawData Output File Path	Enter the path location for saving the raw input file: **Drive\File** name.
Log File Path	Enter the Data Collection log file path: **Drive\File** name.
Port	Select the relevant Communication\TCP port.
Baud Rate	Set the AS server Comm Port baud rate to suit the Data Stream from the Data Source Port. (PBX, buffer).
Data bits	Set the AS server Comm Port data bit to suit the Data Stream from the Data Source Port. (PBX, buffer)
Parity	Select the AS server Comm Port Parity check (odd or even) to suit the Parity of the Data Source Port. (PBX, buffer).
Stop Bits	Set the AS server Comm Port stop bits to suit the Data Stream from the Data Source Port. (PBX, buffer).
Handshake	Set the AS server Comm Port Handshake to suit the Data Stream from the Data Source Port. (PBX, buffer).
Protocol File Path	Enter the Protocol of the communication with the buffer.
Protocol Log File Path	Enter the path location of the protocol log file.

DC Comm Dialed Parameter

Refer to Figure Appendix A-4 for a DC Comm parameter example and Table Appendix A-4 for a detailed description of the parameter fields.

Figure Appendix A-4 *Collector - Type Parameters - DC Comm Dialed*

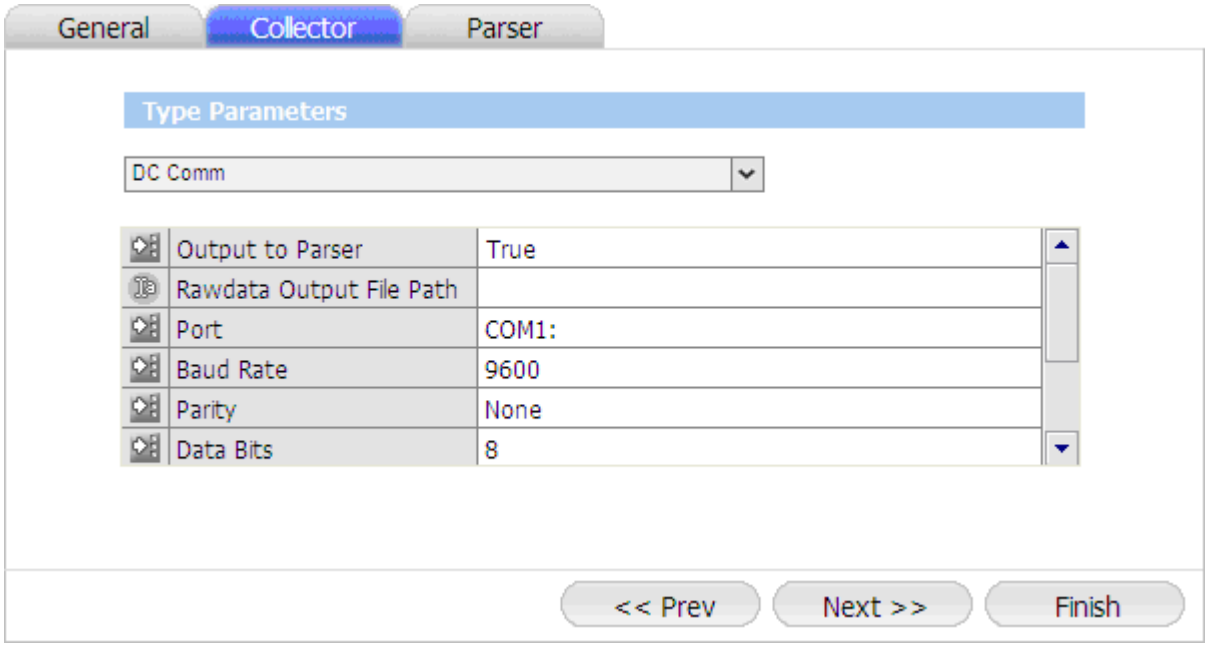


Table Appendix A-4 *DC Comm Dialed Field Descriptions*

Parameter	Description
Output to Parser	Define whether to send the collected CDR data to parsing. For standard Data Collection, the value should remain **True**.
RawData Output File Path	Enter path location for saving the input file: **Drive\File** name.
Log File Path	Enter the data Collection log file path location: **Drive\File** name.
Port	Select the relevant Communication\TCP port.
Baud Rate	Set the AS server Comm Port baud rate to suit the Data Stream from the Data Source Port. (PBX, buffer).
Data bits	Set the AS server Comm Port data bit to suit the Data Stream from the Data Source Port. (PBX, buffer).
Parity	Select the AS server Comm Port Parity check (odd or even) to suit the Parity of the Data Source Port. (PBX, buffer).
Stop Bits	Set the AS server Comm Port stop bits to suit the Data Stream from the Data Source Port. (PBX, buffer).
Handshake	Set the AS server Comm Port Handshake to suit the Data Stream from the Data Source Port. (PBX, buffer).
Protocol File Path	Enter the Comm Communication Protocol file name. The default is **XYZDataLink.XML**.

Parameter	Description
Protocol Log File Path	Enter the Protocol log file path location.
Dialed Number	Enter the dialed number used for the collection.
Modem Init File Path	Enter the file path for the modem initiation file.

DC TCP Parameter

Refer to Figure Appendix A-5 for a DC Comm parameter example and Table Appendix A-5 for a detailed description of the parameter fields.

Figure Appendix A-5 *Collector - Type Parameters - DC TCP*

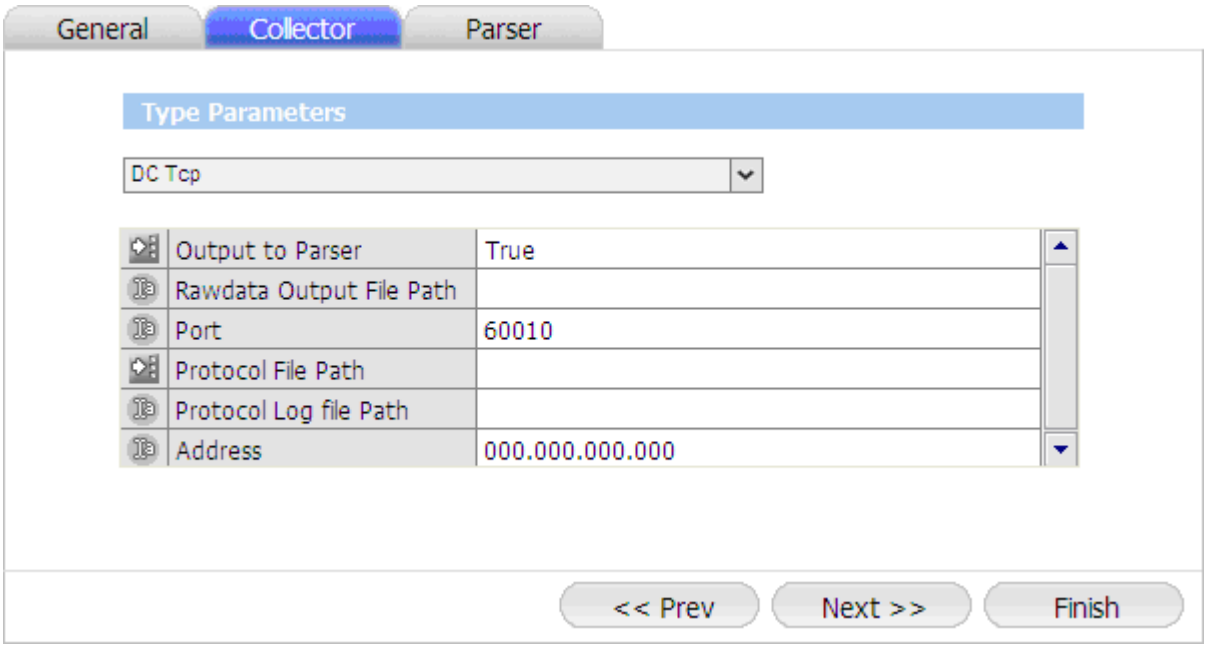


Table Appendix A-5 *DC TCP Field Descriptions*

Parameter	Description
Output to Parser	Define whether to send the collected CDR data to parsing.For standard Data Collection, the value should remain **True**.
Output file path and name	Enter the path location for saving the input file: **Drive\File** name.
Port	TCP Port display.
Protocol file path	Enter the TCP Protocol file name.For standard NEC Data Collection, the file should be **NEC.DCTCP.XML**.
Log File Path	Enter the Data Collection log file path location: **Drive\File** name.
Address	Enter the TCP Server IP.

DC iS3000 Buffered Parameter

Refer to Figure Appendix A-6 for a DC Comm parameter example and Table Appendix A-6 for a detailed description of the parameter fields.

Figure Appendix A-6 *Collector - Type Parameters - DC iS300o Buffered*

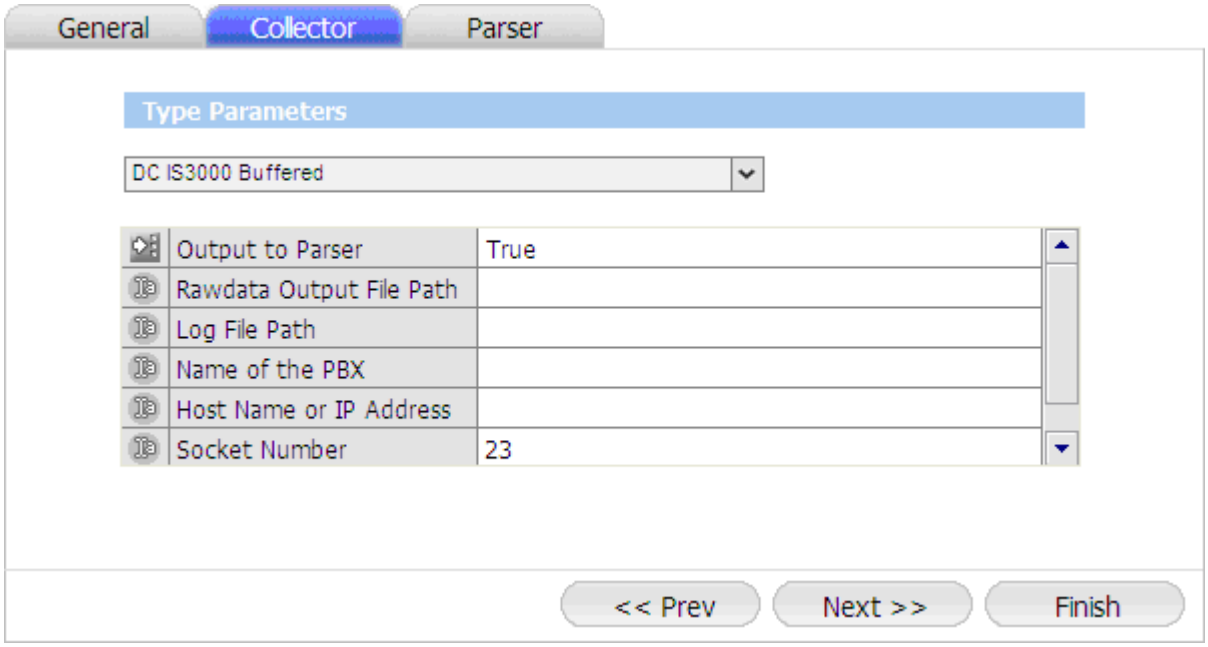


Table Appendix A-6 *DC iS3000 Buffered Field Descriptions*

Parameter	Description
Output to Parser	Define whether to send the collected CDR data to parsing. For standard Data Collection, the value should remain **True**.
Rawdata Output File Path	Enter the path location for saving the input file: **Drive\File** name.
Log File Path	Enter the Data Collection log file path location: **Drive\File** name.
Name of the PBX	Enter the name of the PBX to collect data from.
Host Name or IP address	Enter the name of the hosting server for the PBX or its IP address.
Socket Number	Enter the Socket (port) number of the PBX.
Unit Number (1-14)	Enter the PBX unit Number from the Management@Net.

DC iS3000 Streaming Parameter

Refer to Figure Appendix A-7 for a DC Comm parameter example and Table Appendix A-7 for a detailed description of the parameter fields.

Figure Appendix A-7 *Collector - Type Parameters - DC iS3000 Streaming*

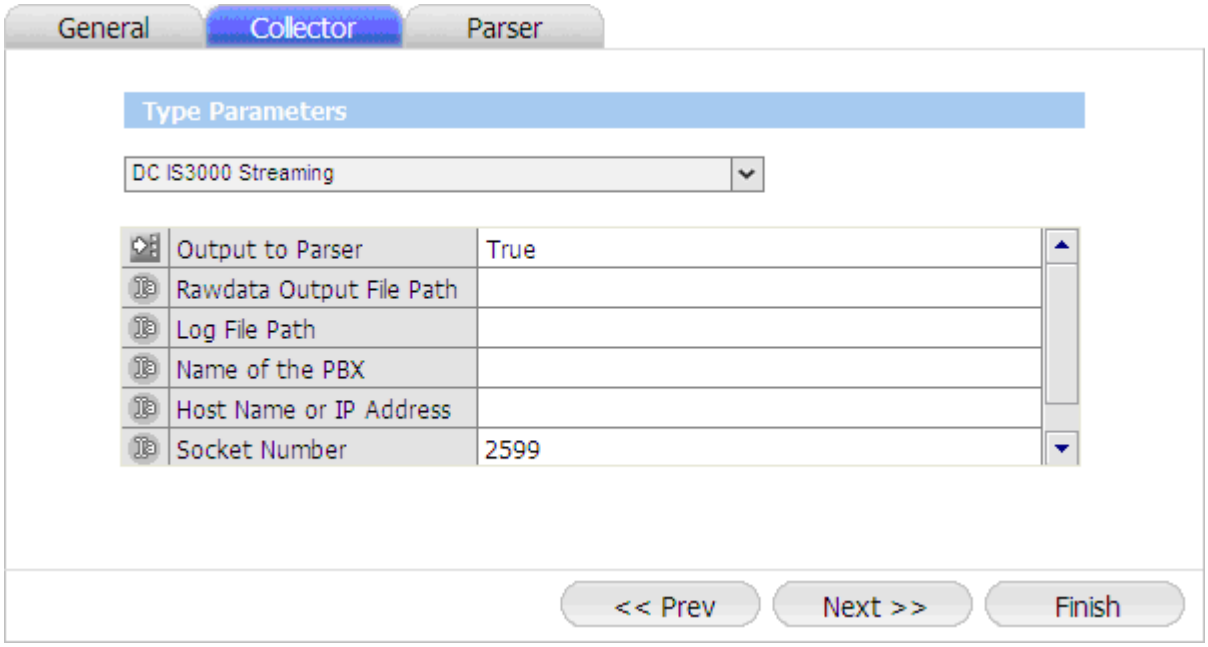


Table Appendix A-7 *DC iS300 Buffered Streaming Field Descriptions*

Parameter	Description
Output to Parser	Define whether to send the collected CDR data to parsing. For standard Data Collection, the value should remain **True**.
Rawdata Output File Path	Enter the path location for saving the input file: **Drive\File** name.
Log File Path	Enter the Data Collection log file path location: **Drive\File** name.
Name of the PBX	Enter the name of the PBX to collect data from.
Host Name or IP address	Enter the name of the hosting server for the PBX or its IP address.
Socket Number	Enter the Socket (port number) of the PBX.
Unit Number (1-14)	Enter the PBX unit Number from the Management@Net.

For additional information or support on this NEC Corporation product, contact your NEC Corporation representative.

NEC Corporation

Expense Management Installation and Configuration Guide

NDA-30973, Revision 4