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Managing OneWorld Client Installations Using Microsoft SMS PeopleBook

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J.D. Edwards World Source Company
One Technology Way
Denver, CO 80237

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Welcome

About This Guide

This guide documents how to use Microsoft System Management Server (SMS) to distribute OneWorld client installations.

SMS is extremely flexible and scalable. This document presents only one simple solution for distributing OneWorld packages. Numerous advanced issues are intentionally excluded from this document, such as design and configuration of SMS infrastructure, limiting network load, and scheduling of distribution. The SMS administrator should control these issues for the particular environment. The distribution solution documented in this guide is a universal starting point and the underlying principles should be maintained regardless of the advanced management features used.

This guide contains the following sections:

- SMS overview
- Getting started
- Working with SMS

Audience

This document assumes you are familiar with both OneWorld and SMS. If you are unfamiliar with both OneWorld and SMS, this document may still convey the concepts of managing OneWorld client installations using SMS. The following references may be also helpful:

- *Microsoft SMS 1.2 Administrator's Survival Guide*, SAM Publishing
- *Using Microsoft Systems Management Server 1.2*, QUE Publishing
- *Getting Started with Microsoft SMS version 1.2*, Microsoft Press
- OneWorld *Installation Guide*
- OneWorld *Configuration Planning and Setup*
- OneWorld *Software Modification Deployment*

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SMS Overview

This section provides the following introductory information about SMS:

- ❑ Understanding the distribution solution
- ❑ Benefits of using SMS for OneWorld client installations
- ❑ Challenges of using SMS for OneWorld client installations
- ❑ System requirements
- ❑ OneWorld distribution requirements

Understanding the Distribution Solution

How can you be sure that all workstation users are using the appropriate software required by your enterprise? Microsoft SMS distributes installations to workstations to ensure that all workstations are running on the correct software versions at any time. An enterprise cannot rely on workstation users to update the most current software versions of OneWorld.

The requirements for a OneWorld distribution solution include:

- Reuse of current installation code
- Coexistence in an environment where non-SMS managed distributions are occurring
- Ability to use the same controls as traditional OneWorld installations

This list of requirements narrows the possibilities of how you can use SMS for OneWorld distribution to essentially two approaches. Script the installation using operation system commands, or use the existing setup.exe.

Scripting the installation is not feasible for two reasons. The command processor for Windows NT or Windows 95 is not powerful enough to write the required batch files. Scripting the installation is similar to completely rewriting the current setup.exe and does not fulfill the requirement of reusing existing code.

There are two uses of setup.exe in an SMS-managed OneWorld distribution. The first is simply to execute setup.exe once for each workstation and allow setup.exe to perform everything, including the file copy. The other is to use setup.exe only to perform the logical functions, such as registry updates and license validation and allow SMS to manage the distribution of files to the clients. By using setup.exe to execute everything including the file copying, we loose the ability to balance the load across network segments without creating numerous distribution servers and managing numerous unique setup.inf files.

For these reasons, the only acceptable solution is to use SMS to manage a process that copies the appropriate files for each workstation and executes setup.exe with the no copy option.

Benefits of Using SMS for OneWorld Client Installations

SMS satisfies the following basic requirements for managing OneWorld distribution:

- Coexistence with current installation code and controls
- Scheduled push installations
- Configurability
- Improved scalability

Coexistence with Current Installation Code and Controls

Because SMS can coexist with OneWorld's current software installation controls, you can choose to use SMS exclusively or use both SMS and OneWorld installation controls. Coexistence with the current installation code allows J.D. Edward to maintain coexistence of controls and minimizes the effort required for integration.

Scheduled Push Installations

The current installation strategy for OneWorld requires the user to initiate an installation. SMS reduces the need for user involvement by scheduling installations and enabling an administrator to push an installation, rather than depending on the user to initiate the action.

Configurability

Because OneWorld is highly configurable, the installation utility must also be configurable. SMS allows you choose how to best accomplish the installation. For example, you can specify installation from different environments, such as pristine, development, production.

Improved Scalability

SMS is designed to be network-aware and is scalable to large enterprises. Any distribution strategy or method that uses SMS can take advantage of this scalability. SMS allows you to spread the load of a distribution across numerous workstations and network segments without unnecessarily impacting them.

Challenges of Using SMS for OneWorld Installations

SMS presents certain challenges for managing OneWorld distribution:

- Subscription groups of workstations
- Complex management system
- Environment requirements
- SQL server

Subscription Groups of Workstations

The SMS strategy for standard distribution is based on subscription groups of workstations. Standard OneWorld installations are related to users rather than workstations. SMS supports complex querying, which can bridge the gap between subscription groups and user installations, and SMS also includes products that administer databases and user accounts. These tools, however, substantially increase the level of complexity and cost of using SMS. Rather than trying to bridge the gap programmatically, J.D. Edwards relies on the administrator to create and maintain subscription groups.

Complex Management System

SMS is a complex management system with a fairly steep learning curve.

Environment Requirements

SMS has stringent environment requirements. The primary site server should be a server that is dedicated to SMS. See *System Requirements* for a complete description of hardware and software requirements.

SQL Server

SMS relies on an SQL server for data storage requirements. The SQL server is installed, configured, and maintained independently from SMS. This means that an SQL server database administrator must be available.

System Requirements

The SMS configuration is flexible, so the actual requirements vary depending on the particular configuration of the enterprise. Microsoft recommends that the primary SQL server database be installed on a different machine than the primary site server.

Primary Site Server

- 486 DX2 66 or higher (higher is recommended)
- 32MB RAM
- 100MB free disk space
- NTFS partition
- Windows NT Server 3.51 SP3 or later, or Windows NT Server 4.0
- The primary site server must be either the primary or the backup domain controller

SQL Server Database to Support SMS

The requirements vary with the environment. The requirements listed below are the minimum requirements to install an SQL Server.

- Windows NT Server 3.5 or later
- SQL Server 6.0 or 6.5
- Intel x86, Alpha AXP, or MIPS processor
- 16 MB RAM
- 60 MB free disk space

SMS Agent

- Each client workstation must have an SMS agent, which is provided with SMS

OneWorld Distribution Requirements

For distribution of OneWorld, the primary OneWorld distribution server must:

- Be an Intel-based server running Windows NT Server
- Store the OneWorld Packages in an uncompressed format
- Have directories containing setup.exe, DLLs, and other files; these directories must be shared.

Additional servers or machines configured as managed nodes may be necessary depending on the scope of the enterprise. If additional machines are necessary to balance the load of the distribution across machines and the network, those additional distribution machines are not required to be Windows NT servers.

Getting Started

To work with SMS, you must complete the following tasks:

- ❑ Reviewing the OneWorld setup executable
- ❑ Understanding the OneWorld program flow for client installation
- ❑ Creating an after-distribution batch file
- ❑ Creating a status.mif file

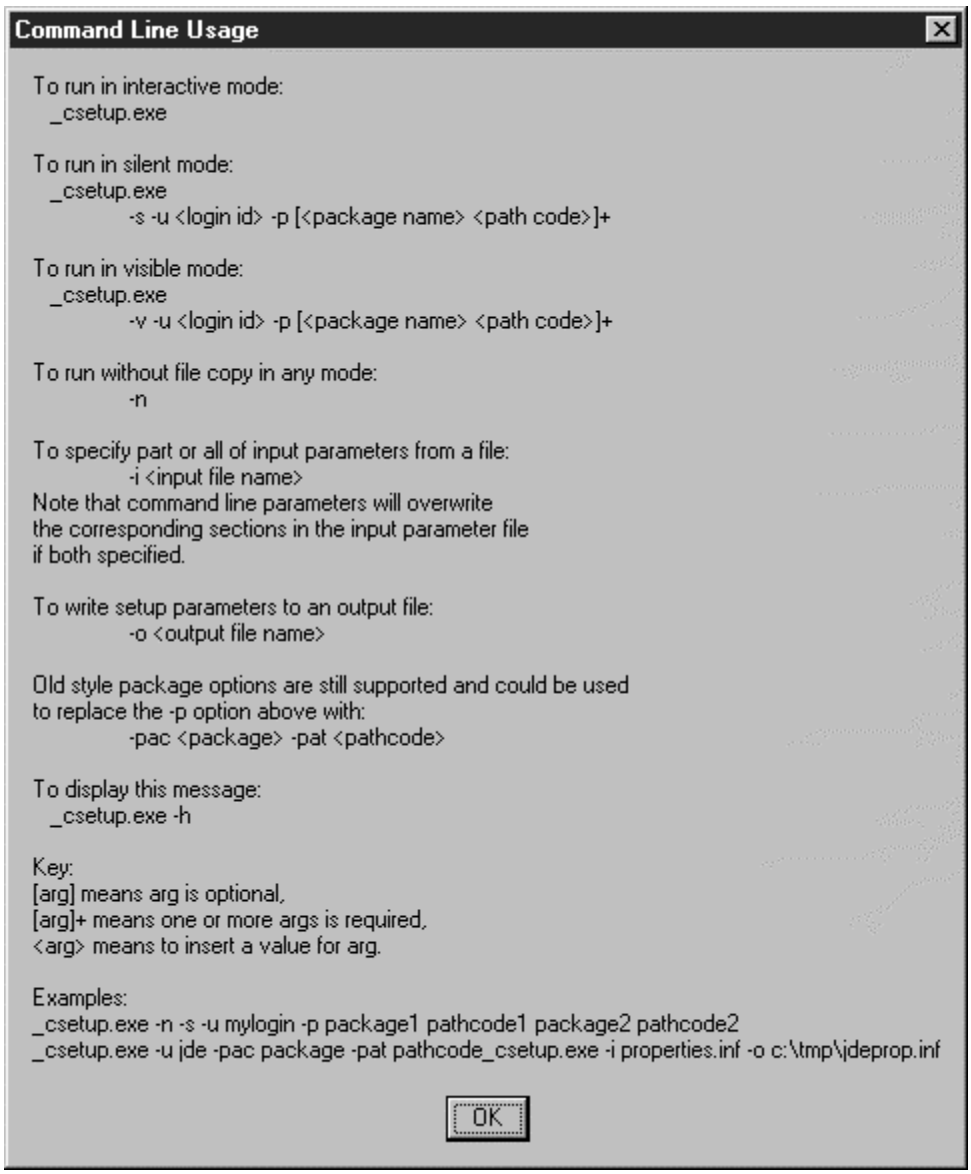
Reviewing the OneWorld Setup Executable

In comparison with many installation programs, the OneWorld setup executable is complex, because OneWorld clients must be integrated in a complex operating environment. SMS can simplify installation for the clients. However, the SMS administrator must have a good understanding of setup.exe for success.

To display the command line options for setup.exe, enter the following command from a Windows command line:

```
_csetup.exe -h
```

The example on the following page illustrates the command line options for setup.exe.


Command Line Usage
To run in interactive mode:
_csetup.exe
To run in silent mode:
_csetup.exe
-s -u <login id> -p [<package name> <path code>]+
To run in visible mode:
_csetup.exe
-v -u <login id> -p [<package name> <path code>]+
To run without file copy in any mode:
-n
To specify part or all of input parameters from a file:
-i <input file name>
Note that command line parameters will overwrite
the corresponding sections in the input parameter file
if both specified.
To write setup parameters to an output file:
-o <output file name>
Old style package options are still supported and could be used
to replace the -p option above with:
-pac <package> -pat <pathcode>
To display this message:
_csetup.exe -h
Key:
[arg] means arg is optional,
[arg]+ means one or more args is required,
<arg> means to insert a value for arg.
Examples:
_csetup.exe -n -s -u mylogin -p package1 pathcode1 package2 pathcode2
_csetup.exe -u jde -pac package -pat pathcode_csetup.exe -i properties.inf -o c:\tmp\jdeprop.inf
OK

Understanding the OneWorld Program Flow for Client Installation

The OneWorld client installation program, setup.exe, consists of the following two programs:

- setup.exe
- _csetup.exe

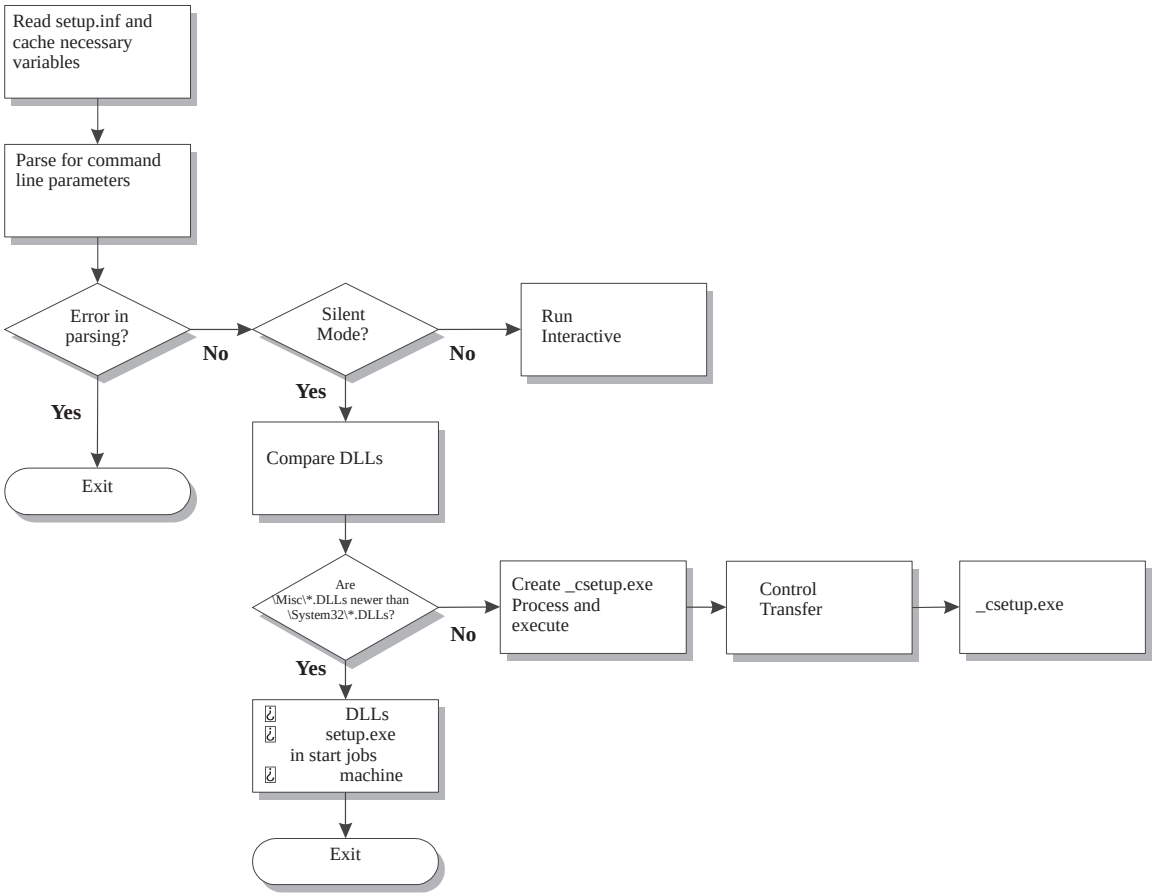
You must understand how these programs work to distribute OneWorld to clients.

setup.exe

Setup.exe is a short program. Regardless of command line options, when executed setup.exe performs the following:

- Verifies that the proper version of several shared DLLs are installed on the client machine
- Executes _csetup.exe

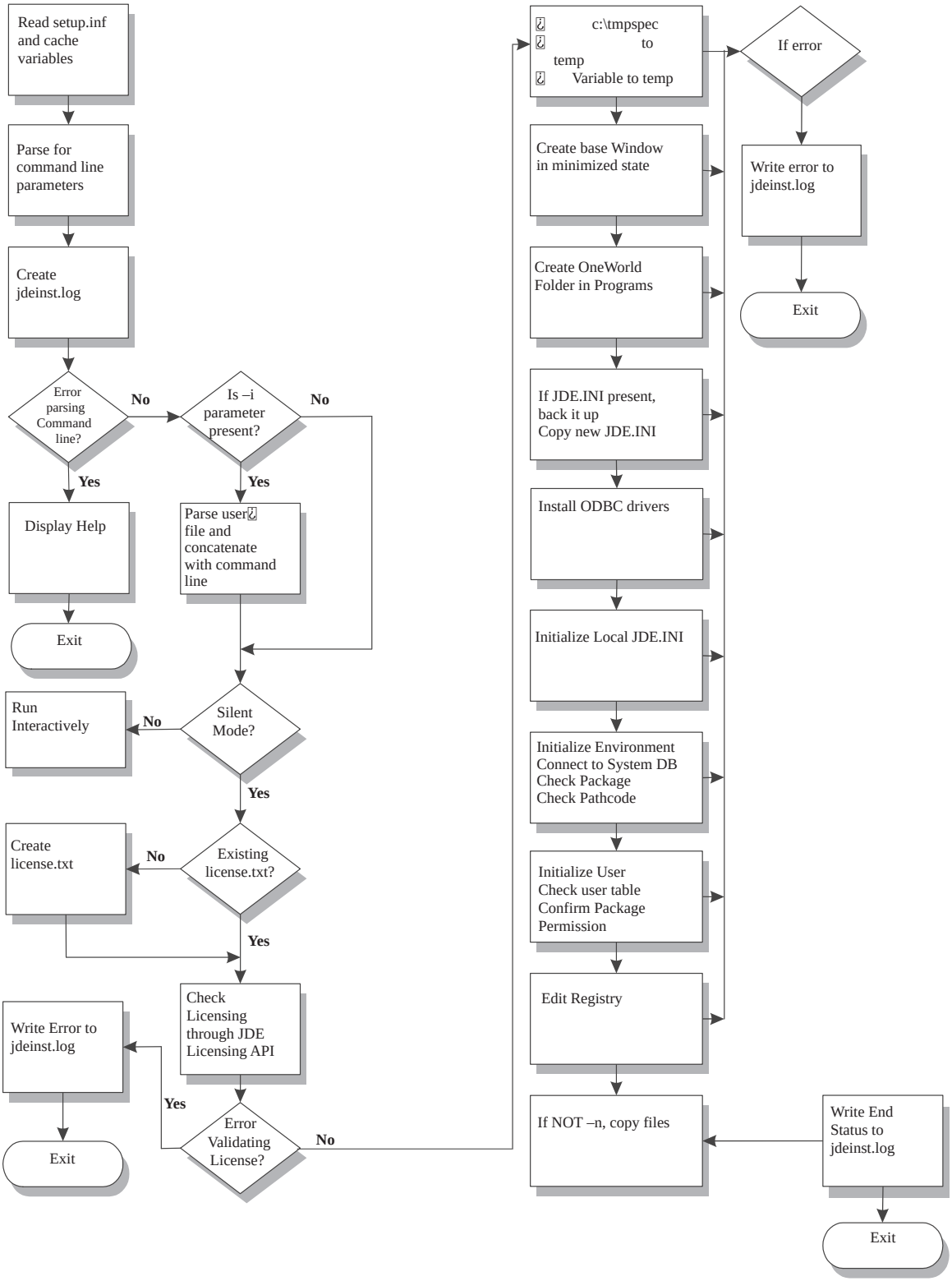
The following graphic illustrates the internal processes and program flow for setup.exe:



_csetup.exe

_csetup.exe performs most of the client installation. _csetup.exe can be executed directly from a command line, or _csetup.exe can be called by setup.exe. The same command line options apply in either case.

The following graphic illustrates the internal processes and program flow for _csetup.exe.



Creating an After-Distribution Batch File

OneWorld.bat is the batch file that executes the OneWorld client installation program and returns the status to SMS. The name OneWorld.bat is arbitrary, and you can modify the contents of the batch file.

OneWorld.bat Commands

The following table presents each command line of an example OneWorld.bat file:

Command	Explanation
@echo off	Causes commands not to be displayed on screen
if %OS% == Windows_NT set var=%SYSTEMROOT%	This is the first step in deciding where to place the status.mif. SMS requires that a status.mif file be placed in the windows directory of the workstation. The name of the environment variable associated with this directory depends on the OS type. This line compares the OS environment variable to the string Windows_NT; if this is true, the value of a new variable, "var" receives the value of the SYSTEMROOT variable, which in Windows NT represents the windows directory
if not %OS%==Windows_NT set var=%WINDIR%	This line sets "var" to the value of the WINDIR variable. This occurs for all workstations that are not running Windows NT.
setup.exe –n –s –u JDE –p PROD_A PROD	This command line executes the OneWorld client setup program. These particular switches indicate that no files are copied (–n), this is a silent install (–s), the user id is JDE (–u), and the PROD_A package located in the PROD pathcode should be used (–p).
type jdestat_0.log	Check for existence of successful log file from setup.exe
if errorlevel 1 goto FAIL	If setup.exe fails, the errorlevel returned is 1. This line instructs the batch file to continue at the :FAIL marker.
if errorlevel 0 goto SUCCESS	If setup.exe succeeds, the errorlevel returned is 0. This line instructs the batch file to continue at the :SUCCESS marker.
:FAIL	The FAIL marker.

type failed.mif> %VAR%\OneWorld.mif	The contents of the file failed.mif are placed into a file named OneWorld.mif in the windows directory, the location of which is the value of the VAR variable. OneWorld.mif will be passed to the SMS server to indicate that the job failed on this workstation. The textual description contained in the mif file will show up in the SMS event monitor.
goto END	This line instructs the batch file execution to continue at the :END marker.
:SUCCESS	The :SUCCESS marker.
type success.mif> %WinDir%\OneWorld.MIF	The contents of the file success.mif are placed into the file named OneWorld.mif in the windows directory, the location of which is the value of the VAR variable. OneWorld.mif will be passed to the SMS server to indicate that the job succeeded on this workstation. The textual description contained in the mif file will show up in the SMS event monitor.
goto END	This line instructs the batch file execution to continue at the :END marker.
:END	The :END marker.

Creating a Status.mif File

A status.mif file is a text file that is sometimes generated by the installation program to indicate the status of a package that is run on a client workstation. SMS requires any program that distributes software to provide a status.mif file to SMS upon completion. The status.mif file must contain specific information in a prescribed format. The client portion of SMS, the Package Command Manager or PCM, periodically scans the windows directory for .mif files that may have been created after a package is run on a client workstation. When a .mif is found, the PCM passes the .mif file to the SMS server to indicate the status of the package that was run.

All installation programs for currently available Microsoft products have the ability to generate a status.mif file. Many other third-party products also generate a status.mif during installation. Regardless of the product being installed, SMS uses the same minimum information to monitor the status of the package. Microsoft provides utilities with SMS that you can use to create .mif files for installation programs.

The OneWorld setup.exe does not generate a status.mif file, so you must create one. This following is an example of a status.mif file created through the OneWorld.bat file. The following status.mif is returned to SMS when the OneWorld installation fails.

```
START COMPONENT
  NAME = ”WORKSTATION”
  START GROUP
    NAME = ”ComponentID”
    ID = 1
    CLASS = ”DMTF|ComponentID|1.0”
    START ATTRIBUTE
      NAME = ”Manufacturer”
      ID = 1
      ACCESS = READ-ONLY
      STORAGE = SPECIFIC
      TYPE = STRING(64)
      VALUE = ”J.D.Edwards”
    END ATTRIBUTE
    START ATTRIBUTE
      NAME = ”Product”
      ID = 2
      ACCESS = READ-ONLY
      STORAGE = SPECIFIC
      TYPE = STRING(64)
      VALUE = ”OneWorld”
    END ATTRIBUTE
    START ATTRIBUTE
      NAME = ”Version”
      ID = 3
      ACCESS = READ-ONLY
      STORAGE = SPECIFIC
      TYPE = STRING(64)
      VALUE = ”B731”
    END ATTRIBUTE
    START ATTRIBUTE
      NAME = ”Locale”
      ID = 4
      ACCESS = READ-ONLY
      STORAGE = SPECIFIC
      TYPE = STRING(16)
      VALUE = ””
    END ATTRIBUTE
    START ATTRIBUTE
      NAME = ”Serial Number”
      ID = 5
      ACCESS = READ-ONLY
      STORAGE = SPECIFIC
      TYPE = STRING(64)
      VALUE = ””
    END ATTRIBUTE
    START ATTRIBUTE
      NAME = ”Installation”
      ID = 6
      ACCESS = READ-ONLY
      STORAGE = SPECIFIC
      TYPE = STRING(64)
      VALUE = ”DateTime”
    END ATTRIBUTE
  END GROUP
  START GROUP
    NAME = ”InstallStatus”
    ID = 2
    CLASS = ”MICROSOFT|JOBSTATUS|1.0”
    START ATTRIBUTE
      NAME = ”Status”
      ID = 1
      ACCESS = READ-ONLY
```

```
      STORAGE = SPECIFIC
      TYPE = STRING(32)
      VALUE = ″Failed″
    END ATTRIBUTE
    START ATTRIBUTE
      NAME = ″Description″
      ID = 2
      ACCESS = READ-ONLY
      STORAGE = SPECIFIC
      TYPE = STRING(148)
      VALUE = ″OneWorld installation failed.  Check c:\jdeinst.log for
details.″
    END ATTRIBUTE
  END GROUP
END COMPONENT
```

The .mif that is passed when the installation succeeds is the same as the one above, except for the section for the completion status. Below is the InstallStatus group for a successful OneWorld installation.

```
START GROUP
    NAME = ″InstallStatus″
    ID = 2
    CLASS = ″MICROSOFT|JOBSTATUS|1.0″
    START ATTRIBUTE
      NAME = ″Status″
      ID = 1
      ACCESS = READ-ONLY
      STORAGE = SPECIFIC
      TYPE = STRING(32)
      VALUE = ″Success″
    END ATTRIBUTE
    START ATTRIBUTE
      NAME = ″Description″
      ID = 2
      ACCESS = READ-ONLY
      STORAGE = SPECIFIC
      TYPE = STRING(148)
      VALUE = ″OneWorld installation Succeeded.″
    END ATTRIBUTE
  END GROUP
```

Working with SMS

To work with SMS for distribution of OneWorld packages, complete the following tasks:

- ❑ Understanding the components of SMS
- ❑ Defining the SMS package for OneWorld client installation
- ❑ Defining the SMS job
- ❑ Reviewing the SMS Event Monitor

Understanding the Components of SMS

SMS uses packages and jobs for a variety of purposes in software installation.

Packages

A package is a set of files with instructions. SMS recognizes several types of packages. A workstation package installs software to workstations and executes commands. A workstation package must include the source directory that is copied and the command to execute on the workstation. The source directory includes all files and subdirectories of a single directory tree. You cannot define multiple directories separately, nor can you exclude certain directories.

Jobs

After you have defined a workstation package, SMS uses a job to install the package to one or more clients. The type of job that initiates the execution of a workstation package is referred to as a Run Command on Workstation Job. The job defines the machines on which to execute, when to execute, and conditions relating to the execution, such as whether or not the job is mandatory.

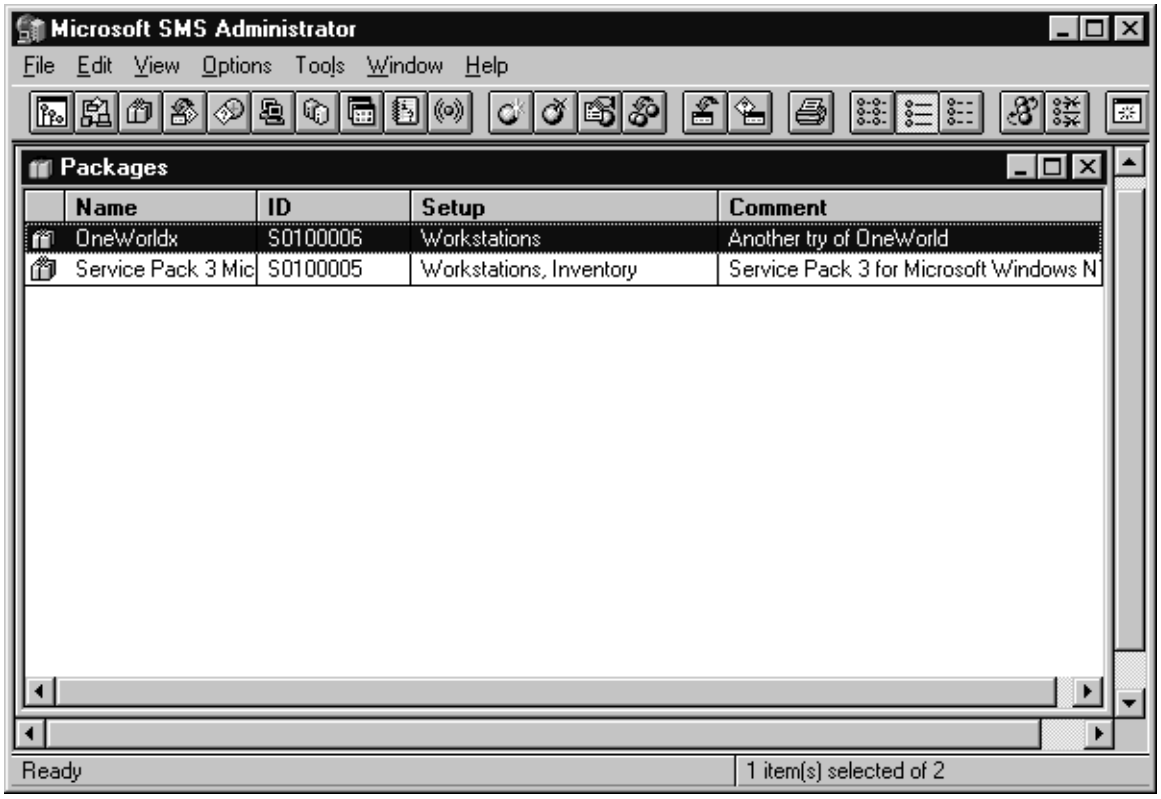
Defining the SMS Package for OneWorld Client Installation

The SMS Administrator tool allows you to open windows relating to packages, jobs, and events. You create or modify properties of a package or job in the Job Properties window.

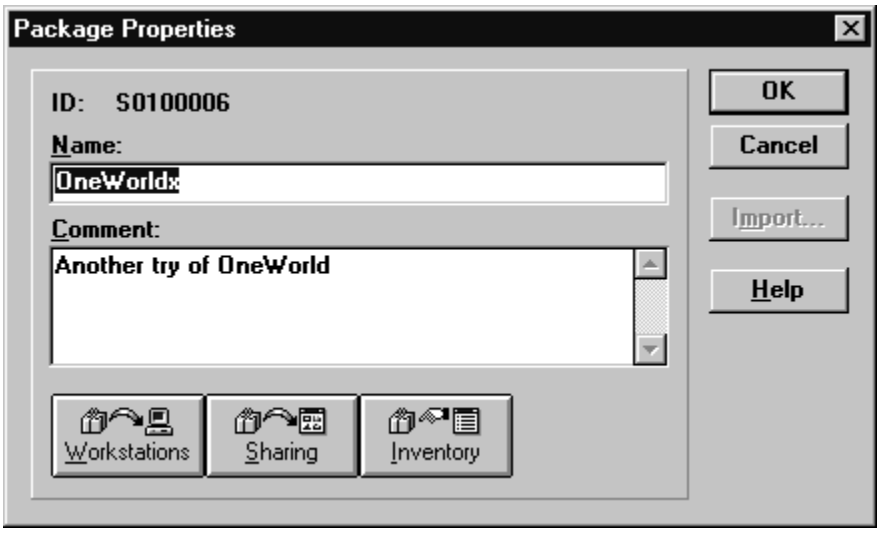
▶ To define the SMS package for OneWorld client installation

On Microsoft SMS Administrator

1. From the View menu, choose Packages.



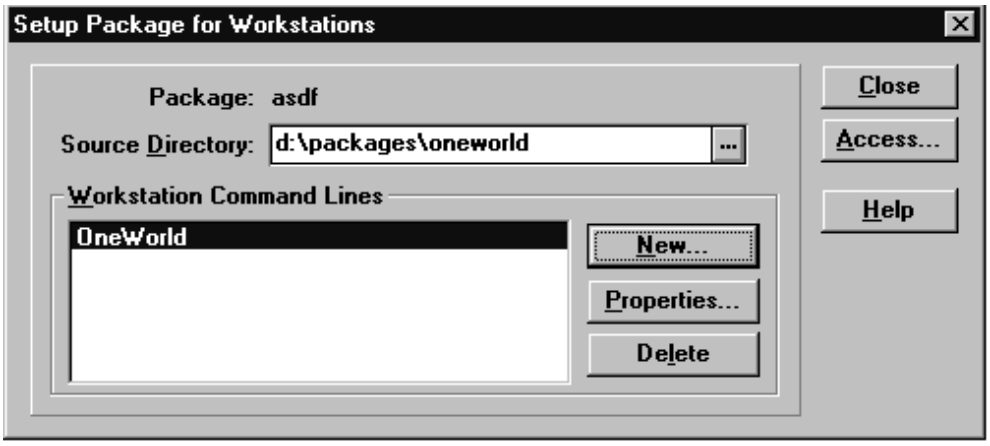
2. From the File menu, choose New.



3. On Package Properties, complete the following fields:
   - Name
   - Comment

   The comment is a textual description that identifies the package to a user. Also, notice that SMS assigns a unique package identifier when you create the package. Use this unique identifier when troubleshooting.

4. Click the Workstations button.

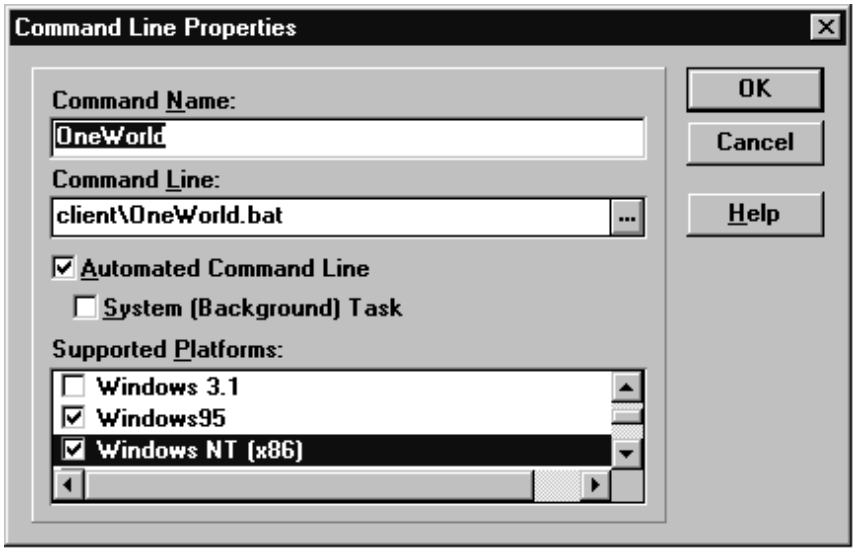


5. On Setup Package for Workstations, complete the following field:
   - Source Directory

   In this example, everything in the directory d:\packages\oneworld will be copied to the client machine.

   In this window the Command Line is only a descriptive name. Enter the details of the Command Line in the Properties form.

6. Click the Properties button.

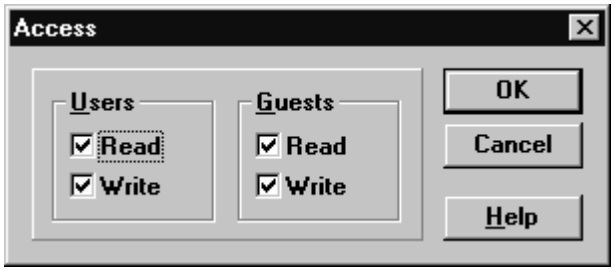


7. On Command Line Properties, complete the following fields:
   - Command Name:
   - Command Line:

   The command line in this example executes the OneWorld batch file discussed in *Creating a OneWorld Batch File*.

8. Click any of the following options:
   - Automated Command Line
   - Supported Platforms:

   Default access permissions associated with the Source directories are shown.



9. On Access, accept the default values and click OK.

Defining the SMS Job

You can define types of jobs for different uses. Use the Run Command on Workstation Job to install the package and execute a command.

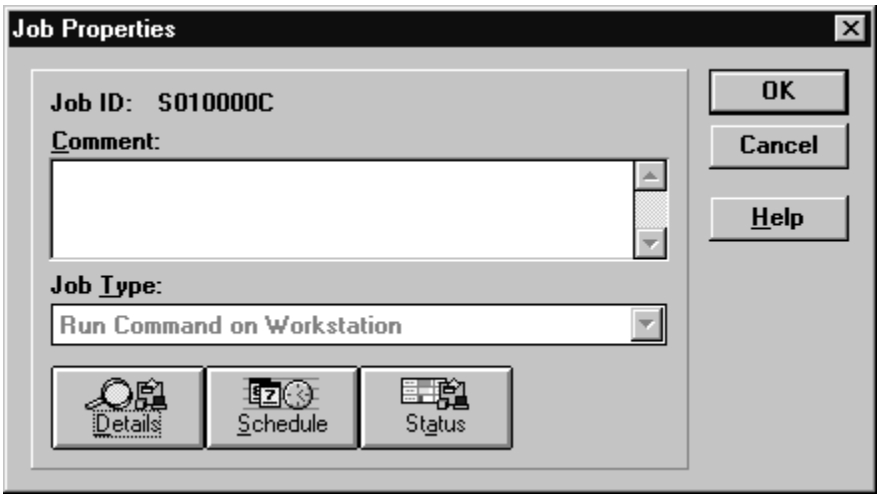
▶ To define the SMS job

On Microsoft SMS Administrator

1. From the View menu, choose Jobs.

   Use this window to monitor and modify jobs. The Jobs window displays all existing jobs and parameters relating to those jobs.

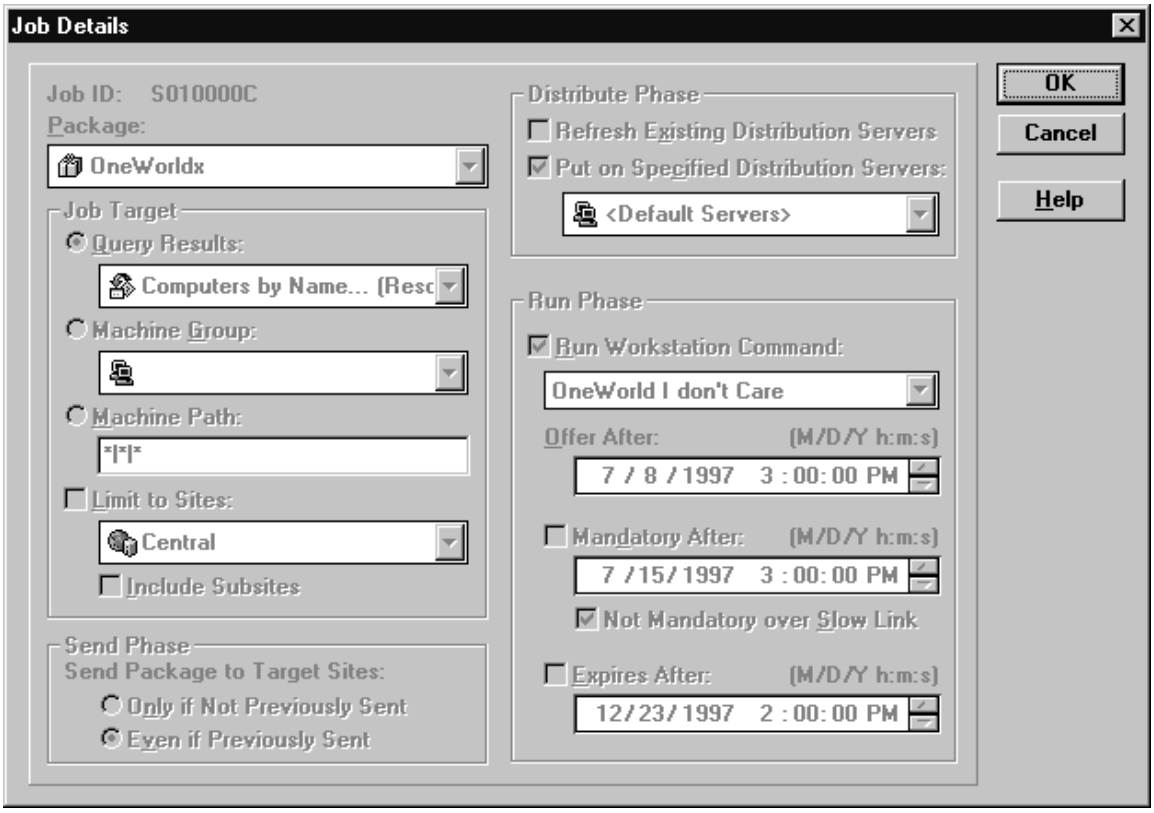
2. From File menu, choose New.



3. On Job Properties, complete the following fields:
   - Comment:
   - Job Type

   Notice that SMS assigns a Job ID. The Job ID is not the same as the Package ID. In troubleshooting, the Job ID is probably more important, because the job includes the package and corresponding characteristics.

4. Click the Details button.



5. On Details, choose the package you want to install with the job.
6. Click the following Job Target options:
    - Query Results
    - Machine Group
    - Machine Path
    - Limit to Sites
    - Include Subsites

    The job target may be any combination of methods to indicate the machine(s) on which to run the command. This example uses the results of an existing SQL query named Computers by Name. This query allows you to name specific machines to which to distribute. For additional options, see the recommended reading listed at the beginning of this document.

7. Click one of the following Send Phase options:
    - Only if Not Previously Sent
    - Even if Previously Sent

    The Send Phase options enable the administrator to indicate whether the files should be sent whether or not the files have been previously sent.

8. Click one of the following Distribute Phase options:
    - Refresh Existing Distribution Servers
    - Put on Specified Distribution Servers

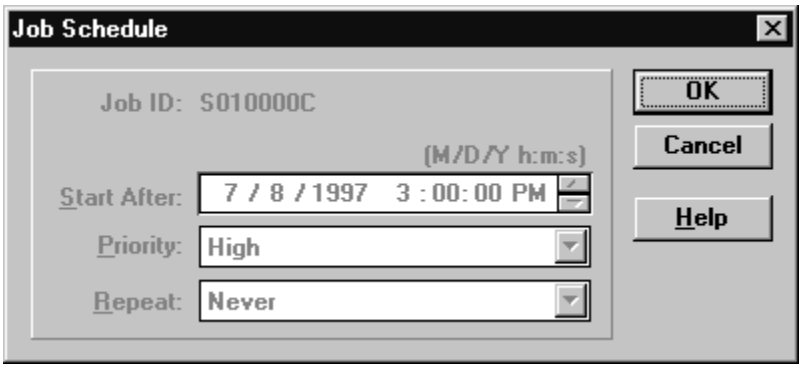
    When you click the Put on Specified Distribution Servers option, define the servers on which the package should be distributed.

9. Click any of the the following Run Phase Options and click OK:
    - Run Workstation Command
    - Offer After
    - Mandatory After
    - Not Mandatory over Slow Link
    - Expires After

    You must enter timing options for distribution. Run Phase Options define when the package should be first made available, whether the package is mandatory, and whether the package is no longer available. An option indicating whether or not the job is mandatory over a “Slow Link” can be used to prevent this job from running over network segments that the administrator has identified as slow.

    After defining job details, you are returned to the Job Properties form.

10. On Job Properties, click the Schedule button.



11. On Job Schedule, complete the following fields:

    - Start After
    - Priority
    - Repeat

    In addition to a Start After time, you can indicate the job priority and the conditions for which to repeat the job. Priority indicates how soon after the job is created that the job will be made available to the targets. In the event that a job is unsuccessful, use the repeat parameter to indicate how often SMS should attempt to repeat the job.

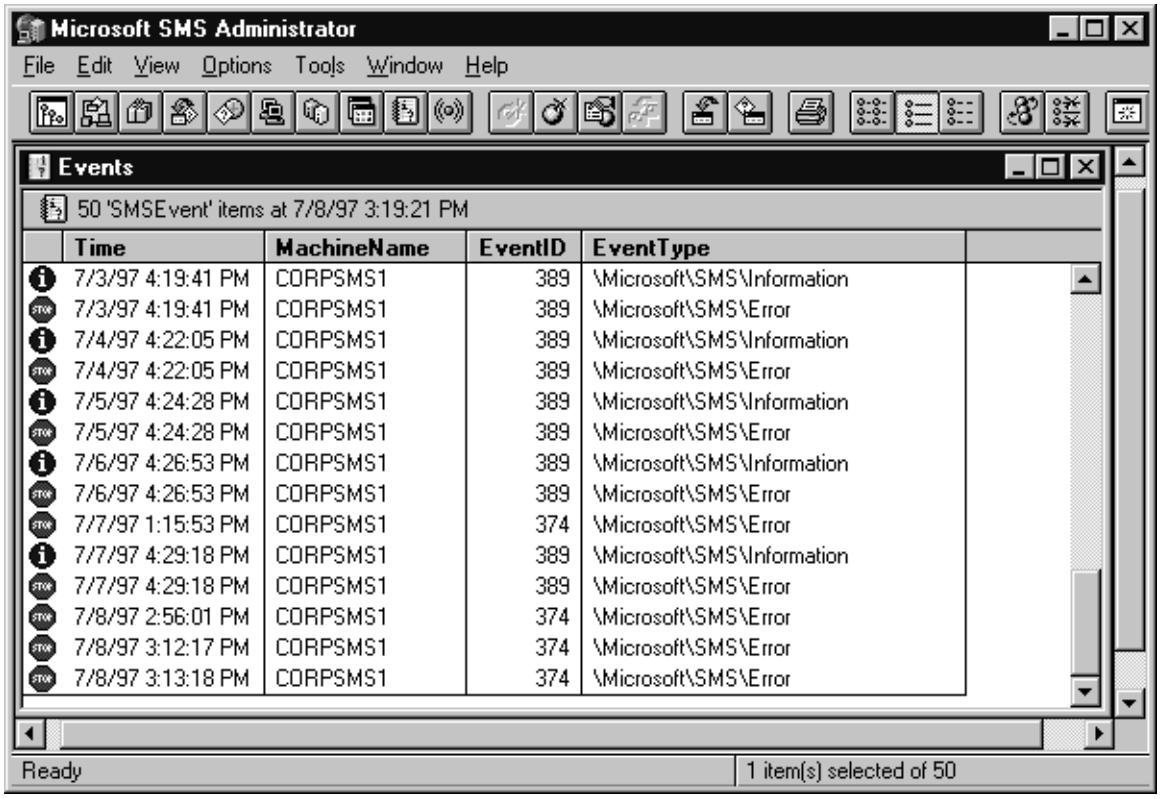
Reviewing the SMS Event Monitor

The SMS event monitor is similar to the Event Monitor packaged with Windows NT. The SMS event monitor is useful when troubleshooting. The event monitor contains details that are not shown in the status of jobs. The Events window lists events that SMS has recorded. Oldest events are listed at the top of this list.

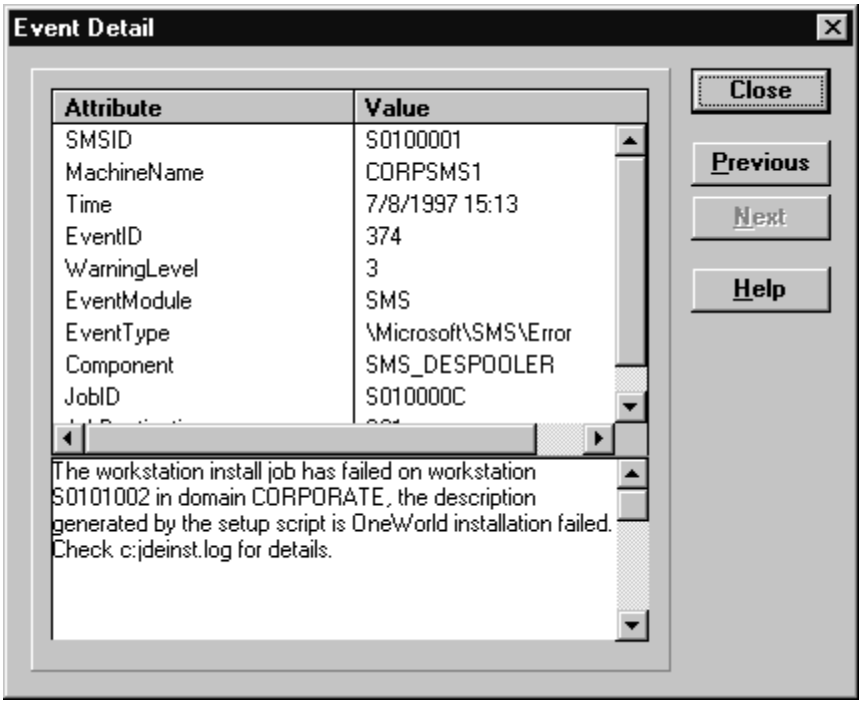
▶ To review the SMS event monitor

On Microsoft SMS Administrator

1. From the View menu, choose Events.



2. To view additional detail for an event, double-click on the event.



This example illustrates an event when a job failed to distribute the OneWorld package to a workstation. A split window displays SMS general information regarding the event and any detailed information that the event generated. In the case of a Run Command on Workstation Job, the status.mif file contains a textual description of the execution status of the job for each workstation. The lower section of the window displays the description passed as part of a failed OneWorld installation. Notice that the detail of the failure is limited. Rather than making modifications to the existing setup.exe program that provides SMS with detailed textual errors, the example passes the message to check the jdeinst.log in the case of a failure.

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