Installation Instructions

SAS® IT Service Level Management 2.1

SAS IT Service Level Management enables IT service providers to deliver strategic IT service management in accordance with the ITIL (Information Technology Infrastructure Library) best practices for IT Service Delivery to the business consumers of IT. SAS IT Service Level Management collects, aggregates, and analyses IT performance measurements for comparison against agreed upon service level targets, and ensures that accurate information flows to decision makers and IT consumers and communicates the value of IT to the organization.

The following is an overview of the five basic steps to installing SAS IT Service Level Management software. These steps are explained in detail in the sections below.

Overview

1. Install the SAS IT Service Level Management server

The SAS IT Service Level Management server and SAS IT Resource Management Server software products are installed as part of the SAS 9.1 Foundation install. Please see the User Installation Guide for SAS 9.1.3 Foundation for your platform for specific information regarding the installation process for your platform.

If you are running your install from the SAS Software Navigator using the Software Index deployment type, locate and select the SAS Setup Disk in the CD Index tree. Use the links in the right-hand pane of the SAS Software Navigator to begin the install program. You may also view documentation for the installation process, system requirements, and post-installation process. Select the Install SAS 9.1 Foundation link to launch the installation wizard.

If you are running your install from the SAS Setup Disk, you should use the links on the presented autoplay window to guide you through the install process.

Note that the installed client and server must be from the same release. If you install the SAS IT Service Level Management client for release 2.1, you must use this client with the SAS IT Service Level Management 2.1 server. In addition, if you do not have IT Resource Management 2.7 server software currently installed, then it will also be installed as part of this process. Both SAS IT Service Level Management 2.1 server and SAS IT Resource Management 2.7 server are provided as part of the SAS 9.1.3 installation package.

You may have received a copy of the SAS IT Resource Management client; however, installation of this product is optional. The SAS IT Resource Management client is not required for SAS IT Service Level Management.

2. Install the SAS IT Service Level Management Client

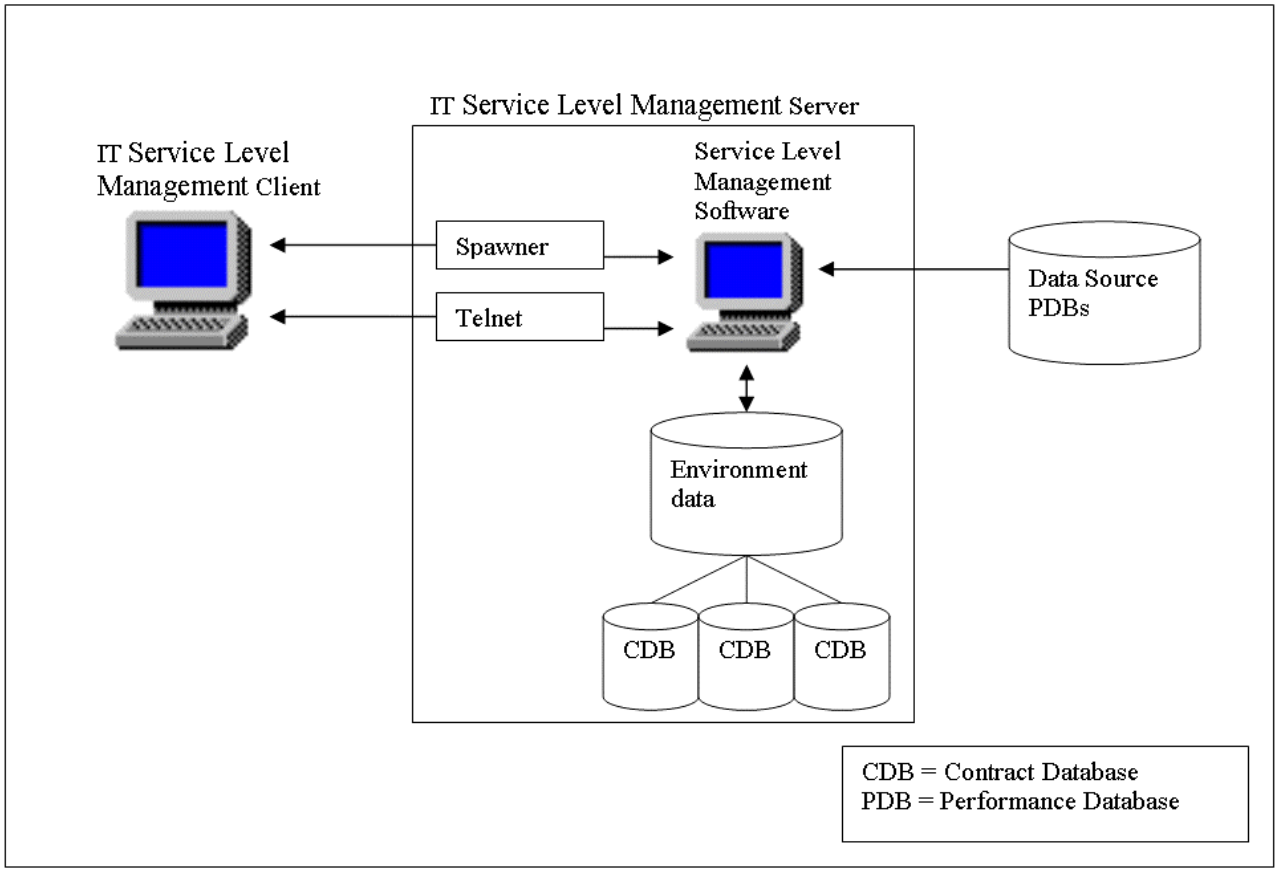
If you have arrived at this document by using the SAS Software Navigator, you may continue to install the SAS IT Service Level Management client. Select the platform-appropriate "Install" link from the Installation table via the SAS Software Navigator for the SAS IT Service Level Management Client. This action will launch the installation wizard.

3. Set up the connection between the client and server

4. **Configure web servers**
5. **Optionally, configure e-mail options and set up the sample data**
6. **Validate the SAS IT Service Level Management installation**

To install SAS IT Service Level Management for Windows NT, Windows NT Server, Windows 2000, Windows 2000 Server, Windows 2003 Server, and Windows XP Professional, administrator privileges are required.

SAS IT Service Level Management Client/Server Diagram



The diagram above depicts the connection between the SAS IT Service Level Management client and server. The SAS IT Service Level Management client runs on a Windows PC and uses JConnect software to communicate with the server. JConnect requires a connection to the server via either Telnet or a SAS/Connect Spawner that is running on the server listening for client connections.

The SAS IT Service Level Management server must contain Base SAS Software, SAS IT Resource Management 2.7 software, and SAS IT Service Level Management server software and may run on a Windows, UNIX, or z/OS operating system. Environment and Contract Databases used by IT Service Level Management must be accessible to the file system used by the server platform. Data Source PDBs that are used for input data to SAS IT Service Level Management may either reside on the server platform or reside on a platform remote to the server. SAS/CONNECT software is used to access the Data Source PDBs if they are remote.

Installation Instructions

1. Install the SAS IT Service Level Management Server

The SAS IT Service Level Management server requires SAS 9.1.3, SAS IT Resource Management server 2.7, the latest hot fixes for both SAS IT Resource Management 2.7 and SAS IT Service Level Management 2.1, and the server updates to SAS AppDev Studio. Both the SAS IT Service Level Management server and SAS IT Resource Management server are contained within the install for SAS 9.1.3. The server updates to SAS AppDev Studio, described later in this document, should be applied on each machine that will serve as a SAS data server.

Note that your SAS 9.1.3 installation package may contain installation media and documents for both the SAS IT Resource Management server and the SAS IT Resource Management client. The SAS IT Service Level Management server is located on the media that contains the SAS IT Resource Management server. Installation of the SAS IT Resource Management client is not required for SAS IT Service Level Management.

Warning: *Installing the SAS IT Resource Management software or SAS IT Service Level Management software may overwrite any customizations in your SAS System, including those customizations you have made to the PGMLIB library of SAS IT Resource Management. Please back up all customizations and restore after installing.*

Server Installation and Hot Fix Updates

1. Existing SAS 9.1.3 customers do not need to reinstall all SAS software products. However, SAS IT Service Level Management does require that SAS IT Resource Management server 2.7 be installed, in addition to SAS IT Service Level Management 2.1 server. If you already have SAS IT Resource Management 2.7 server installed, only SAS IT Service Level Management 2.1 server needs to be installed.

   From the SAS software media, install SAS 9.1.3 according to the install instructions given on the media for the server.

2. Download and install the latest hot fixes for both SAS IT Resource Management 2.7 and SAS IT Service Level Management 2.1 from `http://ftp.sas.com/techsup/download/hotfix/hotfix.html`.

   Locate the section for Additional SAS Products and Solutions and select that link. Hot fixes for both SAS IT Resource Management 2.7 and for SAS IT Service Level Management 2.1 will be available on that page.

SAS AppDev Studio SAS Server Updates

Apply the SAS AppDev Studio SAS Server updates. These are located in the miscellaneous area of your installed SAS IT Service Level Management server:

- On Windows, in `!sasroot\itslm\sasmisc\cpadsv9.cpo`
- On UNIX, in `!sasroot/misc/itslm/cpadsv9.cpo`
- On z/OS, in `!SASROOT.CPMISC(CPADSV9)`

Invoke SAS and submit the following statements:

```
proc cimport lib=sashelp force
infile='<Location of Updates>';
run;
```

where `<Location of Updates>` is the appropriate path for your platform as listed above.

Set up SAS IT Service Level Management Environment and Contract Databases (z/OS only)

If your server is on z/OS, you must pre-allocate and initialize the environment and contract databases. On the server host, the SAS IT Service Level Management server software has a partitioned data set (PDS) named CPMISC. This PDS has a member named CMSLMALC that contains a sample batch job that you can customize and submit to allocate and initialize the environment and contract databases. For more information, see the instructions in CMSLMALC.

Note: *When connecting from the client to this IT Service Level Management server, the path that you specify for the "Path to Environment Database" in the Environment Properties Dialog will be the path to this newly allocated and initialized environment database.*

Sharing an Environment Database among Multiple Users and Jobs (all platforms)

Using SAS/SHARE software, it is possible to share an Environment Database among multiple users and jobs. In the miscellaneous area of your installed SAS IT Service Level Management server area is the following file:

- On Windows, in `!sasroot\itslm\sasmisc\cpslmshr.sas`
- On UNIX, in `!sasroot/misc/itslm/cpslmshr.sas`
- On z/OS, in `!SASROOT.CPMISC(CPSLMSHR)`

Although this file contains sample code which can be modified to invoke a SAS/SHARE server, it does not present an exhaustive list of all functionality. Please refer to the *SAS/SHARE User's Guide* in the SAS OnlineDoc 9.1.3.

Creating a new Environment Database, Contract Database, or Report Output Location (Windows 2003 Server only)

If you attempt to create a new Environment Database, Contract Database, or Report Output Location, the underlying server process might not have permission to accomplish that task. For a description of this problem and information about how to resolve it, see your systems administrator. You can also see SAS Note SN-015642 on the Technical Support Web site.

2. Install the SAS IT Service Level Management Software Client

Select the platform-appropriate **Install** link from the Installation table via the SAS Software Navigator for the SAS IT Service Level Management Software client. This action will launch the installation wizard.

You will need to have a Java Runtime Environment (JRE) installed. The install wizard will first search for the SAS Private JRE, and will only search for a Standard Public JRE if the appropriate version of the SAS Private JRE is not detected. If the recommended version of Java is not located in one of the paths specified below, the install wizard will give you an opportunity to enter a path to a valid JRE or to install a supplied version of JRE.

The install wizard will search for a valid JRE in the following locations and order:

Windows Registry Key

- `HKEY_LOCAL_MACHINE\SOFTWARE\SAS Institute Inc.\SAS JRE\1.4.2_07`

SAS Private JRE

- `<rootdrive>\Program Files\SAS`
- `<rootdrive>\Program Files\SAS Institute`
- `"rootdrive>\Program Files\Java`

- <rootdrive>\Program Files\JavaSoft

Standard Public JRE

- <rootdrive>\Program Files\Java
- <rootdrive>\Program Files\JavaSoft
- C:\j2re1.4.2_07
- C:\j2sdk1.4.2_07
- C:\jre1.4.2_07
- C:\jdk1.4.2_07
- C:\java1.4.2_07
- C:\java

Warning: *SAS strongly recommends that you run your SAS software using the Java Runtime version required for the software. SAS will not provide support for an alternate JRE version that has not been subjected to full testing by SAS.*

In order to operate properly, SAS IT Service Level Management 2.1 requires JRE 1.4.2_07. The JAVA_HOME environment variable needs to be set to the directory that JRE 1.4.2_07 was installed in. See your Windows documentation for how to set environment variables.

Configuration Instructions

1. Set up the Connection between the Client and the Server

SAS IT Service Level Management uses JConnect software to communicate between the client and the server. This software requires you to configure a connection between the client and the server. There are two methods that can be used-a spawner and telnet. Windows requires a spawner, and a spawner is recommended for other systems as well. For Windows and UNIX, the SAS/CONNECT spawner is located in the root directory for SAS.

If your site already has a spawner set up for a previous release of SAS, you may wish to have both the existing spawner and a new spawner for SAS version 9.1.3. If so, the new spawner must use a different port, and you must define a new environment definition in the SAS IT Service Level Management client to connect to the server using this port.

If you chose to use SAS/SHARE® to share an Environment Database among multiple users and jobs, please ensure that this server is running.

For additional information, see the Appendix on Post-Installation Setup for SAS/CONNECT Software for your appropriate platform or the Communications Access Methods for SAS/CONNECT and SAS/SHARE manual. This book can be ordered via the SAS Web site at `http://www.sas.com/apps/pubscat/complete.jsp` under SAS/CONNECT. The information on how to run the spawner is also located in the SAS online documentation at *SAS/CONNECT User's Guide*, *SAS/SHARE User's Guide*, and ***SAS/Share User's Guide*→Communications Access Methods→Spawners and Files→<family> Spawner**.

2. Validate the SAS IT Service Level Management Installation

1. Start the spawner to the SAS IT Service Level Management server. See the SAS/CONNECT documentation for directions on how to run the spawner. Either a spawner or a telnet connection must be available for the SAS IT Service Level Management client to run.
2. Run SAS IT Service Level Management from the start menu under Programs->SAS->SAS IT Service Level Management 2.1. If successful, you should be presented with the SAS IT Service Level Management login dialog. Note that this dialog window can possibly be obscured by other

windows, so it's a good idea to minimize or close other windows before running SAS IT Service Level Management.

3. On the login dialog, press the Edit button, then the Properties button on the selected environment database to update the location of your SAS IT Service Level Management environment database on the server. Update the attribute values as indicated below:

   - Name: Chosen by the user
   - Description: Chosen by the user
   - Hostname: Fully qualified domain TCP hostname, e.g. myserver.mycompany.com
   - Port: Port for the spawner or telnet session.
   - Server OS: Operating system of the server.
   - Spawner: Check if a spawner is used.
   - Connection requires authentication: Check if authentication is required.
   - SAS Command: Revise to point to the correct SAS command to invoke the 9.1.3 version of SAS
   - Path to Environment Database: Set this to the location where the environment database should be created. For z/OS, this is the location of the directory created in "Set up SAS IT Service Level Management Environment Database" above. This can point to the sample environment database if it has been installed.
   - Path to Software: Leave this blank unless the SAS IT Service Level Management server is installed in a non-default location. If it is installed in a non-default location, then this should reflect the directory where SAS IT Service Level Management server software is installed.

   If you chose to use SAS/SHARE to share an Environment Database among multiple users and jobs, you will need to supply values for the following two attributes:

   - Enable SAS/SHARE: Check to enable SAS/SHARE.
   - SAS/Share Service or Port: Specify the service name or port number that your SAS/SHARE server has been configured to use.

   The remaining properties are optional and may not need to be modified. Please see the SAS IT Service Level Management 2.1: User's Guide for further specifications.

4. Press **OK** and then **OK** again to save your changes. Enter your user ID and password for the specified server (or leave them blank for servers that do not require authentication). Then press **OK** once more to continue.

5. The SAS IT Service Level Management main window should appear shortly. If you have installed the sample environment database, then you will see the sample contracts in the Contract Workspace tree. If you have not, then the environment database will be empty and you will be presented with an empty Contract Workspace. You will need to switch to the Catalog Workspace and begin creating objects (like components, services, range sets) to start seeing things in the Catalog Workspace tree.

3. Configure Web Servers

Report jobs in SAS IT Service Level Management generate HTML files. Depending on your platform and file system configuration, these HTML files may or may not require that a web server be configured.

For example, if the HTML files are available on a Windows file system that is local to your web browser, then you may not need a web server to be able to view these files. In most other cases, the HTML files will probably need to be made viewable via a web server. Consult your system administrator or web administrator for details on your site-specific needs.

When configuring a web server to serve the HTML files generated by SAS IT Service Level Management, you should make the default page be `index.html` for the directories created by SAS IT Service Level Management.

4. Optionally Configure SAS to Support Email Triggers

E-mail notifications inform servicing contacts that a target was missed in some aspect of a contract, SLA, service, or component for which the contacts have responsibility. In order for these automated e-mail notifications to be sent, the following SAS options must be set:

- -EMAILSYS
  Example: `-EMAILSYS=SMTP`

  Note that currently the only transfer protocol supported by SAS IT Service Level Management is SMTP.
- -EMAILHOST
  The value for this option is the hostname for your site's email server.

  Example: `-EMAILHOST=server.subdomain.domain.com`
- -EMAILPORT
  The value for this option is the port your email server is listening on. The SMTP default port is 25.

  Example: `-EMAILPORT=25`

These options may be set either in the SAS configuration file or specified as part of the SAS invocation command. Please consult your site SAS representative to determine the proper usage for your installation.

5. Set up Sample Data (optional)

Sample files have been provided for SAS IT Service Level Management. These files are not essential for the use of SAS IT Service Level Management, but may be helpful in learning how to use the solution. Installation of these samples will require approximately 940 MB of free disk space. The samples are in a ZIP file format on your **SAS IT Management Client Components** CD and contain files and code for creating one environment database (EDB), one contract database (CDB), one data source performance database (PDB), sample reports, sample job code, and one SAS Enterprise Guide project. To install the sample files, locate and unzip the sample ZIP file in the samples folder of your **SAS IT Management Client Components** CD. If you unzip the files to the root directory of your C: drive (recommended), you will see the folders below.

- `C:\slm\samples\Transport`
- `C:\slm\samples\EDB`
- `C:\slm\samples\CDB`
- `C:\slm\samples\PDB`
- `C:\slm\samples\SLReports`
- `C:\slm\samples\BaselineReports`
- `C:\slm\samples\JobCode`
- `C:\slm\samples\EGProject`

Follow the instructions below for completing the installation.

Note that the sample files are designed to run on a Windows platform and to read and write from the `c:\slm\samples` folder. You may install or move the samples to a different folder. However, if you change or rename the sample directory folder or if you install the sample databases on a UNIX or z/OS platform, then you must update the contract database and report specification paths in the contract workspace and the report workspace of the environment database.

Transport

This directory contains 3 SAS transport files and 3 SAS programs that will import databases from the transport files to create your sample environment database (EDB), data source performance database (PDB), and contract database (CDB). The three SAS programs contain the instructions for importing the transport files on Windows, UNIX and z/OS platforms.

EDB

This directory is originally empty. After you follow the steps below to import the EDB transport file, this directory will contain a sample environment database. The contract workspace contains 3 contracts in two folders. Two contracts are active and one is inactive. The contract names are Big Dollar Bank Ltd., Finance Department, and Sales Department. The Report workspace contains 5 report specifications in two folders. The report specification names are self explanatory. The Data workspace contains two Data Source PDBs. However, for sample purposes, they both point to a single Data Source. Follow the steps below to install the sample environment database.

1. Copy the transport file, `edb.xpt`, to your SAS IT Service Level Management server. If your SAS IT Service Level Management server is a z/OS system, you should first allocate the transport file location on z/OS with the following DCB characteristics: `LRECL=80`, `BLKSIZE=8000`, and `RECFM=FB`. Then use a tool such as ftp to transfer your file in binary mode to your server.
2. Copy the SAS program, `ImportEDB.sas`, to your SAS IT Service Level Management server. Open the `ImportEDB.sas` file and customize according to the instructions contained in the top of the program. Each place where customization is required contains an explanation. Please follow the instructions at the top of the `ImportEDB.sas` file on allocating libraries.
3. If your SAS IT Service Level Management server is a Windows or UNIX system, submit the `ImportEDB.sas` code from the program editor of your SAS session or from the system command line with these commands.

   Windows:

   ```
   sas.exe -sysin ImportEDB.sas -icon -nosplash -noxwait
   ```

   UNIX:

   ```
   sas ImportEDB.sas -noterminal -xrm 'SAS.startSessionManager:false'
   ```

   If your SAS IT Service Level Management server is a z/OS system, use JCL to submit this code in batch mode. You may use CMSLMALC located in your CPMISC library as a template.

CDB

This directory is originally empty. After you follow the steps below to import the contract database transport file, this directory will contain a sample contract database named Finance Department. Follow the steps below to install the sample contract database.

1. Copy the transport file, `cdb.xpt`, to your SAS IT Service Level Management Server. If your SAS IT Service Level Management server is on a z/OS system, you should first allocate the transport file location on z/OS with the following DCB characteristics: `LRECL=80`, `BLKSIZE=8000`, and `RECFM=FB`. Then use a tool such as ftp to transfer your file in binary mode to your server.
2. Copy the SAS program, `ImportCDB.sas`, to your SAS IT Service Level Management server. Open the `ImportCDB.sas` file and customize according to the instructions contained at the top of the program. Each place where customization is required contains an explanation. Please follow the instructions at the top of the `ImportCDB.sas` file on allocating libraries.

3. If your SAS IT Service Level Management server is a Windows or UNIX system, submit the `ImportCDB.sas` code from the program editor of your SAS session or from the system command line with these commands.

   Windows:

   ```
   sas.exe -sysin ImportCDB.sas -icon -nosplash -noxwait
   ```

   UNIX:

   ```
   sas ImportCDB.sas -noterminal -xrm 'SAS.startSessionManager:false'
   ```

   If your SAS IT Service Level Management server is a z/OS system, use JCL to submit this code in batch mode. You may use CMSLMALC located in your CPMISC library as a template.

   Note that while the EDB contains 3 contracts, only one contract database is provided in the sample files. However, you can create all of the contract databases yourself by running ETL job code.

PDB

This directory is originally empty. After you follow the steps below to import the PDB transport file, this directory will contain a sample data source performance database. This is the data source for all contracts in the environment database. Follow the steps below to install the sample data source performance database.

1. Copy the transport file, `pdb.xpt`, to your SAS IT Service Level Management Server. If your SAS IT Service Level Management server is on a z/OS system, you should first allocate the transport file location on z/OS with the following DCB characteristics: `LRECL=80`, `BLKSIZE=8000`, and `RECFM=FB`. Then use a tool such as ftp to transfer your file in binary mode to your server.
2. Copy the SAS program, `ImportPDB.sas`, to your SAS IT Service Level Management server. Open the `ImportPDB.sas` file and customize according to the instructions contained at the top of the program. Each place where customization is required contains an explanation. Please follow the instructions at the top of the `ImportPDB.sas` file on allocating libraries.
3. If your SAS IT Service Level Management server is a Windows or UNIX system, submit the `ImportPDB.sas` code from the program editor of your SAS session or from the system command line with these commands.

   Windows:

   ```
   sas.exe -sysin ImportPDB.sas -icon -nosplash -noxwait
   ```

   UNIX:

   ```
   sas ImportPDB.sas -noterminal -xrm 'SAS.startSessionManager:false'
   ```

   If your SAS IT Service Level Management server is a z/OS system, use JCL to submit this code in batch mode. You may use CMSLMALC located in your CPMISC library as a template.

SLReports

This directory contains the service level report samples for all the contracts in the EDB. To view these reports point your web browser to `C:\slm\samples\SLReports\Provider\AllProviders\text\index.htm`.

BaselineReports

This directory contains a gallery of baseline reports for the Finance Department contract. To view these reports point your web browser to `C:\slm\samples\BaselineReports\finance\welcome.htm`.

JobCode

This directory contains job code examples for running ETL and reports jobs for the Finance Department contract. The sample EDB and PDB must be installed before you run the ETL job code. In addition, the CDB must be installed or you must run the ETL job code to create the CDB before you run the report job code. You may use ITSLM to create job codes for the other contracts in the sample environment database.

EGProject

This directory contains one EG project of reports created with SAS Enterprise Guide 3.02. To view these reports, you must have SAS Enterprise Guide 3.02 installed. In the SAS Software Navigator, locate and select the SAS Enterprise Guide software product in the product tree. Use the tabs on the right of the SAS Software Navigator to read instructions for installing SAS Enterprise Guide. Select the platform-appropriate **Install** link from the Installation table via the SAS Software Navigator for SAS Enterprise Guide. This action will launch the installation wizard. You must also install EG hot fix 30EG03, or later, which is available from the SAS technical support web site, `http://ftp.sas.com/techsup/download/hotfix/ent_guide30.html`.

The sample reports are inside the project file `ITSLM21.egp`. See the SAS Enterprise Guide documentation for more details on how to view the project file. There are notes on the reports contained in the project file that you can view by double-clicking on the **Notes** icon at the top of the project tree. The sample project is designed to work with the contract database which is included in the sample files.

Note: *Double-clicking on the* `ITSLM21.egp` *may not bring up SAS Enterprise Guide if this type of file has not been previously defined as an SAS Enterprise Guide file. See your Windows documentation for how to define an .egp file as an SAS Enterprise Guide file.*

Uninstalling the SAS IT Service Level Management Client

To uninstall the SAS IT Service Level Management client, remove SAS IT Service Level Management from the Add/Remove Programs, or use the uninstall file (`Uninstitslm.exe`) or the uninstall jar (`uninstall.jar`) located in the SAS IT Service Level Management install directory:

```
<SAS IT Service Level Management install directory\>_uninstITSLM
\Uninstitslm.exe

javaw -jar "C:\Program Files\SAS\SASITServiceLevelManagement\2.1
\_uninstITSLM\Uninstall.jar"
```