



General Guide to Installation and Migration for Client/Server BAMS/DSS

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The Information Technology Company

5700 SW 34th Street
Suite 1235
Gainesville, Florida 32608-5371
Phone (352) 381-4400
Fax (352) 381-4444
E-mail info@infotechfl.com
Internet www.infotechfl.com

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1. Overview


This guide describes how to install the Client/Server Trns•port BAMS/DSS[®] product on the Windows NT/2000 platform and, in particular, effect a migration to DSS 6.0. A moderate level of proficiency is assumed with SAS and Windows NT/2000 Workstation/Server administration. Please review the entire instructions carefully before you begin this installation.

- 📄 **Note:** If you will be upgrading from a previous release of DSS, be sure to backup your existing installation prior to upgrade.

2. Application Server Installation

2.1 Basic Steps

1. Install Windows NT Workstation 4.0 or Windows NT Server 4.0 with a minimum of Service Pack 5 (Service Pack 6a recommended). Alternatively, you may use Windows 2000 Professional or Windows 2000 Server.
2. Install SAS 8 for Windows NT Workstation or Windows NT Server to match the operating system in question. Alternatively, you may use SAS for Windows 2000 Professional or Windows 2000 Server, respectively. The currently recommended SAS 8 Components for the Application Server to function are: Base, Stat, Graph , Connect, Access for ODBC. If you will be running the Application Server and Interface Server software on the same machine, you need to combine the SAS components for both. That is, you will need: Base, Share, Connect, Access for ODBC, Stat, and Graph.
3. Install the Application Server software contained on the DSS 6.0b CD. The DSS 6.0b CD contains the document, *appserver install.pdf*, which outlines the steps required to install the Application Server software.

 **Note:** If you will be effecting an upgrade, please rename the current Application Server directory, usually **itidps**, to something like **itidpsold**. Hence, when the new software is installed, it will not overwrite your current files. Or, alternatively, choose a new directory name that will not conflict with your current structure.

4. Install any Application Server upgrades that are available.
5. If you will be printing graphical output files such as Line Item Profiles, etc., the correct printer driver software for the printer(s) in question will need to be installed via the Add Printer icon on the Application server machine. You will need to be logged on as a local administrator to install the printer software.

Once installed, the logical printer created will be assigned a name. This name is evident under the printer icon created by the Windows operating system. This name will then be utilized within graphics profiles to allow users to print to the specific printer in question. Please record the name given to the printer to be used later during graphic profile setup. Please refer to Section 8 for graphic profile setup procedures.

2.2 General Notes

The application server stores a great number of files that are created during batch processes. By default, the app server software wants to use the C: drive as its home. Hence that default hard drive should be allocated as much space as possible. Here in-house we create a 2GB partition for the C: drive as NTFS during Win NT installation and then use third party software to increase the size of the partition to its maximum extent. Alternatively, special steps can be taken to adjust the itidpssv.cfg startup file to point to a central location to store its output files.

If this alternative approach is taken, the central repository hard drive should be increased to its maximum extents. If necessary, you can install the software on an alternative drive. However, be sure to note this location. The drive chosen should be as large as possible to accommodate a large number of files.

Have your SETINIT licensing information for SAS available if necessary. Sometimes it is available on paper, a floppy diskette, or already embedded on your customized CD.

When you install SAS, it looks for Internet Explorer 5 to be contained on your drive. It is helpful to answer YES to its prompts, if necessary, and allow the install program to install IE5.0 and the Microsoft DAC and Runtime components. It will require you to reboot during this process. Also, it helps to choose the CUSTOM option so you can verify that all required components are selected for installation.

When you set up SAS 8, it wants to create a profile entry under ...\\Administrator\\... because you are usually logged in under Administrator to install software on an NT/2000 machine. It may be better to edit the proposed line during install and change \\Administrator\\ to \\All Users\\. This may help some of the privilege problems that occur for a regular user vice system admin type when they log in. This is especially pertinent when you are setting up DSS on an NT/2000 machine.

For Application Server setup, please have your CD installation key available. It will be required for software installation.


During Application Server setup, you will be prompted for some information. You will need to specify the locations of the SAS executable and configuration files. Lastly, you will be prompted for the name of the SAS/SHARE Server for the Interface Server(usually DSSINTF).

After Application Server setup, you may need to create an ODBC DSN that will be used to allow the Application Server to connect to the Database Server via ODBC for batch processes. Also, another ODBC DSN may need to be created that points to the Database for Trns•port Letting and Awards System[®] (LAS). This will allow users of DSS to create LAS views.

3. Interface Server Installation

3.1 Basic Steps

1. Install Windows NT Workstation 4.0 or Windows NT Server 4.0 with a minimum of Service Pack 5 (Service Pack 6a recommended). This is not required if you will be co-hosting the Application Server and Interface Server on the same machine. Alternatively, you may use Windows 2000 Professional or Windows 2000 Server.
2. Install SAS 8 for Windows NT Workstation or Windows NT Server to match the operating system in question. Alternatively, you may use SAS for Windows 2000 Professional or Windows 2000 Server, respectively. The currently recommended SAS 8 Components for the Interface Server to function are: Base, Share, Connect, Access for ODBC. If you will be running the Application Server and Interface Server software on the same machine, the required components for SAS should have been installed during Application Server setup.
3. Install the Interface Server software contained on the DSS 6.0b CD. The DSS 6.0b CD contains the document, *intserver install.pdf*, which outlines the steps required to install the Interface Server software.

 **Note:** If you will be effecting an upgrade, please rename the current interface directory, usually **dssintf**, to something like **dssintfold**. Hence, when the new software is installed, it won't overwrite your current files. Or, alternatively, choose a new directory name that will not conflict with your current structure.

4. Install any Interface Server upgrades that are available.

3.2 General Notes

The interface server stores a great number of files that are created during view creation processes. By default, the interface server software wants to use the C: drive as its home. Hence that default hard drive should be allocated as much space as possible. Here in-house we create a 2GB partition for the C: drive as NTFS during Win NT installation and then use third party software to increase the size of the partition to its maximum extent.

Alternatively, special steps can be taken to adjust the envloc.sas7bdat configuration file to point to a central location to store its output files. If this alternative approach is taken, the central repository hard drive should be increased to its maximum extents. If necessary, you can install the software on an alternative drive. However, be sure to note this location. The drive chosen should be as large as possible to accommodate a large number of files.

Have your SETINIT licensing information for SAS available if necessary. Sometimes it is available on paper, a floppy diskette, or already embedded on your customized CD.

When you install SAS, it looks for Internet Explorer 5 to be contained on your drive. It is helpful to answer YES to its prompts, if necessary, and allow the install program to install IE5.0 and the Microsoft DAC and Runtime components. It will require you to reboot during this process.

When you set up SAS 8, it wants to create a profile entry under ...\`Administrator`\... because you are usually logged in under Administrator to install software on an NT/2000 machine. It may be better to edit the proposed line during install and change \`Administrator`\ to \`All Users`\. This may help some of the privilege problems that occur for a regular user vice system admin type when they log in. This is especially pertinent when you are setting up DSS on an NT/2000 machine.

For Interface Server setup, please have your CD installation key available. It will be required for software installation.

During Interface Server setup, you will be prompted for some information. You will need to specify the locations of the SAS executable and configuration files. You will be prompted for the machine name of the Server where the Interface Server software will reside. If the machine name is greater than eight characters, you will need to create an alias name for it. You will be prompted for the installation path for the Application Server software. This is usually `c:\itidps`. You will be prompted for the type of DSS database: Oracle, MySQL, DB2, or Sybase. You must provide an ODBC DSN, Userid, and Password. You will be prompted for the type of LAS database: Oracle, DB2, or Sybase. You must provide an ODBC DSN, Userid, and Password. Lastly, you will be prompted for the name of the SAS/SHARE Server for the Interface Server(usually DSSINTF). A SAS batch job will then run to set these entered configuration parameters. Please wait for this job to finish before proceeding.

The following directories can be helpful during troubleshooting. On the Interface Server: \`dssintf\scripts` has startup file `intface.bat` and `setenv.sas` which has environment

variables; \dssintf\instdat has envloc which has library pointers, spawner, and uiserver entries and envprm which has default options, dssdb, and plcdb statements.

4. Client Installation

4.1 Basic Steps

1. Install Windows NT Workstation 4.0 with a minimum of Service Pack 5 (Service Pack 6a recommended). This will have occurred during original client computer setup. Alternatively, you may use Windows 2000 Professional.
2. Install the Client software contained on the DSS 6.0b CD. The DSS 6.0b CD contains the document, *client install.pdf*, which outlines the steps required to install the Client software.
3. Install the database initialization file that the client will utilize for connection. This file is created during database setup and configuration.
4. Test connectivity. Once established, proceed to install any client upgrades that are available.


4.2 General Notes


For Client setup, please have your CD installation key available. It will be required for software installation.

During Client setup, you will be prompted for some information. You will be prompted for the machine name of the Server where the Interface Server software resides. If the machine name for the Server is greater than eight characters, you will need to add an alias name in the HOSTS file for the client. Note: this would have been addressed during Interface Server installation. Lastly, you will be prompted for the name of the SAS/SHARE Server for the Interface Server(usually DSSINTF).

The Client requires an initialization file to connect to the database. During installation, a generic file, dss6.ini, is placed on the client under the windows(or winnt) directory. This file can also be modified to point to a specific database ini file used for connection. This specific ini file, dssdb.ini, can be created via the utility, setdss.exe, available on the DSS 6.0b CD under the Utility folder. Typical entries are as follows:

DSS Database Client	Database, DSN, User, and Password entries which allows the client to connect to the DSS database.
DSS Database Batch	Database, DSN, User, and Password entries which allows the Application server to connect to the DSS database to run batch processes.
Interface Server Client	Database entry which allows the client to connect to the Interface server.
Interface Server Batch	Database entry which allows the Interface server to connect to the Application server to run batch processes.
PLC Database Batch	Database, DSN, User, and Password entries which allows the user to connect to an LAS database to create LAS views or import LAS data directly from LAS database tables.
SiteManager Database Batch	Database, DSN, User, and Password entries which allows the user to connect to SiteManager and directly import SiteManager data.
Site Info	Agency Name, Connect Timeout in seconds.

 **Note1:** These values will be set up by the Trns•port administrator.

 **Note2:** It is very important to establish connectivity at the 6.0b level first before proceeding to any upgrade levels. Information in the client initialization files needs to be established correctly first. That information is then utilized during the upgrade process.

5. Workstation Installation

5.1 Basic Steps

1. Install Windows NT Workstation 4.0 with a minimum of Service Pack 5 (Service Pack 6a recommended). Alternatively, you may use Windows 2000 Professional.
2. Install SAS 8 for Windows NT Workstation to match the operating system in question. Alternatively, you may use SAS for Windows 2000 Professional. The currently recommended SAS 8 Components for the Workstation to function are: Base, Graph, Stat, and Connect.
3. Install the Application Server software contained on the DSS 6.0b CD. The DSS 6.0b CD contains the document, *client install.pdf*, which outlines the steps required to install the Workstation software.
4. Test connectivity. Once established, proceed to install any workstation upgrades that are available.

5.2 General Notes

Have your SETINIT licensing information for SAS available if necessary. Sometimes it is available on paper, a floppy diskette, or already embedded on your customized CD.

When you install SAS, it looks for Internet Explorer 5 to be contained on your drive. It is helpful to answer YES to its prompts, if necessary, and allow the install program to install IE5.0 and the Microsoft DAC and Runtime components. It will require you to reboot during this process.

When you set up SAS 8, it wants to create a profile entry under ...\\Administrator\\... because you are usually logged in under Administrator to install software on an NT/2000

machine. It may be better to edit the proposed line during install and change \Administrator\ to \All Users\. This may help some of the privilege problems that occur for a regular user vice system admin type when they log in. This is especially pertinent when you are setting up DSS on an NT/2000 machine.

For Workstation setup, please have your CD installation key available. It will be required for software installation.

During Workstation Server setup, you will be prompted for some information. You will need to specify the locations of the SAS executable and configuration files. You will be prompted to specify the operating system type on the host machine that the Workstation software will access: MVS(IBM), VMS(Vax Alpha), or Client/Server(Windows). You will be prompted for the machine name of the Server where the Interface Server software will reside. If the machine name is greater than eight characters, you will need to create an alias name in the HOSTS file on the client. Lastly, you will be prompted for the name of the SAS/SHARE Server for the Interface Server(usually DSSINTF). A SAS batch job will then run to set these entered configuration parameters. Please wait for this job to finish before proceeding.

- **Note:** It is very important to establish connectivity at the 6.0b level first before proceeding to any upgrade levels. Information in the client initialization files needs to be established correctly first. That information is then utilized during the upgrade process.


6. Web Server

6.1 Basic Steps

1. You will need to connect to the Apache web server to download the latest version of the Apache Web Server for NT/2000. The DSS 6.0b CD contains the document, *web server install.pdf*, which outlines the steps required to install the Apache web server software. Typically, this software will be installed on the Interface server machine. Once installed, the web server can be invoked from a menu choice or, alternatively, can be set to run as a service under the Windows operating system.
2. Next, you will need to connect to the Activestate web server to download the latest version of Active Perl. The DSS 6.0b CD contains the document, *web server install.pdf*, which outlines the steps required to install the Active Perl software. This install requires the use of the Microsoft Installer infrastructure. You may need to obtain this utility from the Microsoft web server.
3. Finally, you will need to install the DSS 6 web server software. The DSS 6.0b CD contains the document, *web server install.pdf*, which outlines the steps required to install the DSS 6 web server software. During the install process you will need to specify the location for the DSS web server software. This is typically c:\dssintf\Data Browser. You will also be required to set the location of Active Perl. This is typically loaded into c:\perl\bin.
4. The DSS web server software requires access to the DSS Database. You will need to specify the ODBC DSN, User, and Password entries during the DSS web server installation process that will be used to connect to the DSS database.
5. Finally, you will need to specify the administrator account name for DSS. This is typically set to setupdss.

6.2 General Notes

1. Since the DSS web server relies upon third party software, the current DSS web server installation instruction guide may not exactly match the installation prompts that the user encounters during the installation process.
2. Most of the information supplied during the DSS web server installation process is stored in a file, `iti.cfg` within the `\DataBrowser\Configuration` folder. This file can be edited to allow the web server to point to alternative databases or to utilize alternative database ODBC entries.
3. When the web server is first invoked, two data files are created from database metadata tables and stored in the `\DataBrowser\Cache` folder. If changes are made to the database metadata, these files can be deleted. When the browser is subsequently invoked, new files will be created to accurately reflect those changes.
4. Once installed, the Apache web server configuration file, `http.conf`, will need to be edited to reflect the DSS web server architecture for

 **Note:** This process should only be performed by the System Administrator when DSS users are not accessing the system.

7. Migration

7.1 Basic Steps

7.1.1 DSS 5 to DSS 6

1. Run the migration program, `setup.exe`, contained in the Migration folder on the DSS 6.0b CD, on the Interface Server machine or DSS Workstation. This routine will migrate DSS 5 files for the Interface server, DSS Workstation, or Standalone DSS to DSS 6. This transfer program includes migrating the formats catalog and the mapdb SAS datasets.
2. Set the `TO` and `FROM` variables within the migration routine. `To` represents the directory containing the new DSS 6.0 Interface Server files. `From` represents the directory containing the old DSS 5.0 Interface Server files.
3. Verify that the process completed successfully by checking the `migrate5to6` output log files.
4. DSS 5 contained a single table called `CODETBLS` to house code table information. To make DSS more consistent with other Transport products, a new table called `CODENAME` was added. The DSS 6.0b CD includes two utility programs in the Migration folder to create import records for the `CODENAME` and `CODETBL` tables. The first utility can be used to create the records from the `FORMATS` catalog, if available. The second utility will create the entries if you have a `CODETBLS` SAS dataset. The records will be written to a flat file which can then be imported into DSS 6 via the generalized importer.

7.1.2 Mainframe to DSS 6

1. Prior to migrating to the new DSS, it is recommended that a data verification process be performed, in-place, on the current system. Normally, this can be

accomplished by creating three DSS data views: a reference file, English contract file (no metrication) and a metric file (no metrication). These files should then be re-imported back into the system. The import system will check the import data for verification and validation. Records containing problems can then be corrected and re-imported to help bring the data to a more stable level prior to DSS upgrade. The *Database Migration Guide* included with DSS 5 includes more detailed information for this process.

2. Simple ad hoc programs can be run against the current database to check for the possibility of orphan records. Parent records could then be created for the orphans. Once the parent-child relationship has been re-established, these records would then be available for migration.
3. Mainframe users currently running DB2 on O/S 390 and electing to remain with DB2 could use current IBM tools to replicate data from the current DB2 database to the new DSS 6 database.
4. Mainframe users currently running SAS will need to migrate their data to Oracle, DB2, Sybase, or MySQL. SAS, as a database, is no longer supported for DSS 6. In this case, the current DSS system should be utilized to create DSS views containing reference file information, English contract file information (no metrication) and metric file information (no metrication). Once created, these views could then be used to create flat file imports for use by the generalized importer in DSS 6. The *Database Migration Guide* included with DSS 5 includes more detailed information for this process.
5. Mainframe users will need to migrate their formats catalog and mapdb datasets from SAS 6 to SAS 8. The SAS CPORT/CIMPORT functions can be used to accomplish this process. Additionally, the code table migration utilities included in the Migration folder on the DSS 6.0b CD can be used to create import records for the new CODENAME table, as well as, the CODETBLS table from the migrated formats catalog. Once created, these records can be imported into DSS 6 via the generalized importer.

7.2 General Notes

Before running the migration program, be sure to halt the Spawner and SAS/SHARE server if they are running.

After running the migration routine, be sure to check the output log, migrate5to6, for any errors. Restart the Spawner and SAS/SHARE server by invoking the file, intface.bat, in the \dssintf\scripts folder on the Interface server. Alternatively, you may restart the Interface server or DSS workstation machine.

8. Miscellaneous

8.1 General Notes


1. The currently Recommended SAS 8 Components are as follows:
Application Server – Base, Core, Graph, Stat, Connect, Access for ODBC
Interface Server – Base, Core, Share, Share*Net, Connect, Access for ODBC
2. When you set up SAS 8, it wants to create a profile entry under ...\`Administrator`\... because you are usually logged in under Administrator to install software on an NT/2000 machine. It may be better to edit the proposed line during install and change \`Administrator`\ to \`All Users`\. This may help some of the privilege problems that occur for a regular user vice system admin type when they log in. This is especially pertinent when you are setting up DSS on an NT/2000 machine.
3. During Application/Interface server and Client installs, verify that the SERVICES file was updated properly. It wants to create entries for tcp communication as follows:


Spawner	5010/tcp
Dssintf	5000/tcp

■ **Note:** This file is usually located in `c:\winnt\system32\drivers\etc` folder on NT/2000 machines.

4. During application server setup, you need to create an ODBC DSN that will be used to allow the App server to connect to the Database server via ODBC. Also, another ODBC DSN will need to be created which points to the Database for LAS. This will allow users of DSS to create LAS views or import information directly from LAS tables. Additionally, you will need to create an ODBC entry for SiteManager if you currently employ this product.

5. During interface server setup, you need to supply the ODBC DSN that was setup on the App. Server, and the userid/password/schema for the Oracle database. Be sure that the schema name you supply is the same as the userid that exists at the state. For example, we typically would create a schema as dss/dss. Hence, the schema, user, and password would all be the same thing: dss. This also presupposes that an Oracle ODBC DSN was setup on the App. Server. I usually set it up as a System DSN to prevent privilege problems under NT.
6. During client install, you will need to supply the NETBIOS(machine) name of the Interface server and the name of the SAS/Share server running on it: usually DSSINTF. If the Interface Server has a NETBIOS name longer than eight characters, you need to set up an alias for it via the HOSTS file that marries the alias to an IP address for the Interface Server machine.

 **Note1:** This file is usually located in c:\winnt\system32\drivers\etc folder on NT/2000 machines.


 **Note2:** If the HOSTS file is stored centrally on a server and pushed to the client, any changes to this file needs to be done at the server level vice client level.


7. The DSSINTF DSN for SAS is installed as a User DSN during install of the client. This may need to be re-created as a System DSN depending on the State situation, that is, if you are dealing with NT/2000 machines.
8. To test communication, boot up SAS on the Application server and supply the following libname assignments:

App to Interface: libname dsslib 'c:\dssintf\dsslib' server =
int_server_machine_name.sas_share_server;

App to DSS Database: libname db odbc dsn=odbc_dsn user=dss_user
pwd=dss_pwd schema=dss_schema;

App to TPLC Database: libname db odbc dsn=odbc_dsn user=tplc_user
pwd=tplc_pwd schema=tplc_schema;

 **Note1:** These should be run after you finish setting up the Application and Interface servers **and** the Oracle ODBC DSNs on the Application server to talk to the Database servers. Directory names should reflect your current installation structure.

 **Note2:** The schema parameter is optional in SAS 8 now.

9. The following directories can be helpful during troubleshooting. On the Interface Server: \dssintf\scripts has startup file intface.bat and setenv.sas

which has environment variables; \dssintf\instdat has envloc which has library pointers, spawner, and uiserver entries and envprm which has default options, dssdb, and plcdb statements.

10. After setting up the client, make sure you have set up an ODBC DSN under System. Then verify the entries for the database ini file that you will use to connect via ODBC.
11. On the Database server, check to make sure that there are proper entries for the SERVERS table that point to the Application servers that will be used. One entry per App server is required with correct entries for IP addresses.
12. In general, re-check all appropriate database entries to be sure they are configured properly to point to the proper databases.
13. The Client/Server Trns•port BAMS/DSS[®] product includes a default graphics profile which can be used to print graphics output files. Once a printer definition has been set up on the Application server, a new graphics profile can be created by copying the SELPRT profile and modifying it with specific information to allow communication to the printer in question. This profile is available from by selecting System Profiles from the Utilities menu and choosing Graphic Profiles. In particular, the quoted string in the *filename* statement must be replaced with the name associated with the printer during its setup on the Application server. The *device=* statement within the *goptions* block must be replaced with the SAS device name for the printer. Additionally, landscape mode can be obtained by using the keyword, *rotate*, in the *goptions* code block.

📄 **Note1:** You may create as many graphics profiles as necessary to support your work environment. You may wish to create two profiles for each printer. One can be used for printing in portrait mode and one for printing in landscape mode. Once setup, users can access the list of available profiles via the client menu option, Print using graphics profiles.

📄 **Note2:** A list of currently supported graphics devices may be obtained by using the *proc gdevice* command within interactive SAS.

