



**Program Directory for
IBM Database 2 Universal Database Server for z/OS
Net.Data Version 7**

V8.01.00

Program Number 5625-DB2

FMID H242710

for Use with
OS/390 and z/OS

Document Date: February 2004

G110-8565-00

Note!

Before using this information and the product it supports, be sure to read the general information under Appendix B, "Notices" on page 32.

A form for reader's comments appears at the back of this publication. When you send information to IBM, you grant IBM a nonexclusive right to use or distribute the information in any way it believes appropriate without incurring any obligation to you.

© **Copyright International Business Machines Corporation 1997, 2003. All rights reserved.**

US Government Users Restricted Rights – Use, duplication or disclosure restricted by GSA ADP Schedule Contract with IBM Corp.

Contents

1.0 Introduction	1
1.1 Net.Data Version 7 Description	1
1.2 Net.Data Version 7 FMIDs	3
2.0 Program Materials	4
2.1 Basic Machine-Readable Material	4
2.2 Optional Machine-Readable Material	4
2.3 Program Publications	4
2.3.1 Optional Program Publications	4
2.4 Program Source Materials	5
2.5 Publications Useful During Installation	5
3.0 Program Support	6
3.1 Program Services	6
3.2 Preventive Service Planning	6
3.3 Statement of Support Procedures	6
4.0 Program and Service Level Information	7
4.1 Program Level Information	7
4.2 Service Level Information	7
5.0 Installation Requirements and Considerations	8
5.1 Driving System Requirements	8
5.1.1 Machine Requirements	8
5.1.2 Programming Requirements	8
5.2 Target System Requirements	9
5.2.1 Machine Requirements	9
5.2.2 Programming Requirements	9
5.2.2.1 Installation Requisites	9
5.2.2.2 Toleration/Coexistence Requisites	10
5.2.2.3 Incompatibility (Negative) Requisites	10
5.2.3 DASD Storage Requirements	10
5.3 FMIDs Deleted	13
5.4 Special Considerations	14
6.0 Installation Instructions	15
6.1 Installing Net.Data Version 7	15
6.1.1 SMP/E Considerations for Installing Net.Data Version 7	15
6.1.2 SMP/E Options Subentry Values	15
6.1.3 SMP/E CALLLIBS Processing	16
6.1.4 Sample Jobs	16
6.1.5 Perform SMP/E RECEIVE	17

6.1.6 Allocate SMP/E Target and Distribution Libraries	17
6.1.7 Allocate HFS Paths	18
6.1.8 Create DDDEF Entries	18
6.1.9 Perform SMP/E APPLY	18
6.1.10 Perform SMP/E ACCEPT	19
6.2 Activating Net.Data Version 7	20
6.2.1 part 1: Describe Net.Data to Web server	20
6.2.2 part 2: Customize The Net.Data Initialization File	24
6.2.3 part 3: Bind Net.Data Application to DB2 Database	27
6.2.4 part 4: Run the Net.Data IVP	28
Appendix A. Program File Content for Net.Data Version 7	31
Appendix B. Notices	32
B.1 Trademarks	33
Reader's Comments	34

Figures

1. Publications Useful During Installation	5
2. PSP Upgrade and Subset ID	6
3. Component IDs	6
4. Driving System Software Requirements	8
5. Mandatory Installation Requisites	9
6. Conditional Installation Requisites	9
7. Toleration/Coexistence Requisites	10
8. Total DASD Space Required by Net.Data Version 7	10
9. Storage Requirements for Net.Data Version 7 Target Libraries	12
10. Net.Data Version 7 HFS Paths	12
11. Storage Requirements for Net.Data Version 7 Distribution Libraries	13
12. SMP/E Options Subentry Values	15
13. Sample Installation Jobs	16
14. Program File Content	31

1.0 Introduction

This Program Directory is intended for the system programmer responsible for program installation and maintenance. It contains information concerning the material and procedures associated with the installation of Net.Data Version 7. This publication refers to Net.Data Version 7 as Net.Data Version 7.

The Program Directory contains the following sections:

- 2.0, "Program Materials" on page 4 identifies the basic and optional program materials and documentation for Net.Data Version 7.
- 3.0, "Program Support" on page 6 describes the IBM support available for Net.Data Version 7.
- 4.0, "Program and Service Level Information" on page 7 lists the APARs (program level) and PTFs (service level) incorporated into Net.Data Version 7.
- 5.0, "Installation Requirements and Considerations" on page 8 identifies the resources and considerations required for installing and using Net.Data Version 7.
- 6.0, "Installation Instructions" on page 15 provides detailed installation instructions for Net.Data Version 7. It also describes the procedures for activating the functions of Net.Data Version 7, or refers to appropriate publications.

Before installing Net.Data Version 7, read the *CBPDO Memo To Users* and the *CBPDO Memo To Users Extension* that were supplied with this program in softcopy form as well as this Program Directory and then keep them for future reference. Section 3.2, "Preventive Service Planning" on page 6 tells you how to find any updates to the information and procedures in this Program Directory.

Net.Data Version 7 is supplied in a Custom-Built Product Delivery Offering (CBPDO, 5751-CS3). The Program Directory is provided in softcopy form on the CBPDO tape which is identical to the hardcopy form provided with your order. Your CBPDO contains a softcopy preventive service planning (PSP) upgrade for this product. All service and HOLDDATA for Net.Data Version 7 are included on the CBPDO tape.

Do not use this Program Directory if you are installing Net.Data Version 7 with a SystemPac or ServerPac. When using these offerings, use the jobs and documentation supplied with the offering. This documentation may point you to specific sections of the Program Directory as required.

1.1 Net.Data Version 7 Description

With IBM's Net.Data product, you can create dynamic Web pages using data from both relational and non-relational database management systems (DBMSs), including DB2, IMS, and ODBC-enabled databases, and using applications written in programming languages such as Java, JavaScript, Perl, C, C++, REXX, and COBOL.

Net.Data is a macro processor that executes as middleware on a Web server machine. You can write Net.Data application programs, called macros, that Net.Data interprets to create dynamic Web pages with

customized content based on input from the user, the current state of your databases, other data sources, existing business logic, and other factors that you design into your macro.

A request, in the form of a URL (uniform resource locator), flows from a browser, such as Netscape Navigator or Internet Explorer, to a Web server that forwards the request to Net.Data for execution. Net.Data locates and executes the macro and builds a Web page that it customizes based on functions that you write. These functions can:

- Encapsulate business logic within Perl scripts, COBOL, C and C++ applications, or REXX programs.
- Access databases such as DB2.

Net.Data passes this Web page to the Web server, which in turn forwards the page over the network for display at the browser. Other members of the Net.Data family of products provide similar capabilities on machines executing the AIX, OS/2, OS/400, HP-UX, Sun Solaris, Linux, and Windows NT.

Net.Data can be used in server environments that are configured to use interfaces such as HyperText Transfer Protocol (HTTP) and Common Gateway Interface (CGI). HTTP is an industry-standard interface for interaction between a browser and Web server, and CGI is an industry-standard interface for Web server invocation of gateway applications like Net.Data. These interfaces allow you to select your favorite browser or Web server for use with Net.Data. Net.Data also supports a variety of Web server Application Programming Interfaces (Web server APIs) and FastCGI for improved performance, as well as a Servlet interface for integration into a WebSphere environment.

Net.Data Version 7 provides the following enhancements:

- The ability to execute Net.Data as a FastCGI application.
- Introduction of the %XML block to generate XML compliant documents.
- Ability to call an SQL function from report and row blocks contained in other SQL functions.
- The ability to upload files to the server.
- A new language environment for executing COBOL applications.
- New Net.Data built-in functions: DTWF_COPY(), DTWF_EXISTS(), DTWF_READFILE(), and DTWF_WRITEFILE().
- New configuration variable DTW_USE_DB2_PREPARE_CACHE that takes advantage of the DB2 prepare cache when reusing SQL statements.
- Support for Web page caching and the manual management of LOBs is added to CGI.
- The ability to write user-specified messages to the Net.Data error log and the Net.Data trace log.
- Support for DTW_DEFAULT_MACRO configuration variable.
- Several performance, scalability, and serviceability enhancements.

1.2 Net.Data Version 7 FMIDs

Net.Data Version 7 consists of the following FMID:

H242710

2.0 Program Materials

An IBM program is identified by a program number. The program number for Net.Data Version 7 is 5625-DB2.

Basic Machine-Readable Materials are materials that are supplied under the base license and feature numbers, and are required for the use of the product. Optional Machine-Readable Materials are orderable under separate feature numbers, and are not required for the product to function.

The program announcement material describes the features supported by Net.Data Version 7. Ask your IBM representative for this information if you have not already received a copy.

2.1 Basic Machine-Readable Material

The distribution medium for this program is magnetic tape or downloadable files. It is installed using SMP/E, and is in SMP/E RELFILE format. See 6.0, "Installation Instructions" on page 15 for more information about how to install the program.

Information about the physical tape for the Basic Machine-Readable Materials for Net.Data Version 7 can be found in the *CBPDO Memo To Users Extension*.

2.2 Optional Machine-Readable Material

No optional machine-readable materials are provided for Net.Data Version 7.

2.3 Program Publications

- Net.Data Administration and Programming Guide for OS/390
- Net.Data Reference
- Net.Data Language Environment Reference
- Net.Data Message and codes

HTML, PostScript, and PDF versions of these books are available at the following url:
<http://www.ibm.com/software/data/net.data/docs/index.html>

2.3.1 Optional Program Publications

No optional publications are provided for Net.Data Version 7.

2.4 Program Source Materials

No program source materials or viewable program listings are provided for Net.Data Version 7.

2.5 Publications Useful During Installation

The publications listed in Figure 1 may be useful during the installation of Net.Data Version 7. To order copies, contact your IBM representative or visit the IBM Publications Center on the World Wide Web at: <http://www.ibm.com/shop/publications/order>

<i>Figure 1. Publications Useful During Installation</i>	
Publication Title	Form Number
<i>IBM SMP/E for z/OS and OS/390 User's Guide</i>	SA22-7773
<i>IBM SMP/E for z/OS and OS/390 Commands</i>	SA22-7771
<i>IBM SMP/E for z/OS and OS/390 Reference</i>	SA22-7772
<i>IBM SMP/E for z/OS and OS/390 Messages, Codes, and Diagnosis</i>	GA22-7770

3.0 Program Support

This section describes the IBM support available for Net.Data Version 7.

3.1 Program Services

Contact your IBM representative for specific information about available program services.

3.2 Preventive Service Planning

Before installing Net.Data Version 7, you should review the current Preventive Service Planning (PSP) information. If you obtained Net.Data Version 7 as part of a CBPDO, there is HOLDDATA and PSP information included on the CBPDO.

If the CBPDO for Net.Data Version 7 is more than two weeks old when you install it, you should contact the IBM Support Center or use S/390 SoftwareXcel to obtain the current "PSP Bucket".

For program support, access the Software Support web site at <http://www-3.ibm.com/software/support/>

PSP Buckets are identified by UPGRADEs, which specify product levels, and SUBSETs, which specify the FMIDs for a product level. The UPGRADE and SUBSET values for Net.Data Version 7 are:

<i>Figure 2. PSP Upgrade and Subset ID</i>		
UPGRADE	SUBSET	Description
DB2710	H242710	Net.Data Version 7

3.3 Statement of Support Procedures

Report any difficulties you have using this program to your IBM Support Center. If an APAR is required, the Support Center will provide the address to which any needed documentation can be sent.

Figure 3 identifies the component IDs (COMPID) for Net.Data Version 7.

<i>Figure 3. Component IDs</i>			
FMID	COMPID	Component Name	RETAIN Release
H242710	5655A2401	Net.Data Version 7	710

4.0 Program and Service Level Information

This section identifies the program and any relevant service levels of Net.Data Version 7. The program level refers to the APAR fixes incorporated into the program. The service level refers to the PTFs integrated.

4.1 Program Level Information

Please refer to the PSP (Preventive Service Planning) Facility for APAR information for Net.Data Version 7.

4.2 Service Level Information

PTFs containing APAR fixes against this release of Net.Data Version 7 have been incorporated into this product tape. For a list of included PTFs, examine the ++VER statement in the product's SMPMCS.

5.0 Installation Requirements and Considerations

The following sections identify the system requirements for installing and activating Net.Data Version 7. The following terminology is used:

- *Driving system*: the system used to install the program.
- *Target system*: the system on which the program is installed.

In many cases, the same system can be used as both a driving system and a target system. However, you may want to set up a clone of your system to use as a target system by making a separate IPL-able copy of the running system. The clone should include copies of all system libraries that SMP/E updates, copies of the SMP/E CSI data sets that describe the system libraries, and your PARMLIB and PROCLIB.

Some cases where two systems should be used include the following:

- When installing a new level of a product that is already installed, the new product will delete the old one. By installing onto a separate target system, you can test the new product while still keeping the old one in production.
- When installing a product that shares libraries or load modules with other products, the installation can disrupt the other products. Installing onto a test system or clone will allow you to assess these impacts without disrupting your production system.

5.1 Driving System Requirements

This section describes the environment of the driving system required to install Net.Data Version 7.

5.1.1 Machine Requirements

The driving system can run in any hardware environment that supports the required software.

5.1.2 Programming Requirements

Figure 4. Driving System Software Requirements

Program Number	Product Name and Minimum VRM/Service Level
Any one of the following:	
5647-A01	OS/390 V2.10.0
5694-A01	z/OS V1.01.0 or later
5655-G44	IBM SMP/E for z/OS and OS/390 V3.02.0 or later

5.2 Target System Requirements

This section describes the environment of the target system required to install and use Net.Data Version 7.

Net.Data Version 7 installs in the DBS (P115) SREL.

5.2.1 Machine Requirements

The target system can run in any hardware environment that supports the required software.

5.2.2 Programming Requirements

5.2.2.1 Installation Requisites: An installation requisite is defined as a product that is required and **must** be present or one that is not required but **should** be present on the system for the successful installation of this product.

A mandatory installation requisite identifies products that are required, without exception, or this product **will not install** on your system. This includes products specified as PREs or REQs.

<i>Figure 5. Mandatory Installation Requisites</i>	
Program Number	Product Name and Minimum VRM/Service Level
5647-A01	OS/390 V2.07.00 base services or later
Any one of the following:	
5655-DB2	DB2 for OS/390 V5
5645-DB2	DB2 for OS/390 V6
5675-DB2	DB2 for OS/390 V7 or later

A conditional installation requisite identifies products that are **not** required for successful install but may resolve such things as certain warning messages at installation time. They include products that are specified as IF REQs.

<i>Figure 6 (Page 1 of 2). Conditional Installation Requisites</i>		
Program Number	Product Name and Minimum VRM/Service Level	Function
5655-F31	IBM WebSphere Application Server for z/OS and OS/390 V4.01 or later	To configure Net.Data to execute as a servlet. Net.Data requires an HTTP server to be installed on the same server as Net.Data

Figure 6 (Page 2 of 2). Conditional Installation Requisites

Program Number	Product Name and Minimum VRM/Service Level	Function
5655-DB2	DB2 for OS/390 V5 or later	To use the Net.Data provided support for ODBC or SQL language environments
5645-DB2	DB2 for OS/390 V6 or later	DB2 Large Objects (LOB)
5625-DB2	DB2 for z/OS V8 (Net.Data PQ67812)	Web page caching

Notes: For product information and download instructions for JDK1.1.8 see <http://www.s390.ibm.com/java/>

5.2.2.2 Toleration/Coexistence Requisites: A toleration/coexistence requisite is defined as a product which must be present on a sharing system. These systems can be other systems in a multisystem environment (not necessarily sysplex), a shared DASD environment (such as test and production), or systems that reuse the same DASD at different time intervals.

Figure 7. Toleration/Coexistence Requisites

Program Number	Product Name and Minimum VRM/Service Level
Any one of the following:	
N/A	DataJoiner for AIX V1.02.00 with PTF U447593
N/A	DataJoiner for HP-UX V1.01.00

5.2.2.3 Incompatibility (Negative) Requisites: Net.Data Version 7 has no negative requisites.

5.2.3 DASD Storage Requirements

Net.Data Version 7 libraries can reside on all supported DASD types.

Figure 8 lists the total space required for each type of library.

Figure 8. Total DASD Space Required by Net.Data Version 7

Library Type	Total Space Required
Target	170 blocks
Distribution	2122 blocks
HFS	26640 sectors (512 bytes per sector)

Notes:

1. IBM recommends use of system determined block sizes for efficient DASD utilization for all non-RECFM U data sets. For RECFM U data sets, IBM recommends a block size of 32760, which is the most efficient from a performance and DASD utilization perspective.

2. Abbreviations used for the data set type are:

- U** Unique data set, allocated by this product and used only by this product. To determine the correct storage needed for this data set, this table provides all required information; no other tables (or Program Directories) need to be referenced for the data set size.
- S** Shared data set, allocated by this product and used by this product and others. To determine the correct storage needed for this data set, the storage size given in this table needs to be added to other tables (perhaps in other Program Directories). If the data set already exists, it must have enough free space to accommodate the storage size given in this table.
- E** Existing shared data set, used by this product and others. This data set is NOT allocated by this product. To determine the correct storage needed for this data set, the storage size given in this table needs to be added to other tables (perhaps in other program directories). This existing data set must have enough free space to accommodate the storage size given in this table.

If you currently have a previous release of this product installed in these libraries, the installation of this release will delete the old one and reclaim the space used by the old release and any service that had been installed. You can determine whether or not these libraries have enough space by deleting the old release with a dummy function, compressing the libraries, and comparing the space requirements with the free space in the libraries.

For more information on the names and sizes of the required data sets, please refer to 6.1.6, "Allocate SMP/E Target and Distribution Libraries" on page 17.

3. Abbreviations used for the HFS Path type are:

- N** New path, created by this product.
- X** Path created by this product, but may already exist from a previous release.
- P** Previously existing path, created by another product.

4. All target and distribution libraries listed have the following attributes:

- The default name of the data set may be changed.
- The default block size of the data set may be changed.
- The data set may be merged with another data set that has equivalent characteristics.
- The data set may be either a PDS or a PDSE.

5. All target libraries listed have the following attributes:

- The data set may be SMS-managed.
- It is not required for the data set to be SMS-managed.
- It is not required for the data set to reside on the IPL volume.
- The values in the "Member Type" column are not necessarily the actual SMP/E element types identified in the SMPMCS.

6. All target libraries listed which contain load modules have the following attributes:

- The data set may be in the LPA.

- It is not required for the data set to be in the LPA.
- The data set may be in the LNKLIST.
- It is not required for the data set to be APF-authorized.

The following figures describe the target and distribution libraries and HFS paths required to install Net.Data Version 7. The storage requirements of Net.Data Version 7 must be added to the storage required by other programs having data in the same library or path.

Note: The data in these tables should be used when determining which libraries can be merged into common data sets. In addition, since some ALIAS names may not be unique, ensure that no naming conflicts will be introduced before merging libraries.

Figure 9. Storage Requirements for Net.Data Version 7 Target Libraries

Library DDNAME	Member Type	Target Volume	T Y P E	O R G	R E C O R D S	L R E C O R D S	No. of 3390 Trks	No. of DIR Blks
SDTWBASE	SAMPLE	any	U	PDS	FB	80	6	5
SDTWDBRM	SAMPLE	any	U	PDS	FB	80	7	5
SDTWSPUF	SAMPLE	any	U	PDS	FB	80	2	5
SDTWLEIH	MACRO	any	U	PDS	VB	256	2	5
SDTWLEID	MACRO	any	U	PDS	VB	256	2	5
SDTWLOAD	LMOD	any	U	PDS	U	0	7	10

Figure 10 (Page 1 of 2). Net.Data Version 7 HFS Paths

DDNAME	T Y P E	Path Name
SDTWCMD	X	/usr/lpp/netdata/testcmd/IBM/
SDTWHTML	X	/usr/lpp/netdata/pub/IBM/
SDTWLOA3	X	/usr/lpp/netdata/icapi-lib/IBM/
SDTWLOA2	X	/usr/lpp/netdata/cgi-bin/IBM/
SDTWICON	X	/usr/lpp/netdata/icons/IBM/
SDTWJAVA	X	/usr/lpp/netdata/java/IBM/
SDTWMACS	X	/usr/lpp/netdata/macros/IBM/
SDTWENUS	X	/usr/lpp/netdata/C/IBM/
SDTWJAJP	X	/usr/lpp/netdata/Ja_JP/IBM/
SDTWKOKR	X	/usr/lpp/netdata/Ko_KR/IBM/

Figure 10 (Page 2 of 2). Net.Data Version 7 HFS Paths

DDNAME	T Y P E	Path Name
SDTWLOA4	X	/usr/lpp/netdata/servlet-lib/IBM/
SDTWXML	X	/usr/lpp/netdata/xml/IBM/
SDTWLOA5	X	/usr/lpp/netdata/cgi-bin/IBM/
SDTWLOGS	X	/usr/lpp/netdata/logs/IBM/

Figure 11. Storage Requirements for Net.Data Version 7 Distribution Libraries

Library DDNAME	T Y P E	O R G	R E C F M	L R E C L	No. of 3390 Trks	No. of DIR Blks
ADTWBASE	U	PDS	FB	80	6	5
ADTWDBRM	U	PDS	FB	80	7	5
ADTWLOAD	U	PDS	U	0	244	10
ADTWSPUF	U	PDS	FB	80	2	5
ADTWHTML	U	PDS	VB	256	2	5
ADTWICON	U	PDS	VB	256	6	5
ADTWMACS	U	PDS	VB	256	5	5
ADTWCMD	U	PDS	VB	256	2	5
ADTWXML	U	PDS	VB	256	2	5

5.3 FMIDs Deleted

Installing Net.Data Version 7 may result in the deletion of other FMIDs. To see what FMIDs will be deleted, examine the ++VER statement in the product's SMPMCS.

If you do not wish to delete these FMIDs at this time, you must install Net.Data Version 7 into separate SMP/E target and distribution zones.

Note: These FMIDs will not automatically be deleted from the Global Zone. Consult the SMP/E manuals for instructions on how to do this.

5.4 Special Considerations

Net.Data Version 7 has no special considerations for the target system.

6.0 Installation Instructions

This chapter describes the installation method and the step-by-step procedures to install and to activate the functions of Net.Data Version 7.

Please note the following:

- If you want to install Net.Data Version 7 into its own SMP/E environment, consult the SMP/E manuals for instructions on creating and initializing the SMPCSI and the SMP/E control data sets.
- Sample jobs have been provided to help perform some or all of the installation tasks. The SMP/E jobs assume that all DDDEF entries required for SMP/E execution have been defined in the appropriate zones.
- The SMP/E dialogs may be used instead of the sample jobs to accomplish the SMP/E installation steps.

6.1 Installing Net.Data Version 7

6.1.1 SMP/E Considerations for Installing Net.Data Version 7

This release of Net.Data Version 7 is installed using the SMP/E RECEIVE, APPLY, and ACCEPT commands. The SMP/E dialogs may be used to accomplish the SMP/E installation steps.

6.1.2 SMP/E Options Subentry Values

The recommended values for some SMP/E CSI subentries are shown in Figure 12. Use of values lower than these may result in failures in the installation process. DSSPACE is a subentry in the GLOBAL options entry. PEMAX is a subentry of the GENERAL entry in the GLOBAL options entry. Refer to the SMP/E manuals for instructions on updating the global zone.

SUB-ENTRY	Value	Comment
DSSPACE	(200,200,500)	3390 DASD tracks
PEMAX	SMP/E Default	IBM recommends using the SMP/E default for PEMAX.

6.1.3 SMP/E CALLLIBS Processing

Net.Data Version 7 uses the CALLLIBS function provided in SMP/E to resolve external references during installation. When Net.Data Version 7 is installed, ensure that DDDEFs exist for the following libraries:

- SCEELKED
- SDSNLOAD

Note: The DDDEFs above are used only to resolve the link-edit for Net.Data Version 7 using CALLLIBS. These data sets are not updated during the installation of Net.Data Version 7.

6.1.4 Sample Jobs

The following sample installation jobs are provided as part of the product to help you install Net.Data Version 7:

<i>Figure 13. Sample Installation Jobs</i>			
Job Name	Job Type	Description	RELFILE
DTWRECEV	RECEIVE	Sample RECEIVE job	IBM.H242710.F2
DTWALLOC	ALLOCATE	Sample job to allocate target and distribution libraries	IBM.H242710.F2
DTWHFS	ALLOCATE HFS	Sample job to allocate HFS libraries (Optional)	IBM.H242710.F2
DTWISMKD	MKDIR	Sample job to invoke the supplied DTWMKDIR EXEC to allocate HFS paths	IBM.H242710.F2
DTWDDDEF	DDDEF	Sample job to define SMP/E DDDEFs	IBM.H242710.F2
DTWAPPLY	APPLY	Sample APPLY job	IBM.H242710.F2
DTWACCEP	ACCEPT	Sample ACCEPT job	IBM.H242710.F2

You can access the sample installation jobs by performing an SMP/E RECEIVE and then copying the jobs from the relfiles to a work data set for editing and submission. See Figure 13 to find the appropriate relfile data set.

You may also choose to copy the jobs from the tape or product files by submitting the job below. Use either the //TAPEIN or the //FILEIN DD statement, depending on your distribution medium, and comment out or delete the other statement. Add a job card and change the lowercase parameters to uppercase values to meet your site's requirements before submitting.

```
//STEP1 EXEC PGM=IEBCOPY
//SYSPRINT DD SYSOUT=*
//TAPEIN DD DSN=IBM.H242710.F2,UNIT=tunit,
// VOL=SER=volser,LABEL=(x,SL),
// DISP=(OLD,KEEP)
//FILEIN DD DSN=IBM.H242710.F2,UNIT=SYSALLDA,DISP=SHR,
// VOL=SER=filevol
```

```
//OUT      DD DSNAME=jcl-library-name,
//          DISP=(NEW,CATLG,DELETE),
//          VOL=SER=dasdvol,UNIT=SYSALLDA,
//          SPACE=(TRK,(15,10,5))
//SYSUT3   DD UNIT=SYSALLDA,SPACE=(CYL,(1,1))
//SYSIN    DD *
          COPY INDD=xxxxIN,OUTDD=OUT
          SELECT MEMBER=(DTWACCEP,DTWALLOC,DTWAPPLY,DTWDDDEF)
          SELECT MEMBER=(DTWISMKD,DTWMKDIR,DTWRECEV,DTWHFS)
/*
```

In the sample above, update the statements as noted below:

If using TAPEIN:

tunit is the unit value matching the product tape.

volser is the volume serial matching the product tape.

x is the tape file number where the data set name is on the tape.

Refer to the documentation provided by CBPDO to see where IBM.H242710.F2 is on the tape.

If using FILEIN

filevol is the volume serial of the DASD device where the downloaded files reside.

OUT

jcl-library-name is the name of the output data set where the sample jobs will be stored.

dasdvol is the volume serial of the DASD device where the output data set will reside.

SYSIN

xxxxIN is either TAPEIN or FILEIN depending on your input DD statement.

6.1.5 Perform SMP/E RECEIVE

Having obtained Net.Data Version 7 as part of a CBPDO, use the RCVPDO job found in the CBPDO RIMLIB data set to RECEIVE the Net.Data Version 7 FMIDs as well as any service, HOLDDATA, or preventive service planning (PSP) information included on the CBPDO tape. For more information, refer to the documentation included with the CBPDO.

You can also choose to edit and submit sample job DTWRECEV to perform the SMP/E RECEIVE for Net.Data Version 7. Consult the instructions in the sample job for more information.

Expected Return Codes and Messages: The job should complete with a condition code of 0.

6.1.6 Allocate SMP/E Target and Distribution Libraries

Edit and submit sample job DTWALLOC to allocate the SMP/E target and distribution libraries for Net.Data Version 7. Consult the instructions in the sample job for more information.

Expected Return Codes and Messages: The job should complete with a condition code of 0.

6.1.7 Allocate HFS Paths

If you plan to install your product into a separate HFS data set instead of installing into the root filesystem, edit and run the sample job **DTWHFS** to allocate an HFS data set.

Note: : This job is **Optional**

Expected Return Codes and Messages: This job should complete with a condition code of 0.

Edit and submit sample job DTWISMKD to allocate the HFS paths for Net.Data Version 7. Consult the instructions in the sample job for more information.

If you plan to create a new HFS for this product, you should consider updating the BPXPRMxx PARMLIB member to mount the new HFS at IPL time. This may be helpful if an IPL occurs before the installation is complete.

Expected Return Codes and Messages: This job should complete with a condition code of 0.

6.1.8 Create DDDEF Entries

Edit and submit sample job DTWDDDEF to create DDDEF entries for the SMP/E target and distribution libraries for Net.Data Version 7. Consult the instructions in the sample job for more information.

Expected Return Codes and Messages: This job should complete with a condition code of 0

6.1.9 Perform SMP/E APPLY

Edit and submit sample job DTWAPPLY to perform an SMP/E APPLY CHECK for Net.Data Version 7. Consult the instructions in the sample job for more information.

To receive the full benefit of the SMP/E Causer SYSMOD Summary Report, do *not* bypass the following on the APPLY CHECK: PRE, ID, REQ, and IFREQ. This is because the SMP/E root cause analysis identifies the cause only of **ERRORS** and not of **WARNINGS** (SYSMODs that are bypassed are treated as warnings, not errors, by SMP/E).

Once you have taken any actions indicated by the APPLY CHECK, remove the CHECK operand and run the job again to perform the APPLY.

Note: The GROUPEXTEND operand indicates that SMP/E apply all requisite SYSMODs. The requisite SYSMODS might be applicable to other functions.

Expected Return Codes and Messages from APPLY CHECK: This job should complete with a condition code of 0.

Expected Return Codes and Messages from APPLY: This job should complete with a condition code of 0.

Note: The following can be expected during the LINK-EDIT processing for modules in the SMPLTS library: GIM23903I LINK-EDIT PROCESSING FOR SYSMOD H242710 WAS SUCCESSFUL FOR MODULE DTW..IN LMOD DTW.. IN THE SMPLTS LIBRARY.THE RETURN CODE WAS 04. The return code 4 is caused by not including Language Environment (LE) functions during LINK-EDIT processing for modules in the SMPLTS library. You can expect to see LINK-EDIT warning messages "**IEW2454W** 9203 SYMBOL xxxxxxx UNRESOLVED. NO AUTOCALL(NCAL) SPECIFIED" in the detailed Binder output for those LINK-EDIT processes for modules in the SMPLTS library. LINK-EDIT to libraries other than the SMPLTS must complete with a return code 0.

Note: The following message can be issued: IEW2609W 5104 SECTION ***** USABILITY ATTRIBUTE OF NON-REUSABLE CONFLICTS WITH REQUESTED USABILITY OF REENTRANT.

6.1.10 Perform SMP/E ACCEPT

Edit and submit sample job DTWACCEP to perform an SMP/E ACCEPT CHECK for Net.Data Version 7. Consult the instructions in the sample job for more information.

To receive the full benefit of the SMP/E Causer SYSMOD Summary Report, do *not* bypass the following on the ACCEPT CHECK: PRE, ID, REQ, and IFREQ. This is because the SMP/E root cause analysis identifies the cause only of **ERRORS** and not of **WARNINGS** (SYSMODs that are bypassed are treated as warnings, not errors, by SMP/E).

Before using SMP/E to load new distribution libraries, it is recommended that you set the ACCJCLIN indicator in the distribution zone. This will cause entries produced from JCLIN to be saved in the distribution zone whenever a SYSMOD containing inline JCLIN is ACCEPTed. For more information on the ACCJCLIN indicator, see the description of inline JCLIN in the SMP/E manuals.

Once you have taken any actions indicated by the ACCEPT CHECK, remove the CHECK operand and run the job again to perform the ACCEPT.

Note: The GROUPEXTEND operand indicates that SMP/E accept all requisite SYSMODs. The requisite SYSMODS might be applicable to other functions.

Expected Return Codes and Messages from ACCEPT CHECK: This job should complete with a condition code of 0.

If PTFs containing replacement modules are being ACCEPTed, SMP/E ACCEPT processing will linkedit/bind the modules into the distribution libraries. During this processing, the Linkage Editor or Binder may issue messages documenting unresolved external references, resulting in a return code of 4 from the ACCEPT step. These messages can be ignored, because the distribution libraries are not executable and the unresolved external references will not affect the executable system libraries.

Expected Return Codes and Messages from ACCEPT: This job should complete with a condition code of 0.

6.2 Activating Net.Data Version 7

Configure Net.Data and Run Installation Verification Programs - IVP

The installation verification programs allows you to perform simple tests that verify the successful installation of Net.Data. If you are migrating from an earlier version of Net.Data, Net.Data may be already configured to run in your environment. You may or may not have to configure Net.Data to run the IVPs. Once you successfully complete the IVP, you may need to reconfigure Net.Data to operate to your specifications. Detailed description of how to configure Net.Data is provided in the Net.Data Administration and Programming Guide for OS/390.

6.2.1 part 1: Describe Net.Data to Web server

You need to describe Net.Data objects and the method that will be used by the Web server to execute the Net.Data IVP.

1. Provide access to Net.Data objects that are used for the IVP:

Add pass directives to the Web servers configuration file (/etc/httpd.conf). The pass directives are used to provide access to Net.Data objects that are referenced by the Net.Data provided IVP and sample macros. Example of the default pass directives:

```
Pass /netdata-java/* /usr/lpp/netdata/java/*
Pass /netdata-xml/* /usr/lpp/netdata/xml/*
Pass /netdata-icons/* /usr/lpp/netdata/icons/*
```

2. Describe Net.Data Message Catalog

Net.Data for OS/390 provides an English, Japanese and Korean message catalog. The LANG and NLSPATH environment variables located in the Web servers file "/etc/httpd.envvars", contains information about the language and the location of the message catalogs.

Add /usr/lpp/netdata/%L/%N to the NLSPATH statement in the Web server's environment variables file (/etc/httpd.envvars). Your NLSPATH statement should be similar to the following:

```
NLSPATH=.....:/usr/lpp/netdata/%L/%N
```

Note: Update value of the LANG statement in the Web server's environment variables file (/etc/httpd.envvars). This variable selects the specific catalog that Net.Data will use. This value may already be set. Valid values are:

```
English: LANG=C
Japanese: LANG=Ja_JP
Korean: LANG=Ko_KR
```

3. Describe Method that the Web server will used to execute Net.Data:

If you are migrating from a previous release, your existing configuration may already be configured to work with Net.Data Version 7. Choose one of the following methods that the Web server will use to execute Net.Data.

Important: Only one method of execution can be specified in the Web server configuration.

a. **Use Web server CGI to execute Net.Data.**

Add an Exec directive to the Web server's configuration file (/etc/httpd.conf) that redirects Net.Data requests to the /usr/lpp/netdata/cgi-bin directory. The default Exec directive for Net.Data is:

```
Exec /netdata/cgi/* /usr/lpp/netdata/cgi-bin/*
```

Add your Net.Data Version 7.1 cgi-bin directory to the LIBPATH statement of the Web server's environment variables file (/etc/httpd.envvars). The default Net.Data cgi-bin directory within the LIBPATH statement would look similar to:

```
LIBPATH=/usr/lpp/internet/bin:/usr/lpp/netdata/cgi-bin
```

When Net.Data is executed using CGI, the DB2 Call Attach Facility is used to communicate with the database.

b. **Use Web server Fast CGI to execute Net.Data.**

Add your Net.Data Version 7.1 fcgi-bin directory to the LIBPATH statement of the Web server's environment variables file (/etc/httpd.envvars). The default Net.Data fcgi-bin directory within the LIBPATH statement would look similar to:

```
LIBPATH=/usr/lpp/internet/bin:/usr/lpp/netdata/fcgi-bin
```

Modify the FastCGI configuration file:

- Create a new entry in the FastCGI configuration file for Net.Data.
- Ensure that the Exec directive specifies the Net.Data executable /usr/lpp/netdata/fcgi-bin/db2www.
- Ensure that the Role directive specifies Responder.
- Important: If you configured your Web server with WLM in scalable mode, you must use the BindPath option instead of the Port option.
- Your FastCGI configuration file should look similar to the following:

```
Local {  
Exec /usr/lpp/netdata/cgi-bin/db2www  
Role Responder  
URL /cgi-bin/db2www  
BindPath /tmp/netdata_fcgi  
NumProcesses 100  
User IBMUSER  
}
```

- For more information on the FastCGI configuration file and its options, refer to your Web server's documentation.

When Net.Data is executed using FastCGI, the DB2 RRS Attach Facility is used to communicate with the database.

c. **Execute Net.Data using the Go Web server Application Programming Interface (GWAPI)**

Add a ServerInit directive to the Web server's configuration file (/etc/httpd.conf) that tells the Web server how to initialize Net.Data. The default directory to use for the ServerInit directive is:

```
ServerInit /usr/lpp/netdata/icapi-lib/db2www:dtw_init
```

Add a Service directive to the Web server's configuration file (/etc/httpd.conf) that redirects Net.Data requests to the /usr/lpp/netdata/icapi-lib directory. The default directory to use for the Service directive is:

```
Service /netdata-cgi/db2www*  
/usr/lpp/netdata/icapi-lib/db2www:dtw_icapi*
```

Note: The entire service statement needs to be specified on the same line.

Add a ServerTerm directive to the Web server's configuration file (/etc/httpd.conf) that tells the Web server how to terminate Net.Data. The default directory to use for the ServerTerm directive is:

```
ServerTerm /usr/lpp/netdata/icapi-lib/db2www:dtw_term
```

Add your Net.Data icapi-lib directory to the LIBPATH statement of the Web server's environment variables file (/etc/httpd.envvars). The default Net.Data icapi-lib directory within the LIBPATH statement is similar to the following:

```
LIBPATH=/usr/lpp/internet/bin:/usr/lpp/netdata/icapi-lib
```

When Net.Data is executed using GWAPI, the DB2 RRS Attach Facility is used to communicate with the database.

- d. **Execute Net.Data as a Servlet.** Add the NetDataServlets.jar file to the CLASSPATH statement of your Web server's environment variables file (/etc/httpd.envvars). The default Net.Data Servlets.jar file is similar to the following:

```
CLASSPATH=...:/usr/lpp/netdata/servlet-lib/NetDataServlets.jar
```

Note: The entire path statement needs to be specified on the same line.

Add Net.Data servlet-lib directory to the LIBPATH statement of your Web server's environment variables file (/etc/httpd.envvars). The default Net.Data servlet-lib directory within the LIBPATH statement is similar to the following:

```
LIBPATH=/usr/lpp/internet/bin:/usr/lpp/netdata/servlet-lib
```

When Net.Data is executed as a servlet, the DB2 RRS Attach Facility is used to communicate with the database.

4. Verify and Set Web server Code Page:

The Web server's configuration file (/etc/httpd.conf) specifies the default code page environment through DefaultFsCp and DefaultNetCp directives. The DefaultFsCp directive specifies the default file system code page on the server. This is the EBCDIC code page in which the Web server expects to receive text streams from Net.Data. The DefaultNetCp directive specifies the default network code page. This is the ASCII code page used to encode text streams that are served by the Web server. The Web server program default settings are:

```
DefaultFsCp IBM-1047 #(Latin 1/Open Systems)
DefaultNetCp ISO8859-1
```

The default settings work fine for Latin 1 languages but will not produce the correct results for other languages such as Japanese and Korean. One possible pair of default settings for Japanese is:

```
DefaultFsCp IBM-939 #(Japanese Latin Extended)
DefaultNetCp IBM-932
```

One possible pair of default settings for Korean is:

```
DefaultFsCp IBM-933
DefaultNetCp IBM-949
```

5. Update Web server Job Control Language (JCL) :

The Net.Data SQL and ODBC language environments require access to the DB2 attach programs. If they are not available from the LINKLIST they must be specified in the Web server's JCL. The following is an example of using STEPLIB to access DB2 Version 7:

```
//STEPLIB DD DISP=SHR,DSN=DSN710.SDSNLOAD
```

Verify that the following LE run-time options are set for your Web server:

- TRAP(ON) - is required to execute the Net.Data Application.
- HEAPOOLS(ON) - Net.Data takes advantage of Heappools.
- TERMTHDACT(UADUMP) - Is recommended to capture first occurrence of any Web server abnormal termination.

6. Provide Access to Net.Data Initialization File:

Copy the Net.Data Initialization file to the Web server's document root directory. The Net.Data initialization file is named "db2www.ini" and is located in the directory "/usr/lpp/netdata/pub" when using the default install directories. The Web server's document root directory is specified in the Web server's configuration file (/etc/httpd.conf) by the Pass directive with request template "/*". The Web server's default document root directory is "/usr/lpp/internet/server_root/pub", but this may have been changed when the Web server was installed. If your Web server's document root directory is different than "/usr/lpp/internet/server_root/pub", then substitute your choice as appropriate in these installation instructions.

The following example shows how to copy the Net.Data Initialization file to the Web servers document root directory using default install directories. Execute the following shell command:

```
cp /usr/lpp/netdata/pub/db2www.ini /usr/lpp/internet/server_root/pub
```

6.2.2 part 2: Customize The Net.Data Initialization File

The Net.Data initialization file is customized to run the IVPs. When the IVP has successfully completed you may want to review all of the settings in this file. For a detailed description of all possible settings see, Net.Data Administration and Programing Guide for OS/390. You should customize the copy of the Net.Data initialization file that was copied into the Web servers document root directory.

1. Migration Considerations:

Depending on which release of Net.Data you are migrating from, you may need to do one or more of the following:

- Remove RETURN_CODE from all of the ENVIRONMENT statements.
- Remove the following ENVIRONMENT statements. They are no longer separate language environments:

```
ENVIRONMENT (DTW_DEFAULT) defcdll ()  
ENVIRONMENT (DTW_FILE) filedll ()  
ENVIRONMENT (DTW_APPLET) appldll ()
```

- Set DTW_SHOWSQL to your preference. The default is NO which is different in releases older than Net.Data Version 2 Release 2. If your existing macros are using the variable "SHOWSQL" then you should set DTW_SHOWSQL to "YES".
- Set DTW_DIRECT_REQUEST to your preference. The default is NO which is different in releases older than Net.Data Version 2 Release 2. If you are currently using direct request you should set the variable "DTW_DIRECT_REQUEST" to "YES".

2. Verify and Set Code Page:

Net.Data assumes that the code page for your DB2 database is the same as the code page specified by the Web server's DefaultFsCp directive. If this is not the same, then you must use the DefaultDBCp variable to specify the code page of your DB2 database. For example, if the code page of your DB2 database is IBM-930, add the following to your Net.Data initialization file:

```
DefaultDBCp IBM-930
```

The setting of this variable directs Net.Data to convert SQL statements and stored procedure input parameters from the default file system code page to the database code page, and to convert result sets and stored procedure output parameters from the database code page to the file system code page. No conversion is performed if this variable is not set.

Tip: You should not set this configuration variable if the code page of your database is the same as the code page of your macros. Doing so would lead to unnecessary code page conversions.

3. Net.Data Message Recording for IVP:

Set the message recording variables to record the IVP activity.

The Net.Data Error Log is used to record error conditions. The Net.Data error log name is "netdata.error.log" and it is written to HFS. You can specify the HFS directory and the type of messages to be logged. For IVP testing, ALL messages should be logged. The following is an example of configuring to log all messages to the Web servers logs directory:

```
DTW_ERROR_LOG_DIR /usr/lpp/netdata/logs  
DTW_ERROR_LOG_LEVEL ALL
```

After the IVP activity has completed it is recommended that the DTW_ERROR_LOG_LEVEL be set to INFORMATION.

The Net.Data Trace Log is used to provide information about macro execution. The trace file name is "netdata.trace" and it is written to HFS. You can specify the HFS directory and the level of tracing. For the IVP, SERVICE level tracing should be used. The following is an example of configuring to write service level trace messages to Net.Data logs directory:

```
DTW_TRACE_LOG_DIR /usr/lpp/netdata/logs  
DTW_TRACE_LOG_LEVEL SERVICE
```

For performance reasons, set the DTW_TRACE_LOG_LEVEL variable to OFF after successfully completing the IVP.

4. Path Statements for IVP:

Net.Data determines the location of files and executable programs used by Net.Data macros from the settings of the path configuration statements. The path statements used by the IVP are:

MACRO_PATH:

If your Net.Data macros directory path is different from the default /usr/lpp/netdata/macros, then update the MACRO_PATH statement accordingly.

EXEC_PATH:

If your Net.Data external program directory path is different from the default /usr/lpp/netdata/testcmd, then update the EXEC_PATH statement accordingly

5. SQL Language Environment:

The SQL language environment provides access to DB2 databases. Update the DTW_SQL environment statement to describe the SQL environment. You specify the following in the Net.Data initialization file:

- Update ENVIRONMENT (DTW_SQL) statement
When using DB2 for OS/390 Version 5 set the name of the dll to dtwsql. For example:

```
ENVIRONMENT (DTW_SQL) dtwsql()
```

When using DB2 for OS/390 Version 6 or Version 7 set the name of the dll to dtwsqlv6. For example:

```
ENVIRONMENT (DTW_SQL) dtwsqlv6()
```

Important: you can only specify one DTW_SQL environment statement.

- Set DB2 Subsystem ID:
Update the DB2SSID configuration variable to specify the DB2 subsystem that is being used run the IVP. For the default DB2 subsystem DBNC enter:

```
DB2SSID DBNC
```

- Set the name of the Net.Data plan for DB2:
Update the DB2PLAN configuration variable to specify the DB2 planid that was used to bind the Net.Data application to run the IVP. For the default planid of DTWGAV71 enter:

```
DB2PLAN DTWGAV71
```

6. Language Environment ODBC: The Open Database Connectivity (ODBC) language environment executes SQL statements through an ODBC interface. ODBC is based on the X/Open SQL CAE specification, which lets a single application access many database management systems. DB2 Version 5 users will need to ensure that PTF UQ18719 has been applied before using the ODBC language environment.

The DTW_ODBC environment statement is used to describe the ODBC environment. You specify the following in the Net.Data initialization file:

```
ENVIRONMENT (DTW_ODBC) odbcdll ()
```

Allocate DB2 CLI Initialization File . The environment variable DSNAOINI contains the name of the DB2 CLI initialization file. For details on how to allocate the DB2 CLI initialization file see the DB2 Call

Level Interface Guide and Reference for the appropriate release of DB2 that you are using with Net.Data. Net.Data provides the ability to specify the name of the DB2 CLI in the environment variable DSNAOINI. You can specify a sequential dataset, a member of a PDS, or an HFS file as the CLI initialization file. To have Net.Data specify the name of the DB2 CLI file provide the following directive in the Net.Data Initialization file:

DSNAOINI filename

Update the DB2 CLI initialization file:

- Set MVSATTACHTYPE in DB2 CLI initialization file.
If you configured the Web server to execute Net.Data as a CGI application, the MVSATTACHTYPE is CAF. For all other Net.Data configurations set the MVSATTACHTYPE variable to RRSF.
- Set PLANNAME in DB2 CLI initialization file
Set the PLANNAME to the Net.Data plan name that you will use when you bind the Net.Data application plan. See Bind Net.Data for ODBC below.
- Set MVSDEFAULTSSID in DB2 CLI initialization file
Set the MVSDEFAULTSSID to the DB2 subsystem that will be used to run the IVP and is also used in the job to bind the Net.Data application..

6.2.3 part 3: Bind Net.Data Application to DB2 Database

You need to create DB2 packages and bind them to the DB2 database that you will be using to run the IVP. Sample JCL is provided to Bind the Net.Data Application for use with the SQL Language Environment.

If you plan to use the ODBC and SQL language environments then you use the ODBC sample JCL to bind the Net.Data application. See Bind Net.Data for ODBC below. Sample JCL is provided in library "DTW710.SDTWBASE" that can be tailored to bind Net.Data to the database that will be used to run the IVP.

Important: If you are migrating from a previous release of Net.Data and your current configuration supports Web Page Caching or LOB management, you should bind using the jobs that marked for Caching or LOB management.

Tailor and execute one of the following sample JCL. Tailoring instructions are provided in the sample JCL:

Bind Net.Data for SQL Language Environment

- DTWBIND - For DB2 Version 5
- DTWBDCV5 - For DB2 Version 5 with Web Page Caching
- DTWBIND6 - For DB2 Version 6 or later
- DTWBDCV6 - For DB2 Version 6 or later with Web Page Caching or LOB management

Bind Net.Data for ODBC Language Environment

- DTWOBIND - For DB2 Version 5
- DTWOBDV5 - For DB2 Version 5 with Web Page Caching
- DTWOBND6 - For DB2 Version 6 or later
- DTWOBDV6 - For DB2 Version 6 or later with Web Page Caching or LOB management

6.2.4 part 4: Run the Net.Data IVP

1. Prepare the test environment

Insure that you have a Web browser that you can issue URL's to the Web server that contains the Net.Data IVP objects and configuration. Restart the Web server after making configuration changes for Net.Data and insure that the DB2 subsystem that you plan to use for the IVP is active. Execute the Net.Data Verification Macros from the Web browser by specifying one the URL that is provided by each IVP description.

2. Test Net.Data installation using the Hello World macro.

The Hello World IVP test the basic installation of Net.Data.

CGI or GWAPI URL:

`http://<your Web server address>/netdata-cgi/db2www/hello.dtw/report`

Fast CGI URL:

`http://<your Web server address>/fcgi-bin/db2www/hello.dtw/report`

Servlet URL:

`http://<your Web server address>
/servlet/com.ibm.netdata.servlets.MacroServlet?MACRO=hello.dtw`

3. Test the SQL language environment

To test the Net.Data provided SQL language environment, specify one of the following URLs. To execute this URL, you must have read authority to DB2 system table "SYSIBM.SYSTABLES".

CGI or GWAPI URL:

`http://<your Web server address>/netdata-cgi/db2www/tsql.dtw/input`

Fast CGI URL:

`http://<your Web server address>/fcgi-bin/db2www/tsql.dtw/input`

Servlet URL:

`http://<your Web server address>
/servlet/com.ibm.netdata.servlets.MacroServlet?MACRO=tsql.dtw`

4. Test the ODBC language environment

To test the Net.Data provided ODBC language environment, specify one of the following URLs. To execute this URL, you must have read authority to DB2 system table "SYSIBM.SYSTABLES".

CGI or GWAPI URL:

`http://<your Web server address>/netdata-cgi/db2www/todbc.dtw/input`

Fast CGI URL:

`http://<your Web server address>/fcgi-bin/db2www/todbc.dtw/input`

Servlet URL:

`http://<your Web server address>
/servlet/com.ibm.netdata.servlets.MacroServlet?MACRO=todbc.dtw`

5. Test the System language environment

To test the Net.Data provided System language environment, specify one of the following URLs:

CGI or GWAPI URL:

`http://<your Web server address>/netdata-cgi/db2www/tsystem.dtw/input`

Fast CGI URL:

`http://<your Web server address>/fcgi-bin/db2www/tsystem.dtw/input`

Servlet URL:

`http://<your Web server address>/servlet
/com.ibm.netdata.servlets.MacroServlet?MACRO=tsystem.dtw&BLOCK=report1`

6. Test the Perl language interpreter program

If you have installed the Perl language interpreter program on your Web server specify one of the following URLs:

CGI or GWAPI URL:

`http://<your Web server address>/netdata-cgi/db2www/tperl.dtw/input`

Fast CGI URL:

`http://<your Web server address>/fcgi-bin/db2www/tperl.dtw/input`

Servlet URL:

`http://<your Web server address>/servlet
/com.ibm.netdata.servlets.MacroServlet?MACRO=tperl.dtw&BLOCK=report1`

7. Test the REXX interpreter

To test the Net.Data provided REXX interpreter language environment, specify one of the following URLs:

CGI or GWAPI URL:

`http://<your Web server address>/netdata-cgi/db2www/trexx.dtw/input`

Fast CGI URL:

`http://<your Web server address>/fcgi-bin/db2www/trexx.dtw/input`

Servlet URL:

`http://<your Web server address>/servlet
/com.ibm.netdata.servlets.MacroServlet?MACRO=trexx.dtw&BLOCK=report1`

8. Check Net.Data Error Log

Look into the Net.Data log directory, default name is `/u/lpp/netdata/logs`, for an error log file named "netdata.error.log". If the file exists, review and correct any errors that are logged. If the file doesn't exist, then no error were recorded by Net.Data.

9. Check Net.Data Trace Log

Look into the Net.Data log directory, default name is `/u/lpp/netdata/logs`, for a trace file named "netdata.trace". If the dataset doesn't exist then check the settings for "DTW_TRACE_LOG_DIR" and "DTW_TRACE_LOG_LEVEL" in the Net.Data initialization file `db2www.ini`. The IVP should be run with service level tracing

If the file does exist, then check the beginning of the file for trace data. The first set of records should contain configuration variable names and settings. For a detailed description of Net.Data trace records, see the Net.Data Messages and Codes for a description of trace messages.

End of Installation Verification Procedure.

You may now want to go back and configure Net.Data to fit your specific environment. The Net.Data Administration and Programming Guide for OS/390 contains the information on how to configure Net.Data.

Appendix A. Program File Content for Net.Data Version 7

Figure 14. Program File Content

Name	O R G	R E C F M	L R E C L	BLK SIZE
SMPMCS	SEQ	FB	80	6400
IBM.H242710.F1	PDS	FB	80	8800
IBM.H242710.F2	PDS	FB	80	8800
IBM.H242710.F3	PDS	FB	80	8800
IBM.H242710.F4	PDS	FB	80	8800
IBM.H242710.F5	PDS	VB	256	2600
IBM.H242710.F6	PDS	VB	256	2600
IBM.H242710.F7	PDS	VB	256	2600
IBM.H242710.F8	PDS	VB	256	2600
IBM.H242710.F9	PDS	VB	256	2600
IBM.H242710.F10	PDS	U	0	6144

Appendix B. Notices

References in this document to IBM products, programs, or services do not imply that IBM intends to make these available in all countries in which IBM operates. Any reference to an IBM product, program, or service is not intended to state or imply that only IBM's product, program, or service may be used. Any functionally equivalent product, program, or service that does not infringe on any of IBM's intellectual property rights may be used instead of the IBM product, program, or service. Evaluation and verification of operation in conjunction with other products, except those expressly designated by IBM, is the user's responsibility.

APAR numbers are provided in this document to assist in locating PTFs that may be required. Ongoing problem reporting may result in additional APARs being created. Therefore, the APAR lists in this document may not be complete. To obtain current service recommendations and to identify current product service requirements, always contact the IBM Customer Support Center or use S/390 SoftwareXcel to obtain the current "PSP Bucket".

IBM may have patents or pending patent applications covering subject matter in this document. The furnishing of this document does not give you any license to these patents. You can send license inquiries, in writing, to the

IBM Director of Licensing
IBM Corporation
North Castle Drive
Armonk, New York 10504-1785
USA

For online versions of this book, we authorize you to:

- Copy, modify, and print the documentation contained on the media, for use within your enterprise, provided you reproduce the copyright notice, all warning statements, and other required statements on each copy or partial copy.
- Transfer the original unaltered copy of the documentation when you transfer the related IBM product (which may be either machines you own, or programs, if the program's license terms permit a transfer). You must, at the same time, destroy all other copies of the documentation.

You are responsible for payment of any taxes, including personal property taxes, resulting from this authorization.

THERE ARE NO WARRANTIES, EXPRESS OR IMPLIED, INCLUDING THE WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

Some jurisdictions do not allow the exclusion of implied warranties, so the above exclusion may not apply to you.

Your failure to comply with the terms above terminates this authorization. Upon termination, you must destroy your machine readable documentation.

B.1 Trademarks

The following terms are trademarks of the IBM Corporation in the United States or other countries or both:

CBPDO

IBM®

MVS/ESA

SystemPac

S/390

z/OS®

ProductPac

Language Environment

OpenEdition

DB2

AIX

Net.Data

Reader's Comments

Program Directory for Net.Data Version 7, February 2004

You may use this form to comment about this document, its organization, or subject matter with the understanding that IBM may use or distribute whatever information you supply in any way it believes appropriate without incurring any obligation to you.

For each of the topics below please indicate your satisfaction level by circling your choice from the rating scale. If a statement does not apply, please circle N.

RATING SCALE					
very satisfied	<----->	very dissatisfied	not applicable		
1	2 3 4	5	N		

	Satisfaction					
Ease of product installation	1	2	3	4	5	N
Contents of Program Directory	1	2	3	4	5	N
Installation Verification Programs	1	2	3	4	5	N
Time to install the product	1	2	3	4	5	N
Readability and organization of Program Directory tasks	1	2	3	4	5	N
Necessity of all installation tasks	1	2	3	4	5	N
Accuracy of the definition of the installation tasks	1	2	3	4	5	N
Technical level of the installation tasks	1	2	3	4	5	N
Ease of getting the system into production after installation	1	2	3	4	5	N

How did you order this product?

- CBPDO
- CustomPac
- ServerPac
- Independent
- Other

Is this the first time your organization has installed this product?

- Yes
- No

Were the people who did the installation experienced with the installation of z/OS products?

- Yes

IBM Corporation
Silicon Valley Laboratory
Department H150/DTX
555 Bailey Avenue
San Jose, CA 95141

FAX Number: (408) 463-4393

E-Mail: comments@vnet.ibm.com



Printed in U.S.A.

G110-8565-00

