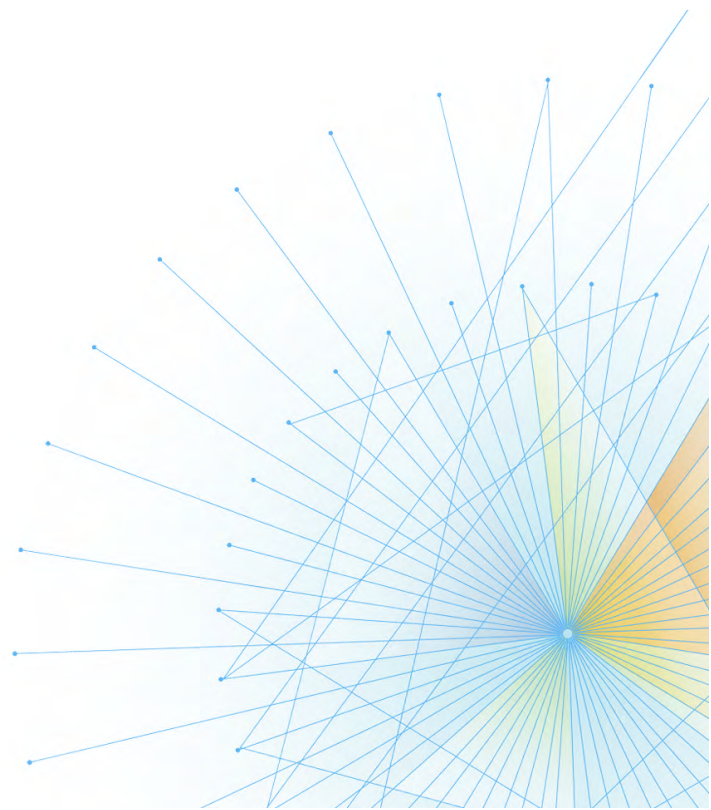




The Mainframe Software Partner For The Next 50 Years

Xpediter/TSO and Xpediter/IMS Installation and Configuration Guide

Release 17.02



Please direct questions about Xpediter/TSO and Xpediter/IMS
or comments on this document to:

Compuware Support Center

<https://go.compuware.com/>

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Introduction

This manual provides information about how to install, customize, and maintain Xpediter/TSO and Xpediter/IMS.

Overview

This document is intended to guide you through installing/updating, configuring, deploying, and troubleshooting Xpediter/TSO and Xpediter/IMS. Supplemental documentation can be found in the *Xpediter/TSO and Xpediter/IMS Advanced Configuration Guide*.

Alerts

The alerts found in this guide include:



A note or tip providing additional information.



If a particular milestone or task doesn't apply to your site—or your site is not licensed for a particular option—you can skip ahead to the next milestone or task by clicking the icon.



Information important to remember.



Caution. Failure to follow these instructions can cause problems.



Indicates which skill set is most likely needed to perform the following task(s).

Xpediter/TSO and Xpediter/IMS Overview

Xpediter/TSO and Xpediter/IMS is a testing and debugging tool for COBOL, Assembler, PL/I, and C programs that run in TSO (both interactive and batch), and IMS environments. Xpediter/TSO and Xpediter/IMS can be invoked from Eclipse (Topaz Workbench), TSO, and IMS.

Members of Compuware's Xpediter family of debugging and testing products include:

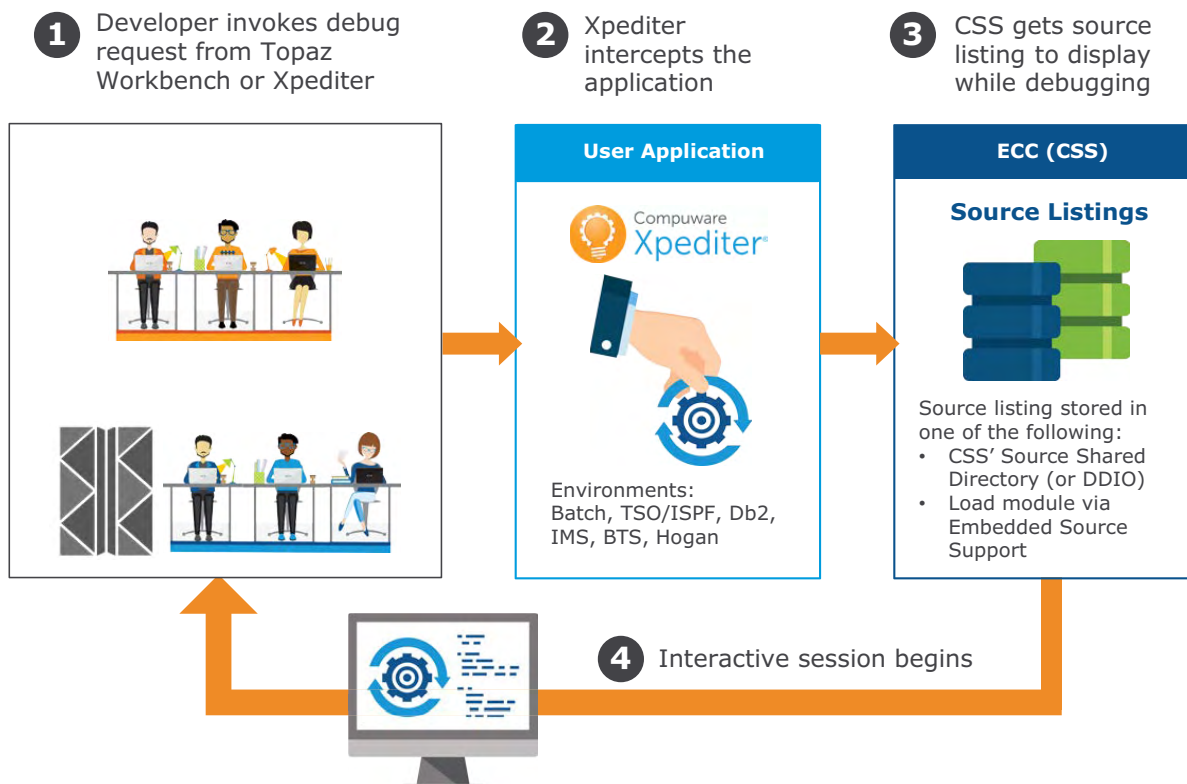
- Xpediter/TSO
- Xpediter/IMS
- Xpediter/CICS
- Xpediter/Code Coverage
- Xpediter/Xchange.

Each of these products has its own installation and configuration documentation.

Users can invoke Abend-AID from Xpediter/TSO. Xpediter/TSO includes a bridge to File-AID *for DB2* which allows users to modify and execute SQL statement during a test.

Product Architecture

Xpediter/TSO and Xpediter/IMS are made up of a number of components accessible from either a standard terminal or from Topaz Workbench, an Eclipse-based modernized user interface.



The numbered steps in an Xpediter/TSO and Xpediter/IMS debugging session workflow are:

- 1** A Topaz Workbench or mainframe Xpediter/TSO and Xpediter/IMS user initiates a debugging request for their user application.
- 2** Xpediter intercepts the user application for debugging. Supported Topaz Workbench environments include batch, TSO, DB2, and IMS. Supported Mainframe environments include batch, TSO/ISPF, DB2, IMS, and BTS.
- 3** Compuware Shared Services (CSS)—a component of Enterprise Common Components (ECC)—locates the source listing. It can be either stored in the CSS source shared directory (or DDIO) or embedded in the load module via Embedded Source Support.
- 4** The interactive debugging session begins. The source listing is displayed to give the user a familiar context for debugging.



Topaz Workbench integration requires that you follow the instructions in ["Milestone 6: Configure Topaz Workbench Integration"](#).

Planning

This section provides information related to planning to install or update to Xpediter/TSO and Xpediter/IMS 17.02.

Steps Involved

1. Order Xpediter/TSO and Xpediter/IMS and its companion products, including the latest maintenance, via Compuware's Product Ordering web page or by contacting Compuware as described in [Customer Solutions](#) on page 93.
2. Read this *Installation and Configuration Guide* and complete each of the milestones to:
 - a. Ensure companion products have been installed and configured with the latest maintenance and that the license for Xpediter/TSO and Xpediter/IMS has been imported.
 - b. Perform the SMP/E installation of Xpediter/TSO and Xpediter/IMS according to the *Compuware Installer Mainframe Products SMP/E Installation Guide*.
 - c. Implement the Compuware Mainframe Services Controller (CMSC) PARMLIB.
 - d. Configure Xpediter/TSO and Xpediter/IMS for either a new installation or an upgrade. This includes implementing the Compuware Mainframe Services Controller (CMSC) PARMLIB.
 - e. Perform additional configuration for Topaz Workbench and other features.
 - f. Deploy Xpediter/TSO and Xpediter/IMS to additional environments.
 - g. Troubleshoot any problems with the installation.

Milestones and Roles

Installation, configuration, verification, and deployment are done in 13 milestones. The rows in [Table 1](#) identify the role or skill set required to perform each milestone. This makes it easier to know which people need to be involved at each milestone along the way. With the proper planning, you may be able to have certain tasks performed at the same time.

Table 1 People Required for Each Milestone

Milestone	Companion Product Installer/Administrator	Xpediter/TSO and Xpediter/IMS Installer	z/OS System Programmer	z/OS Security Administrator	VTAM Administrator	DBA
" Milestone 1: Ensure Installation and Configuration of Companion Products "	ECC ●					
" Milestone 2: Install Xpediter/TSO and Xpediter/IMS Using SMP/E "		●				
" Milestone 3: Configuration Preparation "		●	●	●		
" Milestone 4: Configure Xpediter/TSO and Xpediter/IMS — New Installation "		●	●			

Table 1 People Required for Each Milestone (*Continued*)

Milestone	Companion Product Installer/Administrator	Xpediter/TSO and Xpediter/IMS Installer	z/OS System Programmer	z/OS Security Administrator	VTAM Administrator	DBA
" Milestone 5: Configure Xpediter/TSO and Xpediter/IMS — Upgrade "		●	●			
" Milestone 6: Configure Topaz Workbench Integration "	ECC ● Topaz Workbench ●	●				
" Milestone 7: Configure Batch Connect Support "		●			●	
" Milestone 8: Configure IMS/DB Support "		●	●	●		IMS ●
" Milestone 9: Configure IMS/DC Support "		●	●	●		IMS ●
" Milestone 10: Configure DB2 Stored Procedure Support "		●	●			DB2 ●
" Milestone 11: Configure BTS Support "						IMS ●
" Milestone 12: Enable High Performance Breakpointing "		●				
" Milestone 13: Deployment "		●				

Pre-Installation Considerations

Installing Xpediter/TSO and Xpediter/IMS consists of registering defaults and providing an access mechanism for users. To facilitate a smooth installation, collect the information identified in this section. You can print the table in this section and use it to write down your site's values.

XOPTIONS File

- If an XOPTIONS file from a prior Xpediter/TSO install exists, you can use it. **Make note of the Dataset Name in your copy of [Table 2](#) for future reference.**
- If an XOPTIONS file does not exist, or you decide to create a new one, **make note of the Dataset Name in your copy of [Table 2](#) for future reference.**

Multi-Batch

During the configuration, you **must** create a new Multi-Batch Staging File for this release. Select a name for this file and **make note of it in your copy of [Table 2](#) for future reference.**

Topaz Workbench

- You will be populating a Compuware Shared Profile Facility (CSPF) file.
 - If one already exists, **make note of the file name in your copy of [Table 2](#) for future reference.**
 - If one does **not** exist, select a name for this file and **make note of it in your copy of [Table 2](#) for future reference.**

Additional Configuration

Some of the tasks in this guide are only necessary when configuring additional licensed features, or in specialized environments, such as:

- Topaz Workbench
- Batch Connect
- IMS/DB Support
- Xpediter/IMS (IMS/DC Support)
- Xpediter DB2 Stored Procedure Support
- IBM's BTS (Batch Terminal Simulator)
- High-performance Breakpoints.

You need to know which options your site is licensed for, as well as what other Compuware products your site is licensed for. You can determine this using the Compuware License Management utility. Your ECC administrator should be able to direct you to this utility.

Information that should be determined before you start to configure Xpediter is listed in [Table 2](#).

Instructions for configuring the following additional options can be found in the *Xpediter/TSO and Xpediter/IMS Advanced Configuration Guide*:

- Xpediter File-AID for DB2 Extension
- Xpediter/TSO with CA-ROSCOE.

Necessary Information and Who to Ask

[Table 2](#) lists the information needed and who would be expected to provide it. You may want to print the table, then fill in your site's information to refer to during the installation process.

Table 2 Information Gathering Worksheet

Who to Contact	What is Needed	Your Information
Required		
Xpediter SMP/E Installer	High-level qualifiers for Xpediter/TSO SMP/E datasets	
ECC SMP/E Installer	Enterprise Common Components (ECC) SLCXLOAD dataset name	
ECC Administrator	Compuware Mainframe Services Controller (CMSC) PARMLIB dataset name	
ECC Administrator	Suffix defined/defaulted for Xpediter/TSO in the CMSC	
Xpediter Installer	Xpediter Multi-Batch Staging File dataset name	
If re-using XOPTIONS file, previous Xpediter Installer. If new XOPTIONS file, current Xpediter Installer.	Xpediter XOPTIONS file dataset name	
Required for Upgrade		
Previous Xpediter Installer	SLXTTABL dataset name from current Xpediter/TSO installation	
Required for Topaz Workbench		
If re-using CSPF dataset, previous Topaz Workbench Installer. If new CSPF dataset, current Xpediter Installer.	Compuware Shared Profile Facility (CSPF) dataset name	

Table 2 Information Gathering Worksheet (*Continued*)

Who to Contact	What is Needed	Your Information
Required for IMS/DB		
IMS System Programmer	IMS RESLIB (SDFSRESL) dataset name	
IMS System Programmer	IMS DBD library dataset name	
IMS System Programmer	IMS PSB library dataset name	
Required for BTS		
IMS System Programmer	Batch Terminal Simulator (BTS) product load library dataset name	
Required for Xpediter/Xchange		
Xpediter/Xchange SMP/E Installer	Xpediter/Xchange SLXGLOAD dataset name	
Required for Xpediter/Code Coverage		
Xpediter/Code Coverage SMP/E Installer	Xpediter/Code Coverage SLXVLOAD dataset name	
Xpediter/CICS SMP/E Installer	Xpediter/CICS SMXDOxxL dataset name (if Xpediter/CICS will be used with Xpediter/Code Coverage)	
Required for File-AID		
File-AID SMP/E Installer	File-AID CXVJCLIB dataset name	
File-AID SMP/E Installer	File-AID SXVJCLIB dataset name	

Checklist of Milestones and Tasks

To keep track of your progress, you may want to print the [“Checklist of Milestones and Tasks”](#) at the end of this manual, then check off each Milestone and task as it gets completed. (The checklist is only available in the PDF version.)

Prerequisites

Software and Hardware Requirements

Hardware Platforms

- z14, z14 ZR1
- z13, z13s
- zEC12, zBC12
- z196, z114
- z10-EC/BC
- z9-EC/BC
- z900, z990
- z800, z890

Operating Systems

- IBM z/OS V2.2, 2.3
- IBM ISPF for the supported z/OS releases
- IBM DFSORT

Major Subsystems

- IBM DB2 for z/OS V11.1, 12.1
- IBM IMS Batch Terminal Simulator for z/OS V4.1

- IBM IMS Transaction and Database Servers V14.1, 15.1

Languages

(Under IBM Language Environment for Supported z/OS Releases)

- IBM Enterprise COBOL for z/OS V4.2, 5.1, 5.1.1, 5.2, 6.1, 6.2 (all in compatibility mode)
- IBM Enterprise PL/I for z/OS V4.5, 5.1, 5.2 (all in compatibility mode)
- IBM High Level Assembler for z/OS, z/VM, and z/VSE V1.6
- IBM C for supported z/OS releases. Note: Support is limited to C, not C++.

ISV Software

- CA Datacom/DB 12, 14
- CA IDMS 18.5
- Hogan
- SAG Adabas 8.3.1, 8.3.2
- SUPRA
- Syncsort
- System 2000
- TIS
- TOTAL

Corequisites

- Compuware Products and Components:
 - Enterprise Common Components (ECC) 17.02 or newer.

Contact Compuware Customer Solutions (as described in [Customer Solutions](#) on page 93) for information on releases not mentioned above.

Milestone 1: Ensure Installation and Configuration of Companion Products

Roles Involved

The following person is required for this milestone:



ECC Installer

Tasks

Complete the following tasks to install and configure Xpediter/TSO and Xpediter/IMS companion products.

Task 1.1 Install/Upgrade Enterprise Common Components

Enterprise Common Components (ECC) version 17.02 or higher must be installed and configured to support Xpediter/TSO and Xpediter/IMS 17.02. See the *Enterprise Common Components Installation and Configuration Guide* for instructions on configuring ECC for use with Xpediter/TSO and Xpediter/IMS.

Task 1.2 Apply ECC Maintenance

Apply the latest maintenance to ECC 17.02.

Task 1.3 Import Xpediter/TSO and Xpediter/IMS License

When you received your Xpediter/TSO and Xpediter/IMS product, you also received a license key for it. Import your Xpediter/TSO and Xpediter/IMS license into the Compuware License Management System.

Milestone 2: Install Xpediter/TSO and Xpediter/IMS Using SMP/E

SMP/E Installation

Xpediter/TSO and Xpediter/IMS is installed using SMP/E. This milestone will guide you through the SMP/E installation of Xpediter/TSO and Xpediter/IMS.

Roles Involved

The following people are required for this milestone:



z/OS Security Administrator
Xpediter/TSO and Xpediter/IMS Installer.

Tasks

Complete the following tasks to SMP/E-install Xpediter/TSO and Xpediter/IMS.

Task 2.1 Ensure Product Integrity

The following person is required for this task:



z/OS Security Administrator

Your site may already have a set of standards for SMP/E target and distribution libraries.

1. Provide the installation program with FULL access to the following libraries ([Table 1](#)).
2. Provide the individual responsible for product maintenance with UPDATE access.

Table 1 Access to SMP/E Libraries

Library	Identified By
Distribution	Low-level qualifier prefix ALXTxxxx
Target	Low-level qualifier prefix SLXTxxxx
Run-time	Run-time libraries and target libraries may be the same.



Do **not** allow the installer to modify the distributed files.

Task 2.2 Follow the Compuware Installation Guide

The following person is required for this task:



Xpediter/TSO and Xpediter/IMS Installer

1. Follow the instructions in the *Compuware Installer Mainframe Products SMP/E Installation Guide* to install Xpediter/TSO and Xpediter/IMS.
2. Once completed, follow the steps in this guide to configure and deploy Xpediter/TSO and Xpediter/IMS.

Milestone 3: Configuration Preparation

This milestone contains tasks that help establish security procedures and prepare for configuration of Xpediter/TSO and Xpediter/IMS for both a new install and an upgrade.

Roles Involved

The following people are required for this milestone:



z/OS Security Administrator
z/OS Systems Programmer
Xpediter/TSO and Xpediter/IMS Installer.

Tasks

Complete the following tasks to establish security procedures and prepare for Xpediter/TSO and Xpediter/IMS configuration.

Task 3.1 Authorize the SLXTAUTH Library

The following person is required for this task:



z/OS Systems Programmer

Add the SLXTAUTH to your MVS APF list.

Task 3.2 Provide Users Access to Product Runtime Libraries and Files

The following person is required for this task:



z/OS Security Administrator

Enable user access to the libraries listed in [Table 2](#).

Table 2 Basic and Optional Product Libraries

Library	Type	Access Required by Users
SLXTLOAD	Load library	READ/EXECUTE
SLXTCLIB	CLIST library	READ
SLXTHENU	Help panel library	READ
SLXTMENU	Messages library	READ

Table 2 Basic and Optional Product Libraries (*Continued*)

Library	Type	Access Required by Users
SLXTPENU	Panel library	READ
SLXTSAMP	Sample library	READ
SLXTSENU	Skeleton library	READ
SLXTTABL	Tables library	READ
XOPTIONS	Enhanced FIND support library	READ
SLXTAUTH	APF authorized library	READ/EXECUTE
XPIMSDBT ¹	IMS DC install verification database	UPDATE
SLXTHJPN ²	Help panel library	READ
SLXTMJPN ²	Messages library	READ
SLXTPJPN ²	Panel library	READ
	Multi-Batch Staging File	UPDATE ³ ALTER ⁴
	Compuware Shared Profile Facility File	READ



1. Use this library if you are configuring Xpediter/IMS (IMS DC online support).
2. Use this library if you have installed the Japanese Language support FMID.
3. All users must have UPDATE access to the Multi-Batch Staging file. Users with UPDATE access can view and process only those records that they have added and those where the Owner field matches their TSO ID.
4. Users with RACF ALTER access can view and process all records.

Task 3.3 Allow Access for the Xpediter/TSO and Xpediter/IMS Installer

The following person is required for this task:



z/OS Security Administrator

1. The Xpediter installer requires UPDATE access to the following:
 - Your CMSC PARMLIB
 - Xpediter/TSO and Xpediter/IMS installation library SLXTINST.
2. The Xpediter installer also requires READ access to the following:
 - For an upgrade, run-time libraries from prior release of Xpediter/TSO and Xpediter/IMS
 - Xpediter/TSO and Xpediter/IMS SMP/E controlled libraries
 - Output of the executing CMSC started task.

Task 3.4 Multi-Batch Considerations



If you are performing an upgrade and configured Multi-Batch support in your prior release of Xpediter/TSO and Xpediter/IMS, skip ahead to ["Milestone 5: Configure Xpediter/TSO and Xpediter/IMS — Upgrade"](#).

The following people are required for this task:



z/OS Security Administrator

z/OS Systems Programmer.

Task 3.4.1 Set up RACF Rules for Multi-Batch Functionality

Multi-Batch uses program XPMDRVR to locate the Multi-Batch intercept. XPMDRVR is loaded into the Link Pack Area (LPA) via the CSVDYLPA service. If this service is restricted by an external security product (RACF, ACF2, Top Secret, etc.), a rule must be coded to allow it to work.

For RACF, write the rule against the RACF FACILITY class resource CSVDYLPA.ADD.*modname*, where *modname* is the name of the module being loaded. This means that for XPMDRVR, the rule should be written against CSVDYLPA.ADD.XPMDRVR.

Task 3.4.2 Set up ACF2 SAFDEF Records for Multi-Batch Functionality



If your site does not use ACF2, skip ahead to ["Milestone 4: Configure Xpediter/TSO and Xpediter/IMS — New Installation"](#).

To ensure proper functioning of the Xpediter/TSO Multi-Batch facility, sites using ACF2 must set up SAFDEF records similar to the following:

```
SAFDEF.XPEDTSO
FUNCRET(4) FUNCRSN(0) ID() MODE(GLOBAL) NOAPFCHK PROGRAM(ADSIS314)
RACROUTE(REQUEST=AUTH CLASS=DATASET STATUS=ACCESS)
RB(ADSIS314) RETCODE(4)
```

```
SAFDEF.XPEDTSO
FUNCRET(4) FUNCRSN(0) ID() MODE(GLOBAL) NOAPFCHK PROGRAM(XPMMAIN)
RACROUTE(REQUEST=AUTH CLASS=DATASET STATUS=ACCESS)
RB(XPMMAIN) RETCODE(4)
```

```
SAFDEF.XPEDTSO
FUNCRET(4) FUNCRSN(0) ID() MODE(GLOBAL) NOAPFCHK PROGRAM(XPMECLPS)
RACROUTE(REQUEST=AUTH CLASS=DATASET STATUS=ACCESS)
RB(XPMECLPS) RETCODE(4)
```



MODE=IGNORE must not be in effect because it will override NOAPFCHK.

Milestone 4: Configure Xpediter/TSO and Xpediter/IMS — New Installation

This milestone will guide you through the configuration of a new installation of Xpediter/TSO and Xpediter/IMS 17.02.



If you are performing an upgrade instead, skip ahead to ["Milestone 5: Configure Xpediter/TSO and Xpediter/IMS — Upgrade"](#).

Roles Involved

The following people are required for this milestone:



Xpediter/TSO and Xpediter/IMS Installer
z/OS System Programmer.

Tasks

Complete the following tasks to configure a new installation of Xpediter/TSO and Xpediter/IMS.

Task 4.1 Customize XTUPDATE Macro

The following person is required for this task:



Xpediter/TSO and Xpediter/IMS Installer

XTUPDATE is an ISPF edit macro that can be used to automate the entry of site-specific JCL parameters. Using this macro saves you from having to repeatedly type in the same information and ensures your JCL parameters are always entered correctly.

Task 4.1.1 Copy SLXTINST(XTUPDATE) into a Library in Your SYSPROC Concatenation

This CLIST library *must* be allocated to your ISPF session.



You can display the libraries in your SYSPROC concatenation by entering the command `TSO ISRDDN`.

Task 4.1.2 Edit the XTUPDATE Macro

Customize the macro by following the instructions in member SLXTINST(XTUPDATE). All lines to be changed are marked with <==.



- The member also includes instructions for restoring your JCL member with a copy made by the macro.
- Because this is an ISPF edit macro, it is only executed when editing JCL.

The following figures provide an example of using the macro. Open your JCL in an edit session ([Figure 1](#)), type XTUPDATE in the Command field, and press Enter.

Figure 1 Entering the XTUPDATE Command

```

EDIT          ACMJETO.CW.XT.R1702.MLXT170.SLXTINST(JCLCREMB)  Columns 00001 00072
Command ==> XTUPDATE                                         Scroll ==> CSR
***** ***** Top of Data *****
000001 //*YOUR JOBCARD
000002 //*****
000003 //* JCLCREMB - ALLOCATE THE MULTI-BATCH STAGING FILE AND INITIALIZE IT
000004 //*
000005 //* 1. CHANGE THE DATASET NAME 'YOUR.MB.STAGING.FILE' TO THE DESIRED
000006 //*   DATASET NAME (IN ALL 5 PLACES).
000007 //* 2. CHANGE 'OWNER(???????)' TO THE DESIRED VALUE OR DELETE THE
000008 //*   OWNER PARM.
000009 //*
000010 //* NOTE: THE CONTROL CARD FOLLOWING THE "INITIT" DD CARD MUST NOT BE
000011 //*   MODIFIED. IT PRIMES THE STAGING FILE WITH A CONTROL RECORD.
000012 //*   (CHANGE COMPWARE.XT NOT NECESSARY FOR THIS MEMBER)
000013 //*****
000014 //JCLCREMB EXEC PGM=IDCAMS
000015 //SYSPRINT DD SYSOUT=*
000016 //INITIT DD *
000017
000018 //SYSIN DD *
000019 /* DELETE YOUR.MB.STAGING.FILE PURGE /* */
000020 SET MAXCC=0

```

The JCL is customized for you to submit, as shown in [Figure 2](#).

Figure 2 XTUPDATE Macro Results

```

EDIT          ACMJETO.CW.XT.R1702.MLXT170.SLXTINST(JCLCREMB)  Columns 00001 00072
Command ==>
***** ***** Top of Data *****
000001 //ACMJETO# JOB ('#SALESSUP'),'XT INSTALL',
000002 //          CLASS=A,MSGCLASS=R,NOTIFY=ACMJETO
000003 /*JOBPARM S=*
000004 /* JCL LOCATION: SLXTINST LIBRARY
000005 /*
000006 /* 17/06/05 17:56 - ACMJETO TAILORED WITH XTUPDATE.
- - - - - 13 Line(s) not Displayed
000020 //JCLCREMB EXEC PGM=IDCAMS
000021 //SYSPRINT DD SYSOUT=*
000022 //INITIT DD *
000023
000024 //SYSIN DD *
==CHG> /* DELETE CPWR.MB.STAGING.FILE PURGE /* */
000026 SET MAXCC=0
000027 DEFINE CLUSTER -
==CHG> (NAME(CPWR.MB.STAGING.FILE) -
000029   BUFFERSPACE(61952) -
000030   INDEXED -

```


Task 4.2 Configure XPLIBDEF and XPCGDSN

The following person is required for this task:



Xpediter/TSO and Xpediter/IMS Installer

The CLIST XPLIBDEF is used to allocate the required Xpediter/TSO environment and to invoke the product.



If the use of LIBDEFs is not permitted at your site, refer to the *Xpediter/TSO and Xpediter/IMS Advanced Configuration Guide* for alternate instructions.

The CLIST library *must* be allocated to your ISPF session.

Task 4.2.1 Copy SLXTINST(XPLIBDEF) and (XPCGDSN)

Copy the two CLISTs into a dataset that is either part of the SYSPROC concatenation or that is activated with an ALTLIB command.



You can display the libraries in your SYSPROC concatenation by entering the command
TSO ISRDDN.

Task 4.2.2 Edit the XPLIBDEF CLIST

By default, the XPLIBDEF CLIST will use the Simple Deploy method to allocate the dataset names specified in the CSMC PARMLIB DDSN n member (DDSN00 by default). If you are not using the default member, make sure to point to the DDSN n member name by setting the DDSNSFX keyword to the one- to four-character PARMLIB member suffix.

For example, to point to PARMLIB member DDSNCPWR, use:

```
DDSNSFX(CPWR)
```

In addition, the primary CMSC will be used by default. If you are not using the default CMSC, specify the CMSC to use by setting the CMSC keyword to the one- to four-character CMSC ID.

For example, to point to CMSC subsystem TEST, use:

```
CMSC(TEST)
```

This CLIST can alternately use High-Level Qualifiers (HLQ) to allocate the various Compuware products it references. [Table 3](#) identifies the product and its associated “node”.

Table 3 Product Node Values

Product	Node	Initial Value
Xpediter/TSO	XTNODE	PARMLIB
Compuware Shared Services	CSSNODE	PARMLIB
Xpediter/Xchange	XGNODE	PARMLIB
File-AID	FANODE	PARMLIB
Xpediter/Code Coverage	CCNODE	PARMLIB
Xpediter/CICS	XDNODE	PARMLIB

See the comments in the XPLIBDEF CLIST for further information.



If you have not installed File-AID, Xpediter/CICS, Xpediter/Xchange, or Xpediter/Code Coverage, null-out the corresponding nodes. (For example, XGNODE() if Xpediter/Xchange is not installed.) The Xpediter/CICS node is only required if you have installed Xpediter/Code Coverage and plan on using it with Xpediter/CICS.

Task 4.3 Configure the XOPTIONS File

The following person is required for this task:



Xpediter/TSO and Xpediter/IMS Installer

The XOPTIONS dataset is used during COBOL enhanced FIND processing. The dataset name will be used in the next task.

Task 4.3.1 Create a New XOPTIONS File

1. Use the XTUPDATE macro to configure SLXTINST(JCL015).
2. Submit the JCL. It should end with return code 0.

Task 4.3.2 Code the XOPTIONS KEYWORD=Value Pair

In [Implement the CMSC PARMLIB](#) on page 26, the XOPTIONS dataset name should be specified by coding the following pair:

```
OPTIONS_DATA_SET='your_newly_created_XOPTIONS_file'
```

Task 4.4 Implement the CMSC PARMLIB

The following person is required for this task:



Xpediter/TSO and Xpediter/IMS Installer

Starting with release 17.02, Compuware mainframe products, including Xpediter/TSO and Xpediter/IMS, use parameter libraries (PARMLIBs) in conjunction with the Compuware Mainframe Services Controller (CMSC) to configure each product as well as common components. The CMSC was installed as part of the Enterprise Common Components installation.

In this task, you will implement the CMSC PARMLIB for Xpediter/TSO and Xpediter/IMS. This consists of creating default members and updating the CMSC with them. The default members are suffixed with **00** and should contain the values you want for all LPARs on which Xpediter/TSO and Xpediter/IMS and Xpediter/Code Coverage are installed.

Task 4.4.1 Create an Initial PARMLIB Member

In this task, you will implement the CMSC PARMLIB for Xpediter/TSO and Xpediter/IMS. This consists of creating a default member and updating the CMSC with it. The default member is suffixed with the value gathered from your ECC administrator and recorded in [Table 2](#) of the [Planning](#) section. The member should contain the values you want for customizing the installation of Xpediter/TSO and Xpediter/IMS.

Any `KEYWORD=value` parameter specification omitted from a PARMLIB member will cause Xpediter/TSO to use the Xpediter/TSO-delivered default value for that parameter.



For more information on the keywords, values, and meanings of the `KEYWORD=value` pairs, see the chapter entitled “Configuration Parameters” in the *Xpediter/TSO and Xpediter/IMS Advanced Configuration Guide*.

Two sample members are provided in the Xpediter/TSO installation SAMPLIB:

- **XTSO00:** Provided as a typical PARMLIB member in which only the necessary overrides for a site would be included. The last two characters of “XTSO00” are zeros. Note that for an extremely basic, functional Xpediter/TSO installation, only five required PARMLIB values need to be coded:
 - `SYSOUT_DATASET_DEFAULT_SYSOUT_CLASS=a-non-held-sysout-class`
 - `SYSOUT_DATASET_HELD_SYSOUT_CLASS=a-held-sysout-class`
 - `BASE_PRODUCT_DATASETS_HELPLIB_1='HLVLNODE.XPEDITER.HELP'`
 - `OPTIONS_DATA_SET='your-xpediter-XOPTIONS'`
 - `TEST_SESSION_DDIO_FILE_1='HLVLNODE.XPEDITER.DDIO'`
 - **XTSOALL:** Contains *all* the possible `KEYWORD=value` specifications and could be used as a starting point whereby unnecessary specifications are deleted for the sake of simplicity. Note that the XTSOALL member contains more than 600 parameters.
1. Begin with an empty PARMLIB member named XTSOxx, (the suffix being the value gathered from your ECC administrator and recorded in [Table 2](#)), and copy in values from SLXTSAMP(XTSO00). Follow the instructions within the member to make all required changes.
 2. Execute the CLIST XPLIBDEF with the INSTALL option (`XPLIBDEF INSTALL`). The screen shown in [Figure 3](#) is displayed.

Figure 3 Installation Defaults Screen

```

COMPUWARE INSTALL ----- INSTALLATION DEFAULTS -----
COMMAND ==>

This process will commit the changes made to the CMSC PARMLIB member into
member XPTDFLTS in the Xpediter/TSO Table Library. A CMSC "REFRESH" will be
attempted before the COMMIT action is performed. Member XPTBACK0 will be
used to save the previous values.

Enter the DSNAME of the Table Library to be updated:
Output ==> 'ACMJETO.XT170.TENU'

To copy existing installation defaults, enter the DSNAME of the old
Table Library (optional):
Input ==>

Enter the suffix of PARMLIB member (XTSOssss) to be committed:
Suffix ==> (The default is used if no override is entered)

Action ==> COMMIT (Type COMMIT and press Enter to process)
Should Dataset Names in PARMLIB be validated? YES
  
```

3. Enter the dsname of your new SLXTTABL dataset in the Output field.
4. Specify an ACTION of COMMIT.
5. If you want the dataset names specified in the XTSO00 PARMLIB member validated, enter YES to that question.

- Press Enter.



If you received an error message when you pressed Enter, the CMSC has experienced an error.

- If you received no error message, a validation report will be displayed. Follow the instructions in the report.
- Use SDSF, IOF, EJES, or whatever JES viewer is used by your site to check the CMSC address space's FDBDLOG (Figure 4) to determine whether anything went wrong.

Figure 4 CMSC Address Space FDBDLOG

```

SDSF JOB DATA SET DISPLAY - JOB CMSCAC01 (S0935052)      DATA SET DISPLAYED
COMMAND INPUT ==>                                       SCROLL ==> CSR
PREFIX=CMSCAC01  DEST=(ALL)  OWNER=*  SYSNAME=*
NP  DDNAME      StepName ProcStep DSID  Owner  C  Dest          Rec-Cnt Page-Cnt Byte-Cnt CC
   JESJCLIN          1  CMSCC01  A          2          2          127  1
   JESMSG LG JES2    2  CMSCC01  A          2          1          135  1
   JESJCL  JES2    3  CMSCC01  A          34          1          1,760  1
   JESYSMSG JES2    4  CMSCC01  A         3,133          156,941  1
   $INTTEXT JES2    5  CMSCC01  A          14          821  1
   EVENTLOG JES2    8  CMSCC01  A           0           0  1
S   FDBDLOG  CMSCC01 101 CMSCC01  A         6,940          658,776  1
   LMCPRINT CMSCC01 102 CMSCC01  A         6,464          108  649,659  1
   LMZPRINT CMSCC01 103 CMSCC01  A        12,774          213          1M  1

```

- Return to the validation report and scroll to the bottom (Figure 5) to determine whether there were any errors. If there were no errors, NONE is indicated. If there were errors, fix them and start over.

Figure 5 Validation Report with No Errors

```

-----
BROWSE  SYS17158.T111305.RA000.ACMJET0.R0160298      Line 0000000654 Col 001 132
Command ==>                                         Scroll ==> CSR

KEYWORD: DIRECT_JCL_PROC_EXPANSION_CLASS
VALUE: (I,PROCO2)

KEYWORD: DIRECT_JCL_PROC_EXPANSION_CLASS
VALUE: (M,PROCO2)

KEYWORD: DIRECT_JCL_PROC_EXPANSION_DSNAME
VALUE: (IATPLBST,'SYS1.PROCLIB')

-----
THE FOLLOWING DB2 PROC KEYWORDS WERE REPLACED

KEYWORD: DB2SP_SEARCH_PROC_DSNAME
VALUE: 'XT.SP.PROCLIB'

-----
NUMBER OF ERRORS THAT WERE DETECTED: NONE
INSTALLATION DEFAULTS CAN BE SAVED INTO 'ACMJETO.XT170.TENU'
NUMBER OF NEW VALUES TO BE COMMITTED TO THE TABLE: 116
***** Bottom of Data *****

```

- Press End, then press Enter (or press PF3).
- Press Enter to update the Installation Defaults. A message should be displayed saying that your Installation Defaults have been saved.

Task 4.5 Configure Multi-Batch Support

The following people are required for this task:



Xpediter/TSO and Xpediter/IMS Installer
z/OS System Programmer.

Configure the Xpediter/TSO Multi-Batch Facility (MBF). MBF is required for Topaz Workbench.

Task 4.5.1 Create the Multi-Batch Staging File

The following person is required for this task:



Xpediter/TSO and Xpediter/IMS Installer

1. Use the XTUPDATE macro to configure SLXTINST(JCLCREMB).
2. Submit the JCL. It should end with return code 0.

Task 4.5.2 Activate Multi-Batch

The following person is required for this task:



Xpediter/TSO and Xpediter/IMS Installer

1. Use the XTUPDATE macro to configure SLXTINST(JCLACTMB).
2. Submit the JCL. It should end with return code 0.

Task 4.5.3 Configure z/OS to Start Multi-Batch After IPL

The following person is required for this task:



z/OS System Programmer

JCLACTMB must be run after each IPL to re-enable the Multi-Batch Facility. If you want JCLACTMB to run automatically during z/OS startup, perform the following:

1. Copy SLXTINST(JCLACTMB) into the appropriate library in your system PROCLIB concatenation.
2. Modify JCLACTMB to meet your site's standards for a z/OS startup procedure, replacing the JOB statement with a PROC statement.
3. Configure your z/OS system to start JCLACTMB at IPL time by either:
 - Updating your z/OS PARMLIB member COMMNDxx.
 - Configuring your automated operations application.

An example of the START command is provided in SLXTINST(COMMNDxx).

Restrictions

When Xpediter/TSO converts DB2 Batch JCL for use in Batch Connect testing, it moves the dataset specified by the LIBRARY(*dataset_name*) keyword to the STEPLIB concatenation. Since Multi-Batch does not alter the JCL, the LIBRARY keyword of the DSN command (used in DB2 Batch programs that use IKJEFT01 to establish a connection to DB2) is not supported. If your program is in the library indicated by the LIB keyword, that library must be specified in the JCL's STEPLIB or in the Xpediter SETUP load library list. In addition, the DB2 SDSNLOAD library must be specified in the JCL's STEPLIB or in the Xpediter SETUP load library list.

Task 4.5.4 Configure the Multi-Batch Communication Task



If your site does not require Cross-LPAR support, skip ahead to [Perform Initial Verification](#).

If Cross-LPAR support is required, you will need to configure the Multi-Batch Communication Task. Refer to the *Xpediter/TSO and Xpediter/IMS Advance Configuration Guide* for more information.

Task 4.6 Perform Initial Verification

The following person is required for this task:



Xpediter/TSO and Xpediter/IMS Installer

Task 4.6.1 Verify Libraries

This initial verification lets you confirm that your Xpediter libraries are current before proceeding with other verifications.

1. Execute the following TSO command:

```
EX 'dataset(XPLIBDEF)'
```

where *dataset* is the fully qualified dataset name chosen in [Copy SLXTINST\(XPLIBDEF\) and \(XPCGDSN\)](#).

2. From the Xpediter/TSO Primary Menu, type XENV LEVELS in the OPTION field and press Enter. A screen similar to [Figure 6](#) is displayed. Library versions should be those just installed.

Figure 6 XENV Screen

```
***** Top of Data *****
LIBRARY RELEASE LEVELS:
XPEDITER CLIST ..... 17.02
XPEDITER LOADLIB ..... 17.02.00
XPEDITER MSGS ..... 17.02
XPEDITER PANELS ..... 17.02
XPEDITER SKELS ..... 17.02
XPEDITER TABLES / XPTDFLTS ... 17.02 / 17.02
CSS LOADLIB ..... 17.02.00
CSS LOADLIB (LP COMPONENT) ... 17.02.00
CSS LOADLIB (DDIO COMPONENT) .. 17.02.00
***** Bottom of Data *****
```

Task 4.6.2 Verify Base Installation

Installation Verification Program(s) (IVPs)

The base product has four sets of IVP programs, one for each programming language supported by Xpediter/TSO and Xpediter/IMS:

Table 4 Base Xpediter/TSO and Xpediter/IMS IVPs

Language	IVPs
COBOL	TRITST, TRIRPT, and TRIMAIN (TRIMAIN calls TRITST and TRIRPT)
PL/I	TRITSTP, TRIRPTP, and TRIMAINP (TRIMAINP calls TRITSTP and TRIRPTP)
Assembler	TRITSTA, TRIRPTA, and TRIMAINA (TRIMAINA calls TRITSTA and TRIRPTA)
C	TRITSTC, TRIRPTC, and TRIMAINC (TRIMAINC calls TRITSTC and TRIRPTC)

The programs are contained in the SLXTSAMP library. Use the specific Language Processor (LP) to compile or assemble the sample programs in the listed order (for example, TRITST*, then TRIRPT*, followed by TRIMAIN*). Some main routines statically link to subroutines higher in the list. Refer to the *Compuware Shared Services User/Reference Guide* for information on using the correct LP (COBOL, PL/I, Assembler, or C).

If you do not already have compile JCL which uses LP, you have two options for getting started:



- Access the online Compuware Shared Services Compile Facility by selecting option 1 (PREPARE) from the Xpediter/TSO Primary Menu.
- Use the sample JCL provided in the ECC sample library member SLCXCNTL(CXCOPRE) to compile a COBOL program using the LP.
- The SYSLMOD output from these compiles should **not** be directed to the Xpediter/TSO LOADLIB library. Instead direct the SYSLMOD output from your linkedit step to a test dataset available to your application programmers for training sessions. For example, you could create a dataset named *hlq.TRAINLIB* or *hlq.SLXTIVP*.
- To verify that the compile was successful and that a source listing member was created, check the listing under the DDNAME CWPERRM for a message similar to the following:

```
LISTING(S) SUCCESSFULLY WRITTEN OUT TO DDIO
```

Run the IVPs to Initiate Verification Test Sessions

For each step, the program name or JCL referenced is specific to the language.

Table 5 Verification Test Session IVPs

Language	Program	SAMPLIB JCL Member
COBOL	TRIMAIN	TRIJCL
PL/I	TRIMAINP	TRIJCLP
Assembler	TRIMAINA	TRIJCLA
C	TRIMAINC	TRIJCLC

1. Select 2 (TSO) from the Xpediter/TSO Primary Menu.

2. Select 1 (STANDARD) from the Environments Menu.



The Environments Menu is automatically displayed if this is your first time to invoke a test session. Otherwise, you can access the Environments Menu by entering **SETUP** from the command line of the displayed test screen and selecting option **0** from the Test Setup Menu.

3. Enter **SETUP** from the Standard test screen.
4. Select 1 (LOADLIBS) from the Setup Menu.
5. On the Load Module Libraries screen, specify the application load library that contains the language-specific IVP load module. Also specify your Language Environment (LE) run-time library (usually CEE.SCEERUN). Press Enter.
6. Enter **END** (or press PF3) to return to the Standard screen.
7. Specify the language specific program from the table above on the Program ==> line.
8. The SLXTSAMP library contains sample JCL that can be used to run the IVP. On the File List/JCL Member ==> line, enter the language specific dataset/member name from the table above (for example, 'hlq.SLXTSAMP(TRIJCL)' for COBOL).
9. Press Enter to begin the Xpediter/TSO debugging session. The message area contains the lines Allocating User Datasets, then Allocating XPEDITER/TSO Datasets. On a blank screen, the message Entering XPEDITER/TSO Test Environment is displayed along with information about the test. Then the source for the applicable TRIMAIN program is displayed.
10. Type **GO 1** on the COMMAND line and press Enter.
The execution arrow will be on the next statement. The execution status message indicates that you are BEFORE *program-name:line-number*.
11. Press PF12 (GO). The Triangle Report is written to the screen.
12. Press Enter until you return to the Source screen with a TEST COMPLETED message, indicating that your program executed successfully.
13. Press PF4 (EXIT) to exit the test session.

Task 4.6.3 Verify DB2 Installation

The following people are required for this task:



Xpediter/TSO and Xpediter/IMS Installer
DB2 DBA.

Preparations for Testing the DB2 IVPs

1. Create and populate a sample DB2 table by issuing the DB2 commands shown in [Figure 7](#). Use your site's standard method to execute the DB2 commands. These commands are also contained in member DB2TABLE of the SLXTSAMP dataset.

Figure 7 DB2 Commands to Create and Populate Sample Table

```
CREATE TABLE hlvlnode.TRIDB2DATA (SSNR CHAR(11) NOT NULL,
    LASTNAME VARCHAR(15) NOT NULL,
    FIRSTNAME VARCHAR(15) NOT NULL,
    STREETADR VARCHAR(20),
    CITY VARCHAR(15),
    STATE CHAR(2),
    ZIPCODE CHAR(9),
    PHONENR CHAR(12),
    LICSENSO CHAR(8)) IN databasename.tablespace;
INSERT INTO hlvlnode.TRIDB2DATA
VALUES ('111-23-4567', 'DOE', 'JOHN', '100 CENTRAL AVENUE',
    'CHICAGO', 'IL', '60601', '312-445-1234', 'PIW-304');
INSERT INTO hlvlnode.TRIDB2DATA
VALUES ('444-33-7867', 'JOHNSON', 'BOB', '234 LAKE DR',
    'CLEVELAND', 'OH', '63641', '514-545-4674', 'AFW-323');
INSERT INTO hlvlnode.TRIDB2DATA
VALUES ('555-73-7157', 'THOMSON', 'PAUL',
    '34 PORTLAND AVE.',
    'SAN FRANCISCO', 'CA', '68291', '204-423-1462', 'PGF-321');
INSERT INTO hlvlnode.TRIDB2DATA
VALUES ('216-56-4537', 'ADAMS', 'MIKE', '23543 WEST STREET',
    'CHICAGO', 'IL', '64251', '917-655-1289', 'RYN-104');
INSERT INTO hlvlnode.TRIDB2DATA
VALUES ('217-33-4378', 'JOHNSON', 'LARRY',
    '160 EMERSON AVENUE',
    'BOSTON', 'MA', '73458', '712-435-3234', 'GFW-645');
COMMIT;
GRANT SELECT ON TABLE hlvlnode.TRIDB2DATA TO PUBLIC;
CREATE SYNONYM VTRIDB2 FOR hlvlnode.TRIDB2DATA;
COMMIT;
```

2. Edit an in-house compile procedure with a DB2 precompile to create a member in the DDIO dataset. There is no need to change the DB2 precompile step. Optionally, you can use the online Compile Facility provided by Xpediter/TSO by selecting option 1 (PREPARE) from the Primary Menu. The base product has three sets of IVP programs (Table 6), one for each programming language supported by Xpediter/TSO and Xpediter/IMS (except for Assembler).

Table 6 Xpediter Base IVP Programs

Language	Program/SAMPLIB Member
COBOL	TRIDB2
PL/I	TRIDB2P
C	TRIDB2C

The programs are contained in the SLXTSAMP library. Use the specific Language Processor (LP) to compile or assemble the sample programs. Refer to the *Compuware Shared Services User/Reference Guide* for information on using the correct LP (COBOL, PL/I, or C).

If you do not already have compile JCL which uses LP, you have two options for getting started:



- Access the online Compuware Shared Services Compile Facility by selecting option 1 (PREPARE) from the Xpediter/TSO Primary Menu.
- Edit an in-house compile procedure with a DB2 precompile that has been converted to run with Compuware Shared Services (CSS) to create a member in the DDIO dataset. There is no need to change the DB2 precompile step.

- The SYSLMOD output from these compiles should **not** be directed to the Xpediter/TSO LOADLIB library. Instead direct the SYSLMOD output from your linkedit step to a test dataset available to your application programmers for training sessions. For example, you could create a dataset named *hlq.TRAINLIB* or *hlq.SLXTIVP*.
- To verify that the compile was successful and that a source listing member was created, check the listing under the DDNAME CWPERRM for a message similar to the following:

```
LISTING(S) SUCCESSFULLY WRITTEN OUT TO DDIO
```

3. If the BIND step is not included in your JCL, bind the successfully compiled program either by following your site standard or by using the online Bind Facility provided by Xpediter/TSO.

Run the IVPs to Initiate Verification Test Sessions

For each step, the program name referenced is specific to the language.

1. Select **2** (TSO) from the Xpediter/TSO Primary Menu.
2. Enter **SETUP** from the Standard test screen.
3. Select **1** (LOADLIBS) from the Setup Menu.
4. On the Load Module Libraries screen, specify the application load library that contains the language-specific IVP load module. Also specify your Language Environment (LE) run-time library (usually CEE.SCEERUN).
5. Press Enter.
6. Select **6** (DSNLOAD) from the Setup Menu.
7. Specify the DB2 subsystem name(s) and the associated SDSNLOAD dataset name(s).
8. Press Enter.
9. Enter **END** (or press PF3) to return to the Standard screen.
10. Specify the language-specific program from [Table 6](#) on the **Program** ==> line.
11. Specify **YES** in the **Is This a DB2 Test?** ==> field.
12. Specify the DB2 PLAN name in the **Plan** ==> field.
13. Specify the DB2 subsystem name in the **System** ==> field.
14. The SLXTSAMP library contains sample JCL that can be used to run the IVP. Copy this JCL to a PDS or PDSE of your own. Customize it per the instructions in the JCL.
 - a. Add a valid JOBCARD.
 - b. Change 'YOUR.DB2.LOADLIB' on the STEPLIB to the dataset name of the relevant DB2 SDSNLOAD library.
 - c. Change 'YOUR.COBOL.LIB' on the STEPLIB to the dataset name of the Language Environment (LE) run-time library (usually CEE.SCEERUN).
 - d. Delete the SYSHELP DD.
 - e. Change the 'SYSTEM(DSN)' to the relevant DB2 subsystem name.
 - f. Change the PROGRAM(TRIDB2) keyword to the language specific program (from [Table 6](#)).
 - g. Change the PLAN(TRIDB2) keyword to the PLAN name used in the BIND step.
 - h. Change 'YOUR.APPLICATION.LOADLIB' to the dataset name of the loadlib containing the program specified in the PROGRAM keyword.
15. On the **File List/JCL Member** ==> line, enter the dataset/member name of the JCL that was just customized.
16. Press Enter to begin the Xpediter/TSO debugging session. The message area contains the lines `Allocating User Datasets`, then `Allocating XPEDITER/TSO Datasets`. On a blank screen, the

message `Entering XPEDITER/TSO Test Environment` is displayed along with information about the test. Then the source for the program is displayed.

17. Type **GO 1** on the COMMAND line and press Enter.
18. The execution arrow will be on the next statement. The execution status message indicates that you are `BEFORE program-name: line-number`.
19. Press PF12 (GO). The TRIDB2 SAMPLE DIRECTORY REPORT is written to the screen. (An SQL error message is written to the screen instead if the BIND was not done properly.)
20. Press Enter until you return to the Source screen with a `TEST COMPLETED` message, indicating that your program executed successfully.
21. Press PF4 (EXIT) to exit the test session.

Task 4.7 Additional New Installation Configuration

Because you are performing a new installation of Xpediter/TSO and Xpediter/IMS, you should examine a number of additional Milestones necessary to configure a new installation.

A new installation of Xpediter/TSO and Xpediter/IMS may not require all of these tasks. The conditions that could require you to perform a task are defined below.

To Support Topaz Workbench

To configure Xpediter/TSO and Xpediter/IMS to work with Topaz Workbench, you will need to perform the tasks in ["Milestone 6: Configure Topaz Workbench Integration"](#).

To Use Xpediter/TSO's Batch Connect Feature

If you will be using Xpediter/TSO to debug batch jobs on the mainframe, you will need to perform the tasks in ["Milestone 7: Configure Batch Connect Support"](#).

To Use IMS/DB Support

If you will be using IMS/DB support, you will need to perform the tasks in ["Milestone 8: Configure IMS/DB Support"](#).

Licensed for Xpediter/IMS (IMS/DC Support)

If you have purchased this license, to configure it, you will need to perform the tasks in ["Milestone 9: Configure IMS/DC Support"](#).

Licensed for Xpediter DB2 Stored Procedure Support

If you have purchased this license, to configure it, you will need to perform the tasks in ["Milestone 10: Configure DB2 Stored Procedure Support"](#).

To Use Xpediter/TSO with IBM's BTS (Batch Terminal Simulator)

If you will be using Xpediter/TSO's BTS support, you will need to perform the tasks in ["Milestone 11: Configure BTS Support"](#).

To Use High-Performance Breakpoint Processing Methodology

If you have not previously configured this feature and want to use it, you will need to perform the tasks in ["Milestone 12: Enable High Performance Breakpointing"](#).

Licensed for the Xpediter for DB2 Extension

If you have purchased this license, refer to the *Xpediter/TSO and Xpediter/IMS Advance Configuration Guide* for more information.

To Utilize Xpediter/TSO with CA-ROSCOE

If you want to use this feature, refer to the *Xpediter/TSO and Xpediter/IMS Advance Configuration Guide* for more information.

Milestone 5: Configure Xpediter/TSO and Xpediter/IMS — Upgrade

This chapter will guide you through configuration of an upgrade to Xpediter/TSO and Xpediter/IMS 17.02.



If you are performing a new installation instead, skip ahead to ["Milestone 6: Configure Topaz Workbench Integration"](#).

Roles Involved

The following people are required for this milestone:



Xpediter/TSO and Xpediter/IMS Installer
z/OS System Programmer.

Tasks

Complete the following tasks to configure an upgrade of Xpediter/TSO and Xpediter/IMS.

Task 5.1 Customize XTUPDATE Macro

The following person is required for this task:



Xpediter/TSO and Xpediter/IMS Installer

XTUPDATE is an ISPF edit macro that can be used to automate the entry of site-specific JCL parameters. Using this macro saves you from having to repeatedly type in the same information and ensures your JCL parameters are always entered correctly.

Task 5.1.1 Copy SLXTINST(XTUPDATE) into a Library in Your SYSPROC Concatenation

This CLIST library *must* be allocated to your ISPF session.



You can display the libraries in your SYSPROC concatenation by entering the command
TSO ISRDDN.

Task 5.1.2 Edit the XTUPDATE Macro

Instructions necessary to customize the macro are found in the member SLXTINST(XTUPDATE). All lines to be changed are marked with <==.



- The member also includes instructions for restoring your JCL member with a copy made by the macro.
- Because this is an ISPF edit macro, it is only executed when editing JCL.

Task 5.2 Configure XPLIBDEF and XPCGDSN

The following person is required for this task:



Xpediter/TSO and Xpediter/IMS Installer

The CLIST XPLIBDEF is used to allocate the required Xpediter/TSO environment and to invoke the product.



- You can use your prior release's XPLIBDEF as a model to configure this new release's XPLIBDEF.
- If the use of LIBDEFs is not permitted at your site, refer to the *Xpediter/TSO and Xpediter/IMS Advanced Configuration Guide* for alternate instructions.

The CLIST library *must* be allocated to your ISPF session.

Task 5.2.1 Copy SLXTINST(XPLIBDEF) and (XPCGDSN)

Copy the two CLISTs into a dataset that is either part of the SYSPROC concatenation or that is activated with an ATLIB command.



You can display the libraries in your SYSPROC concatenation by entering the command TSO ISRDDN.

Task 5.2.2 Edit the XPLIBDEF CLIST

By default, the XPLIBDEF CLIST will use the Simple Deploy method to allocate the dataset names specified in the CSMC PARMLIB DDSN##### member (DDSN00 by default). If you are not using the default member, make sure to point to the DDSN##### member name by setting the DDSNSFX keyword to the one- to four-character PARMLIB member suffix.

For example, to point to PARMLIB member DDSNCPWR, use:

```
DDSNSFX(CPWR)
```

In addition, the primary CMSC will be used by default. If you are not using the default CMSC, specify the CMSC to use by setting the CMSC keyword to the one- to four-character CMSC ID.

For example, to point to CMSC subsystem TEST, use:

```
CMSC(TEST)
```

This CLIST can alternately use High-Level Qualifiers (HLQ) to allocate the various Compuware products it references. [Table 7](#) identifies the product and its associated “node”.

Table 7 Product Node Values

Product	Node	Initial Value
Xpediter/TSO	XTNODE	PARMLIB
Compuware Shared Services	CSSNODE	PARMLIB
Xpediter/Xchange	XGNODE	PARMLIB
File-AID	FANODE	PARMLIB
Xpediter/Code Coverage	CCNODE	PARMLIB
Xpediter/CICS	XDNODE	PARMLIB

See the comments in the XPLIBDEF CLIST for further information.



If you have not installed File-AID, Xpediter/CICS, Xpediter/Xchange, or Xpediter/Code Coverage, null-out the corresponding nodes. (For example, XGNODE() if Xpediter/Xchange is not installed.) The Xpediter/CICS node is only required if you have installed Xpediter/Code Coverage and plan on using it with Xpediter/CICS.

Task 5.3 Configure the XOPTIONS File

The following person is required for this task:



Xpediter/TSO and Xpediter/IMS Installer

The XOPTIONS dataset is used during COBOL enhanced FIND processing. The dataset name will be used in the next task.

Task 5.3.1 Reuse Previous XOPTIONS File

You may use the same XOPTIONS file for multiple releases of Xpediter/TSO and Xpediter/IMS.

- The KEYWORD=*value* pair was created properly if you used SLXTINST(JCLCRPRM) as the foundation for the CMSC PARMLIB member.
- If not, to use the same file as the prior Xpediter/TSO release, code this pair as follows:

```
OPTIONS_DATA_SET='XOPTIONS_dataset_name_noted_earlier'
```

Task 5.3.2 Create a New XOPTIONS File



Skip this task if you are reusing your previous XOPTIONS file.

1. Use the XTUPDATE macro to configure SLXTINST(JCL015).
2. Submit the JCL. It should end with return code 0.

Task 5.3.3 Code the XOPTIONS KEYWORD=*Value* Pair

In [Implement the CMSC PARMLIB](#) below, the XOPTIONS dataset name should be specified by coding the following pair:

```
OPTIONS_DATA_SET='your_newly_created_XOPTIONS_file'
```

Task 5.4 Implement the CMSC PARMLIB

The following person is required for this task:



Xpediter/TSO and Xpediter/IMS Installer

Starting with release 17.02, Compuware mainframe products, including Xpediter/TSO and Xpediter/IMS, use parameter libraries (PARMLIBs) in conjunction with the Compuware Mainframe Services Controller (CMSC) to configure each product as well as common components. The CMSC was installed as part of the Enterprise Common Components installation.

In this task, you will implement the CMSC PARMLIB for Xpediter/TSO and Xpediter/IMS. This consists of creating default members and updating the CMSC with them. The default members are suffixed with **00** and should contain the values you want for all LPARs on which Xpediter/TSO and Xpediter/IMS and Xpediter/Code Coverage are installed.

Task 5.4.1 Migrate Your Xpediter/TSO Defaults from a Prior Release

SLXTINST(JCLCRPRM) contains sample JCL as well as instructions for executing the utility.

This utility will extract Run-Time Parameter specifications from a prior release's load module ADSRA093, and/or ISPF Installation Parameter specifications from a prior release's Xpediter/TSO ISPF table SLXTTABL.

1. Use the XTUPDATE macro to configure SLXTINST(JCLCRPRM)
2. Follow the instructions in the JCL to complete customization.
3. Submit the JCL. It should end with return code 0.

Task 5.4.2 Create a PARMLIB Member

This task describes the Run-Time Parameters and ISPF Installation Parameters that are eligible to be configured based on the requirements at your site.

Any **KEYWORD=value** parameter specification omitted from a PARMLIB member will cause Xpediter/TSO to use the Xpediter/TSO-delivered default value for that parameter.



For more information on the keywords, values, and meanings of the **KEYWORD=value** pairs, see the chapter entitled "Configuration Parameters" in the *Xpediter/TSO and Xpediter/IMS Advanced Configuration Guide*.

1. Copy the PARMOUT output from the JCLCRPRM job to CMSC PARMLIB member XTISO00.



The last two characters of "XTISO00" are zeros.

2. Follow the instructions within the XTISO00 member to make all required changes.
3. Execute the CLIST XPLIBDEF with the INSTALL option (**XPLIBDEF INSTALL**). The screen shown in [Figure 8](#) is displayed.

Figure 8 Installation Defaults Screen

```

COMPUWARE INSTALL ----- INSTALLATION DEFAULTS -----
COMMAND ==>

This process will commit the changes made to the CMSC PARMLIB member into
member XPTDFLTS in the Xpediter/TSO Table Library. A CMSC "REFRESH" will be
attempted before the COMMIT action is performed. Member XPTBACK0 will be
used to save the previous values.

Enter the DSNAME of the Table Library to be updated:
Output ==> 'ACMJETO.XT165.TENU'

To copy existing installation defaults, enter the DSNAME of the old
Table Library (optional):
Input ==> 'ACMJETO.XT170.TENU'

Enter the suffix of PARMLIB member (XTSOssss) to be committed:
Suffix ==> (The default is used if no override is entered)

Action ==> COMMIT (Type COMMIT and press Enter to process)

Should Dataset Names in PARMLIB be validated? YES
    
```

4. Point to your new SLXTTABL dataset.
5. Point to the previous version's SLXTTABL dataset.
6. Specify an ACTION of COMMIT.
7. If you want the dataset names specified in the XTSO00 PARMLIB member to be validated, specify YES to that question.
8. Press Enter. The Roll Forward screen is displayed.
9. Type Y in the Continue and roll forward? field and press Enter.



If you received an error message when you pressed Enter, the CMSC has experienced an error.

10. If there was no error message, a validation report will be displayed. Follow the instructions in the report.
11. Use SDSF, IOF, EJES or whatever JES viewer is used by your site to check the CMSC address space's FDBDLOG ([Figure 9](#)) to determine whether anything went wrong.

Figure 9 CMSC Address Space FDBDLOG

```

SDSF JOB DATA SET DISPLAY - JOB CMSCAC01 (S0935052)      DATA SET DISPLAYED
COMMAND INPUT ==>                                       SCROLL ==> CSR
PREFIX=CMSCAC01  DEST=(ALL) OWNER=*  SYSNAME=*
NP  DDNAME      StepName ProcStep DSID Owner   C Dest          Rec-Cnt Page-Cnt Byte-Cnt CC
   JESJCLIN      1 CMSCCW01 A           2           127 1
   JESMSGJLG JES2      2 CMSCCW01 A           2           135 1
   JESJCL      JES2      3 CMSCCW01 A          34          1,760 1
   JESYSMSG JES2      4 CMSCCW01 A       3,133        156,941 1
   $INTTEXT JES2      5 CMSCCW01 A          14           821 1
   EVENTLOG JES2      8 CMSCCW01 A           0           1
S   FDBDLOG      CMSCCW01 101 CMSCCW01 A       6,940        658,776 1
   LMCPRINT CMSCCW01 102 CMSCCW01 A       6,464         108 649,659 1
   LMZPRINT CMSCCW01 103 CMSCCW01 A      12,774         213    1M 1
    
```

12. Return to the validation report and scroll to the bottom ([Figure 10](#)) to determine whether there were any errors. If there were no errors, NONE is indicated. If there were errors, fix them and start over.

Figure 10 Validation Report with No Errors

```

-----
BROWSE      SYS17158.T111305.RA000.ACMJET0.R0160298          Line 0000000654 Col 001 132
Command ==>                                         Scroll ==> CSR

KEYWORD: DIRECT_JCL_PROC_EXPANSION_CLASS
VALUE: (I,PROC02)

KEYWORD: DIRECT_JCL_PROC_EXPANSION_CLASS
VALUE: (M,PROC02)

KEYWORD: DIRECT_JCL_PROC_EXPANSION_DSNAME
VALUE: (IATPLBST,'SYS1.PROCLIB')

-----

THE FOLLOWING DB2 PROC KEYWORDS WERE REPLACED

KEYWORD: DB2SP_SEARCH_PROC_DSNAME
VALUE: 'XT.SP.PROCLIB'

-----

NUMBER OF ERRORS THAT WERE DETECTED: NONE
INSTALLATION DEFAULTS CAN BE SAVED INTO 'ACMJETO.XT170.TENU'
NUMBER OF NEW VALUES TO BE COMMITTED TO THE TABLE: 116
***** Bottom of Data *****

```

13. Press End, then press Enter (or press PF3).
14. Press Enter to update the Installation Defaults. A message will be displayed saying that the Installation Defaults were saved.

Task 5.5 Configure Multi-Batch Support

The following people are required for this task:



Xpediter/TSO and Xpediter/IMS Installer
z/OS System Programmer.

Install the Xpediter/TSO Multi-Batch Facility (MBF). MBF is required for Topaz Workbench.

Task 5.5.1 Create the Multi-Batch Staging File

The following person is required for this task:



Xpediter/TSO and Xpediter/IMS Installer

1. Use the XTUPDATE macro to configure SLXTINST(JCLCREMB).
2. Submit the JCL. It should end with return code 0.

Task 5.5.2 Activate Multi-Batch

The following person is required for this task:



Xpediter/TSO and Xpediter/IMS Installer

1. Use the XTUPDATE macro to configure SLXTINST(JCLACTMB).
2. Submit the JCL. It should end with return code 0.

Task 5.5.3 Configure z/OS to Start Multi-Batch After IPL

The following person is required for this task:



z/OS System Programmer

JCLACTMB must be run after each IPL to re-enable the Multi-Batch Facility. If you want JCLACTMB to run automatically during z/OS startup, perform the following:

1. Copy SLXTINST(JCLACTMB) into the appropriate library in your system PROCLIB concatenation.
2. Modify JCLACTMB to meet your site's standards for a z/OS startup procedure, replacing the JOB statement with a PROC statement.
3. Configure your z/OS system to start JCLACTMB at IPL time by either:
 - Updating your z/OS PARMLIB member COMMNDxx.
 - Configuring your automated operations application.

An example of the START command is provided in SLXTINST(COMMNDxx).

Restrictions

When Xpediter/TSO converts DB2 Batch JCL for use in Batch Connect testing, it moves the dataset specified by the LIBRARY(*dataset_name*) keyword to the STEPLIB concatenation. Since Multi-Batch does not alter the JCL, the LIBRARY keyword of the DSN command (used in DB2 Batch programs that use IKJEFT01 to establish a connection to DB2) is not supported. If your program is in the library indicated by the LIB keyword, that library must be specified in the JCL's STEPLIB or in the Xpediter SETUP load library list. In addition, the DB2 SDSNLOAD library must be specified in the JCL's STEPLIB or in the Xpediter SETUP load library list.

Task 5.5.4 Configure the Multi-Batch Communication Task



If your site does not require Cross-LPAR support, skip ahead to [Perform Initial Verification](#).

If Cross-LPAR support is required, you will need to configure the Multi-Batch Communication Task. Refer to the *Xpediter/TSO and Xpediter/IMS Advance Configuration Guide* for more information.

Task 5.6 Perform Initial Verification

The following person is required for this task:



Xpediter/TSO and Xpediter/IMS Installer

Task 5.6.1 Verify Libraries

This initial verification lets you confirm that your Xpediter libraries are current before proceeding with other verifications.

1. Execute the following TSO command:

```
EX 'dataset(XPLIBDEF)'
```

where *dataset* is the fully qualified dataset name chosen in [Copy SLXTINST\(XPLIBDEF\) and \(XPCGDSN\)](#) on page 38.

2. From the Xpediter/TSO Primary Menu, type **XENV LEVELS** in the OPTION field and press Enter. A screen similar to [Figure 11](#) is displayed. Library versions should be those just installed.

Figure 11 XENV Screen

```
***** Top of Data *****
LIBRARY RELEASE LEVELS:
XPEDITER CLIST ..... 17.02
XPEDITER LOADLIB ..... 17.02.00
XPEDITER MSGS ..... 17.02
XPEDITER PANELS ..... 17.02
XPEDITER SKELS ..... 17.02
XPEDITER TABLES / XPTDFLTS ... 17.02 / 17.02
CSS LOADLIB ..... 17.02.00
CSS LOADLIB (LP COMPONENT) ... 17.02.00
CSS LOADLIB (DDIO COMPONENT) .. 17.02.00
***** Bottom of Data *****
```

Task 5.6.2 Verify Base Installation

Installation Verification Program(s) (IVPs)

The base product has four sets of IVP programs, one for each programming language supported by Xpediter/TSO and Xpediter/IMS:

Table 8 Base Xpediter/TSO and Xpediter/IMS IVPs

Language	IVPs
COBOL	TRITST, TRIRPT, and TRIMAIN (TRIMAIN calls TRITST and TRIRPT)
PL/I	TRITSTP, TRIRPTP, and TRIMAINP (TRIMAINP calls TRITSTP and TRIRPTP)
Assembler	TRITSTA, TRIRPTA, and TRIMAINA (TRIMAINA calls TRITSTA and TRIRPTA)
C	TRITSTC, TRIRPTC, and TRIMAINC (TRIMAINC calls TRITSTC and TRIRPTC)

The programs are contained in the SLXTSAMP library. Use the specific Language Processor (LP) to compile or assemble the sample programs in the listed order (for example, TRITST*, then TRIRPT*, followed by TRIMAIN*). Some main routines statically link to subroutines higher in the list. Refer to

the *Compuware Shared Services User/Reference Guide* for information on using the correct LP (COBOL, PL/I, Assembler, or C).

If you do not already have compile JCL which uses LP, you have two options for getting started:



- Access the online Compuware Shared Services Compile Facility by selecting option 1 (PREPARE) from the Xpediter/TSO Primary Menu.
- Use the sample JCL provided in the ECC sample library member SLCXCNTL(CXCOBPRES) to compile a COBOL program using the LP.

- The SYSLMOD output from these compiles should **not** be directed to the Xpediter/TSO LOADLIB library. Instead direct the SYSLMOD output from your linkedit step to a test dataset available to your application programmers for training sessions. For example, you could create a dataset named *hlq.TRAINLIB* or *hlq.SLXTIVP*.
- To verify that the compile was successful and that a source listing member was created, check the listing under the DDNAME CWPERRM for a message similar to the following:

```
LISTING(S) SUCCESSFULLY WRITTEN OUT TO DDIO
```

Run the IVPs to Initiate Verification Test Sessions

For each step, the program name or JCL referenced is specific to the language.

Table 9 Verification Test Session IVPs

Language	Program	SAMPLIB JCL Member
COBOL	TRIMAIN	TRIJCL
PL/I	TRIMAINP	TRIJCLP
Assembler	TRIMAINA	TRIJCLA
C	TRIMAINC	TRIJCLC

1. Select 2 (TSO) from the Xpediter/TSO Primary Menu.
2. Select 1 (STANDARD) from the Environments Menu.



The Environments Menu is automatically displayed if this is your first time to invoke a test session. Otherwise, you can access the Environments Menu by entering **SETUP** from the command line of the displayed test screen and selecting option **0** from the Test Setup Menu.

3. Enter **SETUP** from the Standard test screen.
4. Select 1 (LOADLIBS) from the Setup Menu.
5. On the Load Module Libraries screen, specify the application load library that contains the language-specific IVP load module. Also specify your Language Environment (LE) run-time library (usually CEE.SCEERUN). Press Enter.
6. Enter **END** (or press PF3) to return to the Standard screen.
7. Specify the language specific program from the table above on the Program ==> line.
8. The SLXTSAMP library contains sample JCL that can be used to run the IVP. On the File List/JCL Member ==> line, enter the language specific dataset/member name from the table above (for example, '*hlq.SLXTSAMP(TRIJCL)*') for COBOL).
9. Press Enter to begin the Xpediter/TSO debugging session. The message area contains the lines Allocating User Datasets, then Allocating XPEDITER/TSO Datasets. On a blank screen, the message Entering XPEDITER/TSO Test Environment is displayed along with information about the test. Then the source for the applicable TRIMAIN program is displayed.

10. Type GO 1 on the COMMAND line and press Enter.

The execution arrow will be on the next statement. The execution status message indicates that you are BEFORE *program-name: line-number*.

11. Press PF12 (GO). The Triangle Report is written to the screen.
12. Press Enter until you return to the Source screen with a TEST COMPLETED message, indicating that your program executed successfully.
13. Press PF4 (EXIT) to exit the test session.

Task 5.7 Additional Upgrade Configuration

Because you are upgrading from a prior release to a new release of Xpediter/TSO and Xpediter/IMS, only some of the Milestones and tasks necessary for a new installation need be examined.

Generally, a simple upgrade to a new release of Xpediter/TSO and Xpediter/IMS would not require any of these tasks. The conditions that could require you to perform a task are defined below.

To Support Topaz Workbench

Each release of Xpediter/TSO creates an entry for Topaz Workbench in the CSPF (Compuware Shared Profile Facility). Even if you have configured a prior release of Xpediter/TSO and Xpediter/IMS to work with Topaz Workbench, you will need to perform [Configure the CSS Shared Profile Facility \(CSPF\) Dataset](#) on page 49.

To Use Xpediter/TSO's Batch Connect Feature

If the installer modified the value of PARMLIB keyword(s) CT2VTPFX, CT2VTBEG, or CT2VTN2S, you will need to perform the tasks in ["Milestone 7: Configure Batch Connect Support"](#).

To Use IMS/DB Support

If you have not previously configured this feature and want to use it, you will need to perform the tasks in ["Milestone 8: Configure IMS/DB Support"](#).

Licensed for Xpediter/IMS (IMS/DC Support)

If you have newly purchased this license, to configure it, you will need to perform the tasks in ["Milestone 9: Configure IMS/DC Support"](#).

Licensed for Xpediter DB2 Stored Procedure Support

If you have newly purchased this license, to configure it, you will need to perform the tasks in ["Milestone 10: Configure DB2 Stored Procedure Support"](#).

To Use Xpediter/TSO with IBM's BTS (Batch Terminal Simulator)

If you have not previously configured this feature and want to use it, you will need to perform the tasks in ["Milestone 11: Configure BTS Support"](#).

To Use High-Performance Breakpoint Processing Methodology

If you have not previously configured this feature and want to use it, you will need to perform the tasks in ["Milestone 12: Enable High Performance Breakpointing"](#).

Licensed for the Xpediter for DB2 Extension

If you have newly purchased this license, refer to the *Xpediter/TSO and Xpediter/IMS Advance Configuration Guide* for more information.

To Utilize Xpediter/TSO with CA-ROSCOE

If you have not previously configured this feature and want to use it, refer to the *Xpediter/TSO and Xpediter/IMS Advance Configuration Guide* for more information.

Milestone 6: Configure Topaz Workbench Integration

This milestone will guide you through the tasks necessary to integrate Xpediter/TSO and Xpediter/IMS with Topaz Workbench.



If your site is not using—and does not plan to use—Topaz Workbench, skip ahead to ["Milestone 7: Configure Batch Connect Support"](#).

Roles Involved

The following people are required for this milestone:



Xpediter/TSO and Xpediter/IMS Installer

Topaz Workbench Installer

ECC Installer.

Tasks

Complete the following tasks to configure Topaz Workbench integration.

Task 6.1 Configure the CSS Shared Profile Facility (CSPF) Dataset

The following person is required for this task:



Xpediter/TSO and Xpediter/IMS Installer

The CSPF is used in conjunction with Xpediter's Multi-Batch Facility, to support the use of the batch debugger in Topaz Workbench.

1. Ensure Multi-Batch is installed and active.
2. Use the XTUPDATE macro to configure the JCL in SLXTINST(JCLCSPF).
3. Submit the JCL. It should end with return code 0.

If you already have a CSPF from a prior install, it can be reused. This JCL will test for the existence of a CSPF with the dataset name you specify. If it does not exist, it will create a CSPF. The second step will populate the CSPF.

Task 6.2 HCI Task Modification

The following people are required for this task:



Xpediter/TSO and Xpediter/IMS Installer
ECC Installer.

The Host Communications Interface (HCI) is part of Compuware's Enterprise Common Components (ECC). The HCI provides for communication between Topaz Workbench and the Mainframe components (such as Xpediter/TSO).

1. Add the Xpediter/TSO SLXTAUTH (or whatever library you selected in [Authorize the SLXTAUTH Library](#) on page 19) to the STEPLIB in the HCI JCL.
2. Specify the CSPF dataset name with the HCI PARMLIB keyword `CSPF=dataset-name`.

Task 6.3 Verify the Topaz Workbench Integration

The following person is required for this task:



Topaz Workbench Installer/Administrator

Contact your Topaz Workbench installer/administrator to verify Topaz Workbench integration with Xpediter/TSO and Xpediter/IMS via the Topaz Workbench Xpediter/Eclipse feature.

Milestone 7: Configure Batch Connect Support

This milestone contains details regarding configuration of the Xpediter/TSO and Xpediter/IMS Batch Connect facility to suit your site's needs.



If Batch Connect was installed with a previous Xpediter release, you do not need to perform this milestone *unless* you are making modifications to the PARMLIB keywords CT2VTPFX, CT2VTBEG, or CT2VTN2S. These keywords specify the VTAM ACB Prefix (CT2VTPFX), the beginning VTAM ACB number (CT2VTBEG), and the number of "pairs" of VTAM ACB nodes (CT2VTN2S). (For example, CT2VTN2S=7 indicates seven pairs of nodes).



If your site:

- Is not using—and does not plan to use—the Batch Connect facility, *or*
- Installed Batch Connect with a previous Xpediter release and did not modify PARMLIB keywords CT2VTPFX, CT2VTBEG, or CT2VTN2S for this release,

skip ahead to ["Milestone 8: Configure IMS/DB Support"](#).

Roles Involved

The following people are required for this milestone:



VTAM Administrator
Xpediter/TSO and Xpediter/IMS Installer.

Tasks

Complete the following tasks to configure Batch Connect support.

Task 7.1 Define VTAM APPLIDS

The following person is required for this task:



VTAM Administrator

If you intend to use the Xpediter/TSO Batch Connect facility or Topaz Workbench, you must define a pool of VTAM APPLIDs for use by Xpediter/TSO. There must be one APPLID for each batch job using the Batch Connect facility, and there must also be an APPLID for each TSO session that is connected to a Batch Connect job. Therefore, there will be two APPLIDs for each expected active and running Xpediter batch job. Terminals that are connected directly to the batch job do not require an additional APPLID.

Xpediter/TSO requires that the VTAM APPLID pool adhere to the following naming conventions:

- Each ACBNAME must be a valid VTAM ACBNAME.
- Each ACBNAME must be eight characters.
 - The first five characters are treated as a prefix for a range.
 - The last three characters are the range. These characters must be numeric (0 through 9) and occur in sequential order.

The default prefix is XPDTR. The default range for the VTAM ACBNAME pool is XPDTR000 through XPDTR011.



If you must use a different VTAM ACBNAME prefix or range due to local naming conventions, you must also change PARMLIB to tailor the site defaults. PARMLIB keyword CT2VTPFX specifies the ACBNAME prefix (default XPDTR), keyword CT2VTBEG (default 000) specifies the value at the end of the first ACBNAME, and keyword CT2VTN2S (default 6) specifies the high-pair number the last ACBNAME must end with.

The example below illustrates how to define the pool of VTAM APPLIDs to VTAM. This example can be found in SLXTSAMP(XPDTR). These entries can be added to an existing member in VTAMLST or a new member can be created. Be sure that the member is activated either by manual operator commands or by adding the member name in VTAMLST(ATCCONxx).

Figure 12 Defining VTAM APPLIDs for Batch Connect

```

H01AXPD VBUILD TYPE=APPL
*
A01CS000 APPL ACBNAME=XPDTR000,           X
PRCT=XPED,                               X
MODETAB=ISTINCLM,                         X
DLOGMOD=NSX32702,                         X
EAS=1
*
A01CS001 APPL ACBNAME=XPDTR001,           X
PRCT=XPED,                               X
MODETAB=ISTINCLM,                         X
DLOGMOD=NSX32702,                         X
EAS=1
.
.
.
*
A01CS011 APPL ACBNAME=XPDTR011,           X
PRCT=XPED,                               X
MODETAB=ISTINCLM,                         X
DLOGMOD=NSX32702,                         X
EAS=1

```

Each active Batch Connect region requires a pair of VTAM APPLIDs. XPDTR000 through XPDTR011 allows for six (6) active regions at one time. The entries are as follows:

ACBNAME

The APPLID. The names must start with the value specified in the CT2VTPFX keyword in PARMLIB. The first ACBNAME must end with the value specified in the CT2VTBEG keyword in PARMLIB. The last ACBNAME must end with the high-pair number derived from the CT2VTN2S keyword in PARMLIB. (For example: CT2VTPFX=XPDTR, CT2VTBEG=001, CT2VTN2S=7 would result in a “low” ACB name of XPDTR001 and a “high” ACB name of XPDTR014).

PRCT

The password. Xpediter/TSO sets the password to XPED.

MODETAB

The VTAMLIB member that defines the logmodes that can be used by the application. Member ISTINCLM is a default mode table shipped by IBM.



Do not modify the NSX32702 logmode used for DLOGMOD. Xpediter has dependencies on certain NSX32702 parameters, such as an RUSIZE value of 0.

DLOGMOD

The default logmode for this application. This must be a NON-SNA logmode. NSX32702 is a valid logmode entry in member ISTINCLM

EAS

The estimated application sessions. Coding the number 1 instead of using the default reduces storage allocation.

Task 7.2 Batch Connect Security

The following person is required for this task:



Xpediter/TSO and Xpediter/IMS Installer

The Batch Connect security module (automatically included when the facility is installed) enforces a standard that requires that the job name to which you are connecting be the same as your TSO ID plus one character.



If this is not compatible with your site's security system, you can either rewrite the Batch Connect security exit or deactivate it by changing PARMLIB keyword to **CTLSEC=NO**.

To use any other security checks, modify SLXTINST(ADSRAUSR) to whatever your site standard is for the job name. SLXTINST(JCLRAUSR) contains the JCL needed to receive and apply the USERMOD.

If your site does not enforce a standard that requires the job name to be the same as your TSO ID plus one character, then you may need to customize the TSO OUTPUT exit, IKJEFF53.

Task 7.3 Perform Initial Verification

The following person is required for this task:



Xpediter/TSO and Xpediter/IMS Installer

Task 7.3.1 Verify Batch Connect Installation

Run the Installation Verification Program(s) (IVPs) to Initiate Verification Test Sessions

To verify that the Batch Connect process is properly customized, use the same IVP you used to verify the base product install.

The following sample JCL members provided in SLXTSAMP are language-specific. Make sure any you use have a valid JOBCARD (matching your TSO UserID, plus one character).

Table 10 Batch Connect IVPs

Language	SAMPLIB JCL Member
COBOL	TRIJCL
PL/I	TRIJCLP
Assembler	TRIJCLA
C	TRIJCLC

1. Select **3** (BATCH) from the Xpediter/TSO Primary Menu.
2. Select **1** (Batch) from the Batch Menu.
3. Type the SLXTSAMP dataset name in the Dataset Name field and press Enter.
4. Select the appropriate language-specific TRIJCL* member.



The Load Module libraries in the “setup” should already have been populated when you ran the IVP for the base product.

5. Type **I** next to the program name.
6. Type **RUN** on the COMMAND line and press Enter. The status `Processing Request for XPEDITER Batch Region` may be displayed. Eventually, source should be displayed.

The interaction between the Batch Job and the TSO session verifies that the VTAM nodes were properly configured.
7. Type **EXIT** on the COMMAND line and press Enter.

Milestone 8: Configure IMS/DB Support

If you are installing Xpediter/TSO and Xpediter/IMS with IMS/DB support, perform this milestone to do database definition (DBD) and program specification block (PSB) gens for the sample programs.



If your site is not using—and does not plan to use—IMS/DB support, skip ahead to ["Milestone 9: Configure IMS/DC Support"](#).

Roles Involved

The following person is required for this milestone:



IMS DBA

Tasks

Complete the following task to enable IMS/DB support.

Task 8.1 Create Input and Database Files

1. Use the XTUPDATE macro to configure the JCL in SLXTINST(JCL006). “Stretched” members BTSIN and BTSINX will be placed in SLXTSAMP.
 - a. If required, replace the `VOL=SER=DDDDDD` statement on the SYSUT2 DD with a valid `VOL=SER` and uncomment the card.
2. Submit the job. It should complete with a return code of 0.

Task 8.2 DBD and PSB Gens

1. Using your site’s standard JCL for running a DBDGEN, point to SLXTSAMP(XPEDDBDG) as the DBD source. Run this job and verify that the XPGSAMD DBD is correctly created.
2. Using your site’s standard JCL for running a PSBGEN, generate the appropriate PSB(s) based on the Xpediter/TSO option(s) for which your site is licensed:

Table 11 SLXTSAMP Members for PSBGENs

Language	PSB	PSB Source SLXTSAMP Member
COBOL or Assembler	TRIIMSM	PSBIMSM
PL/I	TRIIMSMP	PSBIMSMP
C	TRIIMSMC	PSBIMSMC

3. Copy SLXTSAMP(TRIDATA) to a sequential dataset with RECFM=F, LRECL=80, and BLKSIZE=80.

Task 8.3 IMS/DB Installation Verification

To verify that the IMS/DB support is properly customized, the Xpediter IVP programs listed in [Table 12](#) are used. The base product has four sets of IVP programs, one set for each programming language supported by Xpediter/TSO and Xpediter/IMS

Table 12 IMS/DB IVP Programs

Language	Program/SAMPLIB Member
COBOL	TRIIMSM, TRIRPT, and TRITST (TRIIMSM calls TRITST and TRIRPT)
PL/I	TRIIMSMP, TRIRPTP, and TRITSTP (TRIIMSMP calls TRITSTP and TRIRPT)
ASSEMBLER	TRIIMSMA, TRIRPTA, and TRITSTA (TRIIMSMA calls TRITSTA and TRIRPTA)
C	TRIIMSMC, TRIRPTC, and TRITSTC (TRIIMSMC calls TRITSTC and TRIRPTC)

Preparations for Testing the IMS/DB IVPs

The programs in [Table 12](#) are contained in the SLXTSAMP library. Use the specific Language Processor (LP) to compile or assemble the sample programs in the listed order (TRITST*, then TRIRPT* followed by TRIIMSM*). Some main routines statically link to subroutines higher in the list.

Refer to the *Compuware Shared Services User/Reference Guide* for information on using the correct LP (COBOL, PL/I, Assembler, or C).

Optionally, you can access the online Compuware Shared Services Compile Facility by selecting option 1 (PREPARE) from the Xpediter/TSO Primary Menu.

- The COBOL programs must be link-edited with a specific entry point:
 - If you compile using the PREPARE option, use the following for the SYSLIN Control field of the LINKEDIT Step panel of the compile:


```
SYSLIN Control Statements:
===> ENTRY DLITCBL
```
 - If you compile outside of Xpediter, include the following entry statement in the LKED step:


```
//LKED.SYSLIN DD *
ENTRY DLITCBL
```
- The SYSLMOD output from these compiles should **not** be directed to the Xpediter/TSO LOADLIB library, but to a dataset available to your application programmers for training sessions. For example, you could create a dataset named CPWR.XT.TRAINLIB.
- To verify that the compile was successful and that a source listing member was created, check the listing under the DDNAME CWPERRM for a message similar to the following:

```
LISTING pgmname DATED nn/nn/nn AT nn.nn.nn SUCCESSFULLY WRITTEN TO CWPDDIO
```

Initiating the Verification Test Session

1. Select 1 (PREPARE) from the Xpediter/TSO Primary Menu.
2. Select 4 (EDIT ALLOCATION LIST) from the Program Preparation Menu.
3. In the **Other Partitioned or Sequential Dataset** area of the Edit File List screen, type 'h1q.SLXTSAMP(FAUIMSM)' and press Enter. The Edit File List 1 screen is displayed.
4. On the first line of the allocation list, type the DDNAME of INFILE. In the DSNAMES field, enter the name of the sequential, non-blocked copy of the SLXTSAMP(TRIDATA) that you created in

[DBD and PSB Gens](#) on page 55. Remember to enclose the name in single quotes if it is fully qualified.

5. On the next two lines, enter **OUTFILE** and **SYSOUT** in the DDNAME field and **TERM** in the DSNNAME field.
6. Press PF3. If a create screen is displayed, the wrong DSN name was entered. Check your input and try again. If all input is correct, the Edit File List entry screen is displayed again with the short message `Allocation List Saved`.
7. Press PF4 (RETURN) to return to the Xpediter/TSO Primary Menu.
8. Select **2 (TSO)** from the Xpediter/TSO Primary Menu. The Standard test screen is displayed.
9. Type **SETUP** and press Enter. The Setup Menu is displayed.
10. Select **0 (ENVIRONMENT)** from the Setup Menu. The Environments Menu is displayed.
11. Select **3 (IMS)** from the Environments Menu. The IMS Setup Menu is displayed.
12. Select **1 (LOADLIBS)** from the Setup Menu.
13. On the Load Module Libraries screen, specify the application load library that contains the language-specific IVP load module. Also specify your Language Environment (LE) run-time library (usually `CEE.SCEERUN`).
14. Press Enter.
15. If the IMS libraries you are using to test the program were not established as site-wide defaults, select **I (IMS)** from the Setup Menu. This lets you override the following DDNAMEs for your test only:

IMS	DFSVSAMP	PARMS	PROCLIB
IMSACB	IEFRDER	DFSRESLB	SYSPUNCH
16. After all your IMS datasets are specified, enter **END** (or press PF3) until you return to the IMS test screen.
17. Specify the language-specific program in the **Program ===>** field.
18. Specify the language-specific PSB in the **PSB ===>** field.
19. **Program Type** should be **DLI**.
20. **PARM Passing Option** should be **STD**.
21. In the **File List/JCL Member ===>** field, enter the dataset/member name of the FAU (`'cpwr.xt.SLXTSAMP(FAUIMSM)'`).
22. Press Enter to begin the Xpediter/TSO debugging session. The message area contains the lines `Allocating User Datasets`, then `Allocating XPEDITER/TSO Datasets`. On a blank screen, the message `Entering XPEDITER/TSO Test Environment` is displayed along with information about the test. Then the source for the TRIMAIN program is displayed.
23. Type **GO 1** on the COMMAND line and press Enter. The execution arrow will be on the next statement. The execution status message indicates that you are `BEFORE program-name: line-number`.
24. Press PF12 (GO). The Triangle Report is written to the screen.
25. Press Enter until you return to the Source screen with a `TEST COMPLETED` message, indicating that your program executed successfully.
26. Press PF4 (EXIT) to exit the test session.

Milestone 9: Configure IMS/DC Support

Complete this milestone if you are licensed for IMS/DC support.



If your site is not licensed for IMS/DC support, skip ahead to ["Milestone 10: Configure DB2 Stored Procedure Support"](#).

Roles Involved

The following people are required for this milestone:



IMS DBA
z/OS Security Administrator
z/OS Systems Programmer.

Tasks

Complete the following task to enable IMS/DC support.

Task 9.1 IMS Control Blocks Gen

The following people are required for this task:



IMS DBA
z/OS Security Administrator
z/OS Systems Programmer.

Define the Xpediter/IMS databases, programs, and transactions to IMS by including the following definitions in the appropriate sections of your IMS STAGE 1 SYSGEN input stream.

1. To define the Xpediter/IMS database, add the following:

```
DATABASE DBD=XPIMSDBT
```



The database XPIMSDBT is used to verify the install procedure and can be used for training. It is used by programs IVPs (Installation Verification Program) TRIMPP, TRIPMPP, TRIIFP, TRIPIFP, TRICMPP, and TRICIFP.

2. Add the following to define the Xpediter/IMS programs:

- RACF:

```
APPLCTN PSB=ADSIM001,SCHDTYP=PARALLEL,PGMTYPE=BATCH  
TRANSACTION CODE=XPEDTX1,MODE=SNGL,AOI=TRAN
```

```
APPLCTN PSB=XPSTOP,SCHDTYP=PARALLEL,PGMTYPE=BATCH
TRANSACT CODE=XPSTOP,MODE=SNGL,AOI=TRAN
```

```
APPLCTN PSB=ADSIM013,SCHDTYP=PARALLEL,PGMTYPE=BATCH
TRANSACT CODE=XPEDTX13,MODE=SNGL,AOI=TRAN
```

```
APPLCTN PSB=ADSIM016,SCHDTYP=PARALLEL,PGMTYPE=(TP,,X)
TRANSACT CODE=XPST,PARLIM=0,MODE=SNGL,AOI=TRAN
```

One of the transaction definitions listed above, ADSIM016, is the Xpediter Stop Region MPP program. The PGMTYPE of X should be replaced with the class of a message processing region which is normally up during Xpediter testing.

3. There are several transactions that are used for testing, verification, and training. They are programming language-specific. If you are not licensed for the specified language, you can skip that set of definitions. Use the following to define the Xpediter/IMS associated transactions:

```
APPLCTN PSB=TRIMPP,SCHDTYP=PARALLEL,(COBOL Sample)
PGMTYPE=(TP,,1)
TRANSACT CODE=TRIMPP,PARLIM=3,MODE=SNGL
```

```
APPLCTN PSB=XPEDTRAN,SCHDTYP=PARALLEL,(COBOL Sample)
PGMTYPE=(TP,,1)
TRANSACT CODE=XPEDTRAN,PARLIM=0,MODE=SNGL
```

```
APPLCTN PSB=TRIPMPP,SCHDTYP=PARALLEL,(PL/I Sample)
PGMTYPE=(TP,,1)
TRANSACT CODE=TRIPMPP,PARLIM=0,MODE=SNGL
```

```
APPLCTN PSB=XPEDTRNP,SCHDTYP=PARALLEL,(PL/I Sample)
PGMTYPE=(TP,,1)
TRANSACT CODE=XPEDTRNP,PARLIM=0,MODE=SNGL
```

```
APPLCTN PSB=XPEDTRNA,SCHDTYP=PARALLEL,(ASM Sample)
PGMTYPE=(TP,,1)
TRANSACT CODE=XPEDTRNA,PARLIM=0,MODE=SNGL
```

```
APPLCTN PSB=TRICMPP,SCHDTYP=PARALLEL,(C Sample)
PGMTYPE=(TP,,1)
TRANSACT CODE=TRICMPP,PARLIM=0,MODE=SNGL
```

```
APPLCTN PSB=XPEDTRNC,SCHDTYP=PARALLEL,(C Sample)
PGMTYPE=(TP,,1)
TRANSACT CODE=XPEDTRNC,PARLIM=0,MODE=SNGL
```

The programs referenced above are installation verification programs which run in a class dynamically assigned from the Xpediter class pool. These definitions above specify class 1, but may be changed if that class is proven inappropriate or unreliable.

4. If you have IMS Fast Path genned in your system there are Fast Path sample IVP programs. They are programming language specific. If you are not licensed for the specified language, you can skip that set of definitions. Use the following to define the Xpediter/IMS associated transactions:

```
APPLCTN PSB=TRIIFF,FPATH=YES,SCHDTYP=PARALLEL (COBOL Sample)
TRANSACT CODE=TRIIFF
```

```
APPLCTN PSB=TRIPIFP,FPATH=YES,SCHDTYP=PARALLEL (PL/I Sample)
TRANSACT CODE=TRIPIFP
```

```
APPLCTN PSB=XPEDAIFP,FPATH=YES,SCHDTYP=PARALLEL(ASM Sample)
TRANSACT CODE=XPEDAIFP
```

```
APPLCTN PSB=TRICIFP,FPATH=YES,SCHDTYP=PARALLEL (C Sample)
TRANSACT CODE=TRICIFP
```

5. After the above steps, perform the IMS CTLBLKS gen.

Task 9.2 Reservation of Transaction Class Code Numbers

The following person is required for this task:



IMS DBA

You must reserve a set of transaction class code numbers for testing Message Processing Programs (MPPs) under Xpediter/IMS. It is required that Message Processing Regions (MPRs) brought up independently of Xpediter/IMS do not use these class numbers. These class numbers are a subset of the numbers 001 through 999. You specify these numbers in the Xpediter/TSO PARMLIB member, and they resemble the following:

```
XPEDITER_IMS_CLASS_CODE_1=nnn
XPEDITER_IMS_CLASS_CODE_2=nnn
XPEDITER_IMS_CLASS_CODE_3=nnn
.
.
.
XPEDITER_IMS_CLASS_CODE_48=nnn
XPEDITER_IMS_CLASS_CODE_49=nnn
XPEDITER_IMS_CLASS_CODE_50=nnn
```

1. Specify the class code numbers you have reserved for Xpediter/IMS. The valid numbers are 001 through 999. These class codes were reserved prior to the installation of Xpediter/IMS. They are to be used exclusively for testing MPPs under Xpediter/IMS. You only need to specify the entries for the specific classes reserved. For example, if you reserved 10 class number for Xpediter/IMS, you would only specify PARMLIB entries XPEDITER_IMS_CLASS_CODE_1 through XPEDITER_IMS_CLASS_CODE_10.

The number of classes reserved also implicitly sets a maximum limit on the number of concurrent MPP tests under Xpediter/IMS. For example, if you want to allow up to 10 users testing MPPs concurrently, reserve 10 class codes. At install time, you can set an explicit limit to the number of concurrent MPP tests. This limit, however, should not be greater than the number of classes reserved.



Each reserved class must be a valid IMS defined class; that is, the class number must not exceed the MAXCLASS specified in the IMSCTRL macro of the IMS Stage 1 gen. You should also verify that the IMSCTRL parameter MAXREGN is high enough to support the additional Xpediter/IMS dependent regions.

The Maximum Users and Class Codes keywords used to specify the maximum number of concurrent test sessions to be allowed. This specification of these values is in the Xpediter/TSO PARMLIB member.

```
IMS_TOTAL_MAXIMUM_NUMBER_OF_USERS=nnn
IMS_MPP_MAXIMUM_NUMBER_OF_USERS=nn
IMS_BMP_MAXIMUM_NUMBER_OF_USERS=nnn
IMS_IFP_MAXIMUM_NUMBER_OF_USERS=nnn
```

2. Specify the maximum number of concurrent test sessions allowed for each region type—MPP, BMP, and IFP—and the maximum number of total concurrent test sessions allowed.



The maximum number of concurrent test sessions is different for MPPs than for BMPs and IFPs. The maximum number for MPP tests is 50; for BMP and IFP tests it is 255. The Maximum Users and Class Codes values, specified in the Xpediter/TSO PARMLIB member, let you set the maximum users of MPPs, BMPs, and IFPs.

You can also set the maximum number of concurrent Batch Message Processing (BMP) and IMS Fast Path (IFP) test sessions individually. However, these programs do not require an Xpediter/IMS reserved class.

The maximum number of concurrent test sessions is 255. There are no defaults.

For IMS_MPP_MAXIMUM_NUMBER_OF_USERS, do not specify a number greater than the number of class codes reserved. You can, however, reserve a certain number of class codes and, depending on the load on the system, dynamically limit the number of MPP concurrent users through this specification without having to reduce the number of class codes reserved.

Task 9.3 IMS Security Gen

The following person is required for this task:



z/OS Security Administrator

RACF

The transactions XPEDTX1 and XPEDTX13 require the authority to issue ASSIGN, START, DISPLAY, RSTART, and STOP commands. The ASSIGN command lets Xpediter/IMS reassign the class code of a transaction as genmed in IMS to one of the classes reserved for Xpediter/IMS. The START command lets Xpediter/IMS restart the transaction in case a user stops a transaction by quitting a BMP or IFP region. The DISPLAY and RSTART commands let Xpediter/IMS restart the terminal in case the terminal is locked. The STOP command will terminate an Xpediter/IMS region to end the Xpediter MPP task.

```
ADDUSER XPEDTX1 NOPASSWORD DFLTGRP(SYS1)
PERMIT ASS CLASS(CIMS) ID(XPEDTX1) ACCESS(UPDATE)
PERMIT DIS CLASS(CIMS) ID(XPEDTX1) ACCESS(UPDATE)
PERMIT RST CLASS(CIMS) ID(XPEDTX1) ACCESS(UPDATE)
PERMIT STA CLASS(CIMS) ID(XPEDTX1) ACCESS(UPDATE)
PERMIT STO CLASS(CIMS) ID(XPEDTX1) ACCESS(UPDATE)
```

The transaction XPEDTX13 requires the authority to issue ASSIGN, START, DISPLAY, RSTART, and STOP commands:

```
ADDUSER XPEDTX13 NOPASSWORD DFLTGRP(SYS1)
PERMIT ASS CLASS(CIMS) ID(XPEDTX13) ACCESS(UPDATE)
PERMIT DIS CLASS(CIMS) ID(XPEDTX13) ACCESS(UPDATE)
PERMIT RST CLASS(CIMS) ID(XPEDTX13) ACCESS(UPDATE)
PERMIT STA CLASS(CIMS) ID(XPEDTX13) ACCESS(UPDATE)
PERMIT STO CLASS(CIMS) ID(XPEDTX13) ACCESS(UPDATE)
```

Transactions XPST and XPSTOP require the authority to issue the DISPLAY and STOP Commands:

```
ADDUSER XPSTOP NOPASSWORD DFLTGRP(SYS1)
PERMIT DIS CLASS(CIMS) ID(XPSTOP) ACCESS(UPDATE)
PERMIT STO CLASS(CIMS) ID(XPSTOP) ACCESS(UPDATE)
```

Task 9.4 Additional IMS Gens

The following person is required for this task:



IMS DBA

DBDGEN

Perform a DBDGEN for the sample program database XPIMSDBT. Include the control statements from sample library SLXTSAMP member IMS002V as input to your site's DBD gen procedure. Do not make any changes to the source.

PSBGEN

1. Perform PSBGENs for the Xpediter/IMS programs using your site's standard PSBGEN utility JCL with the corresponding sample library SLXTSAMP members as input.

Table 13 SLXTSAMP Members for PSBGENs

PSBGENs	PSB Source SLXTSAMP Member
ADSIM001	IMS00311
ADSIM013	IMS00312
XPSTOP	IMS00313
ADSIM016	IMS00314

2. Perform the PSBGEN(s) applicable to the Xpediter/TSO option(s) for which your site is licensed.

Table 14 PSBGENs for Licensed Options

Language	PSBGENs	PSB Source SLXTSAMP Member
COBOL	TRIMPP TRIIFP XPEDTRAN	IMS003V1 IMS003V2 PSBDTRAN
PL/I	TRIPMPP TRIPIFP XPEDTRNP	IMS003V3 IMS003V4 PSBDTRNP
C	TRICMPP TRICIFP XPEDTRNC	IMS003V5 IMS003V6 PSBDTRNC
Assembler	XPEDTRNA XPEDAIFP	PSBDTRNA PSBDAIFP

ACBGEN

Perform an ACBGEN for the database XPIMSDBT and the PSBs. Sample library SLXTSAMP member IMS004I contains the input control statements for the ACBGEN.

Depending on your licensed product options, you may need to delete certain statements listed in [Table 15](#) before performing the ACBGEN.

Table 15 ACBGEN Entries for Language Options

Language	Delete the BUILD PSB Statement for PSB
COBOL	TRIMPP TRIIFP XPEDTRAN
PL/I	TRIPMPP TRIPIFP XPEDTRNP
C	TRICMPP TRICIFP XPEDTRNC

Table 15 ACBGEN Entries for Language Options (*Continued*)

Language	Delete the BUILD PSB Statement for PSB
Assembler	XPEDTRNA XPEDAIFP

MFSGEN

1. The MFS source shipped in sample library SLXTSAMP members XPEDMFS, IMS006, IMS007, IMS008, IMS009, IMS010, and IMS011, contains TYPE=(3270,2) on the DEV macro. Some shops require TYPE=3270-A02. Change the TYPE operand of the DEV macro to a value appropriate for your site.
2. Generate the MFS control blocks for the sample verification programs as follows:
 - Include SLXTSAMP(XPEDMFS) as input to your site's MFS gen procedure for sample programs TRIMPP, TRIPMPP, TRICMPP, TRIIFP, TRIPIFP, and TRICIFP.
 - Include SLXTSAMP(XPST) as input to your site's MFS gen procedure for the Stop Region MPP program.
 - If your site has these Xpediter language options, include the applicable member listed in [Table 16](#).

Table 16 SLXTSAMP Members for MFSGEN

Language	MFSGENs	MFSGEN Input SLXTSAMP Member
COBOL	TRIMPP TRIIFP	IMS006 IMS007
PL/I	TRIPMPP TRIPIFP	IMS008 IMS009
C	TRICMPP TRICIFP	IMS010 IMS011

Task 9.5 Activate Xpediter/IMS

1. Reload the XPIMSDBT database. Edit the member IMS005V from the sample library SLXTSAMP, making the following corrections:
 - a. Correct the JOB card to your site's standards.
 - b. Correct the dataset name segment CPWR.XT to the dataset name segment chosen for your site.
 - c. Provide a valid DASD VOLSER to replace VVVVVV.
 - d. Do not make any other changes to the cluster parameters.
 - e. Provide the dataset names of your IMS RESLIB and IMS DBDLIB in the RELOADS step.
 - f. Submit the job.



Do not continue until this job completes successfully.

2. Define the reloaded databases to IMS/DC. Add the reloaded Xpediter XPIMSDBT databases to the IMS control region allocations, either as dynamic allocations or as JCL.
3. Make sure that programs ADSIM016, ADSIM015, and ADSRA093 are available by putting the Xpediter load library SLXTLOAD in the STEPLIB or the JOBLIB concatenation of the chosen MPR.

4. Run the IMS online change utility to load the control blocks you have generated into the inactive IMS system libraries. These control blocks are ACBLIB, MODBLKS, FMTLIB, and MATRIX members.
5. Check the buffer size. Make sure your DFSVSMxx IMS startup member in the IMS PROCLIB has a VSAM buffer definition for a minimum size of 4K. If not, add the following statement to it:


```
4096,3
```
6. Activate the control blocks. Recycle the IMS system and perform the necessary /MODIFY PREPARE and /MODIFY COMMIT commands to activate your new control blocks. To ensure the activation of the security matrix, add the TRANCMDS parameter to the /MODIFY PREPARE command.

Task 9.6 Transaction Code Lockout

IMS UserID/Data Value Intercept Support

Xpediter/IMS provides the ability to trap transactions based on IMS userID and/or up to 30 bytes of transaction data. A user can intercept transactions based solely on transaction data by entering an asterisk (*) in the IMS userID field on the MPP (2.8) test screen. A transaction will then be intercepted if any user enters the specified data in the transaction. If a userID and transaction data are both specified, only transactions meeting both criteria will be intercepted.

In addition to enabling multiple users to debug the same transaction, IMS UserID/Data Value Intercept Support provides additional transaction code lockout relief. It also enables intercept data to be specified by IMS sites that do not require users to sign on, as well as those utilizing a common ID for all users.

The IMS UserID/Data Value Intercept Support requires the use of IMS exit DFSMSCE0.

IMS UserID/Data Value Intercept Support requires that the Xpediter/TSO PARMLIB member contain the KEYWORD=*value* pair CTLIMSUS=YES.

Task 9.7 IMS Requirements for DFSMSCE0

IMS TM and MSC Message Routing and Control User Exit, DFSMSCE0

The Xpediter-supplied IMS TM and MSC Message Routing and Control exit, DFSMSCE0, must be installed in all IMS control regions in which UserID/Data Value Intercept Support is to be implemented. If your installation already has a DFSMSCE0 exit, your version of the exit should be renamed to XPIMSCE0. The Xpediter/IMS version will locate and invoke XPIMSCE0 (if present) after determining that a transaction is not to be routed to an Xpediter region.

For IMS 14.1 and Older Releases:

1. Member DFSMSCE0 can simply be copied from the SLXTLOAD library to either the IMS RESLIB or a library concatenated to the RESLIB in the IMS control region JCL.
2. Shut down and restart the IMS control region to finish implementation.

For IMS 15.1 and Newer Releases:

1. Copy the member JCLMSCE0 from the SLXTINST library to a library of your choice.
2. Follow the instructions in the JCLMSCE0 member to customize the JCL.
3. Make sure the SYSLMOD library is authorized. It can be either the IMS RESLIB or a library concatenated to the RESLIB in the IMS control region JCL.
4. Submit the job. It should complete with a condition code of 0.

5. Shut down and restart the IMS control region to finish implementation.



If you place the Xpediter/TSO SLXTLOAD library in the LINKLIST, the DFSMSCE0 exit will become available to IMS. Compuware does not recommend placing the SLXTLOAD library in the LINKLIST.

APPLCTN Macro

IMS must be able to schedule the application Program Specification Block (PSB) when additional transactions are received, even though the PSB is already scheduled in the user's Xpediter/IMS debugging session. The relevant IMS sysgen parameter is SCHDTYPE. The APPLCTN macro for the application PSB must specify SCHDTYPE=PARALLEL. The IMS gen default is SCHDTYPE=SERIAL. This default does not allow IMS to schedule more than one instance of a particular PSB at a time. An IMS gen is required to change this parameter.

Task 9.8 Create Dummy Xpediter/IMS PSBs and Transactions

1. Dummy IMS PSBs for Xpediter/IMS's use must be generated. Member XPED0000 in SLXTSAMP contains the sample definitions.
2. Dummy IMS Transactions codes for Xpediter/IMS's use must be defined. Member XTAPPLTS in SLXTSAMP contains the sample definitions.
 - Create as many 'TRANSACTION CODE=XPED*****' entries as required; 200 may be a good initial amount if warm starts of IMS are done. The prefix must be XPED so it will match the one specified in the trancode intercept activation JCL (member JCLIMSLR).
 - The transactions supplied specify a default class of 999. Change it to a class that is not in use by any IMS region and is not one of the classes reserved for use by Xpediter/IMS. The value specified must not exceed the MAXCLAS=*value* specified or accepted by default on the IMSCTRL macro statement.

Task 9.9 Run the Xpediter/IMS UserID Intercept Installation Utility

The Xpediter/IMS UserID Intercept Installation Utility must be run to enable Xpediter/IMS UserID/Data Value Intercept Support.

1. Edit SLXTINST(JCLIMSLR) and use the XTUPDATE command to customize the JCL.
2. After the SYSIN DD *, supply the name of the IMS subsystems and dummy transaction names. If the IMS subsystem is part of a Shared Queue environment, specify the LPAR name and four-byte identifier for the Shared Queue.
3. Submit the job, it should complete with return code 0.

Task 9.10 Configure z/OS to Start the IMS UserID Intercept After an IPL

The following person is required for this task:



z/OS Systems Programmer

JCLIMSLR must be run after each IPL to re-enable Xpediter/IMS UserID Intercept support. It must be run before starting any IMS control region that makes use of its services. If you want JCLIMSLR to run automatically during z/OS startup, perform the following:

1. Copy SLXTINST(JCLIMSLR) to one of your installation PROCLIBs and use XTUPDATE to customize the JCL to run as a batch job.

2. Modify JCLIMSLR to meet your site's standards for a z/OS startup procedure, replacing the JOB statement with a PROC statement.
3. Verify that the PARM statement's OPTION parameter is set to ACTIVATE.
4. Configure your z/OS system to start JCLIMSLR at IPL time by either:
 - Updating your z/OS PARMLIB member COMMNDxx.
 - Configuring your automated operations application.

An example of the START command is provided in SLXTINST(COMMNDxx).

Task 9.11 IMS DC MPP Installation Verification

To verify that the IMS/DC MPP support is properly customized, the Xpediter IVP programs listed in [Table 17](#) are used. The base product has four sets of IVP programs, one set for each programming language supported by Xpediter/TSO and Xpediter/IMS

Table 17 IMS/DC IVP Programs

Language	Program/SAMPLIB Member
COBOL	TRIMPP, TRITST, and XPEDTRAN (and if you have Fast-Path, TRIIFP) (TRIMPP calls TRITST, as does TRIIFP)
PL/I	TRIPMPP, TRITSTP, and XPEDTRNP (and if you have Fast-Path, TRIPIFP) (TRIPMPP calls TRITSTP, as does TRIPIFP)
ASSEMBLER	XPEDTRNA (and if you have Fast-Path, XPEDAIFP)
C	TRICMPP, TRITSTC, and XPEDTRNC (and if you have Fast-Path, TRICIFP) (TRICMPP calls TRITSTC)

Preparations for Testing the IMS/DC MPP IVPs

The programs in [Table 17](#) are contained in the SLXTSAMP library. Use the specific Language Processor (LP) to compile or assemble the sample programs in the listed order (TRITST* followed by TRI*MPP). Some main routines statically link to subroutines higher in the list.

Refer to the *Compuware Shared Services User/Reference Guide* for information on using the correct LP (COBOL, PL/I, Assembler, or C).

Optionally, you can access the online Compuware Shared Services Compile Facility by selecting option 1 (PREPARE) from the Xpediter/TSO Primary Menu.

- The COBOL programs must be link-edited with a specific entry point:
 - If you compile using the PREPARE option, use the following for the SYSLIN Control field of the LINKEDIT Step panel of the compile:

```
SYSLIN Control Statements:
===> ENTRY DLITCBL
```

- If you compile outside of Xpediter, include the following entry statement in the LKED step:

```
//LKED.SYSLIN DD *
ENTRY DLITCBL
```

- The SYSLMOD output from these compiles should **not** be directed to the Xpediter/TSO LOADLIB library, but to a dataset available to your application programmers for training sessions. For example, you could create a dataset named CPWR.XT.TRAINLIB.
- To verify that the compile was successful and that a source listing member was created, check the listing under the DDNAME CWPERRM for a message similar to the following:

```
LISTING pgmname DATED nn/nn/nn AT nn.nn.nn SUCCESSFULLY WRITTEN TO CWPDDIO
```

Initiating the Verification Test Session

1. Select **2** (TSO) from the Xpediter/TSO Primary Menu.
2. Select **8** (MPP) from the Environments Menu.
3. Type **SETUP** and press Enter.
4. Select **1** (LOADLIBS) from the Setup Menu.
5. On the Load Module Libraries screen, specify the application load library that contains the language-specific IVP load module. Also specify your Language Environment (LE) run-time library (usually CEE.SCEERUN).
6. Press Enter.
7. If the IMS libraries you are using to test the program were not established as site-wide defaults, select **I** (IMS) from the Setup Menu. This lets you override the following DDNAMEs for your test only:
 - PSB and DBD libraries
 - IMS pre-load list (PROCLIB)
 - DFSRESLB
 - PARMS.
8. After all your IMS datasets are specified, enter **END** (or press PF3) until you return to the IMS test screen.
9. Specify the language-specific program in the **Program** ==> field and/or the language-specific transaction name in the **Trancode** ==> field.
10. In the **IMS USERID** ==> field, specify the ID that you use to signon to IMS (usually the same as your TSO UserID).
11. Press Enter to begin the Xpediter/TSO debugging session. If the intercepts are set, the following messages appear on the screen:

```
*** THE IMS INTERCEPTS ARE BEING SET ***
*** INTERCEPTS SET - STARTING THE subs IMS REGION ***
*** THE TEST TRANSACTION CAN BE ENTERED ***
```



In the messages above, *subs* is the name of the IMS Subsystem you are connected to.

12. The terminal is then locked. If an error is encountered, however, the intercept is not set and an appropriate error message appears on the message line or in the session log.
13. Go to an IMS terminal connected to an associated IMS/DC control region and type:


```
XPEDTRA* hello world
```

 where *XPEDTRA** will be XPEDTRAN for COBOL, XPEDTRNP for PL/I, XPEDTRNA for Assembler, and XPEDTRNC for C.
14. Press Enter.
15. Go to the TSO terminal and wait for the source display of the program.
16. Type **GO 1** on the COMMAND line and press Enter. The execution arrow will be on the next statement. The execution status message indicates that you are BEFORE *program-name: line-number*.
17. Press PF12 (GO). You will receive the message:


```
TEST COMPLETED. ENTER GO TO CONTINUE OR EXIT TO END.
```
18. Press PF4 (EXIT) to exit the test session.

19. Go to the IMS terminal screen. The following will be displayed:

```
NON-CONVERSATIONAL INPUT MESSAGE FOLLOWS-                HELLO WORLD
```

Task 9.12 IMS DC IFP Installation Verification

This installation verification includes two subtasks:

- [Initiating the COBOL, PL/I, and C IFP Verification Test Session](#) on page 69
- [Initiating the Assembler IFP Verification Test Session](#) on page 70

Perform the IMS DC IFP verification applicable to your site.

Refer to [Table 17](#) for a list of language-specific IVP load modules.

Task 9.12.1 Initiating the COBOL, PL/I, and C IFP Verification Test Session

1. Select **2** (TSO) from the Xpediter/TSO Primary Menu.
2. Select **9** (IFP) from the Environments Menu.
3. Type **SETUP** and press Enter.
4. Select **1** (LOADLIBS) from the Setup Menu.
5. On the Load Module Libraries screen, specify the application load library that contains the language-specific IVP load module. Also specify your Language Environment (LE) run-time library (usually CEE.SCEERUN).
6. Press Enter.
7. If the IMS libraries you are using to test the program were not established as site-wide defaults, select **I** (IMS) from the Setup Menu. This lets you override the following DDNAMEs for your test only:
 - PSB and DBD libraries
 - IMS pre-load list (PROCLIB)
 - DFSRESLB
 - PARMS.
8. After all your IMS datasets are specified, enter **END** (or press PF3) until you return to the IMS test screen.
9. Specify the language-specific program in the **Program ===>** field.
10. Specify the same name in the **PSB ===>** field.
11. Press Enter to begin the Xpediter/TSO debugging session. If the intercepts are set, the following messages appear on the screen:

```
*** THE IMS INTERCEPTS ARE BEING SET ***
*** INTERCEPTS SET - STARTING THE subs IMS REGION ***
```



In the messages above, *subs* is the name of the IMS Subsystem you are connected to.

If an error is encountered, the intercept is not set and an appropriate error message appears on the message line or in the session log.

Eventually three asterisks (***) will be displayed.

12. Press Enter. The source will be displayed.
13. Type **BEFORE ALL PARA** on the COMMAND line and press Enter.
14. Go to an IMS terminal connected to an associated IMS/DC control region and type:

```
/FOR TRI*IFP
```

where *TRI*IFP* will be TRIIFP for COBOL, TRIPIFP for PL/I, and TRICIFP for C.

15. Press Enter.
16. When a formatted data entry screen is displayed, type the values **9 8 7** for the three sides of the triangle and press Enter.
17. Go to the TSO terminal and press PF9 (GO 1) until the session “locks”. The execution arrow will continually move through the code. The execution status message indicates that you are BEFORE *program-name: line-number*.
18. When the session “locks”, go the IMS terminal. The ANALYSIS will display SCALENE TRIANGLE.
19. Type **0 0 0** for the three sides of the triangle and press Enter.
20. Go to the TSO terminal and press PF4 (EXIT) to exit the test session.
21. On the IMS terminal screen, the following will be displayed:

```
DFS2082I RESPONSE MODE TRANSACTION TERMINATED WITHOUT REPLY.
```

Task 9.12.2 Initiating the Assembler IFP Verification Test Session

1. Select **2** (TSO) from the Xpediter/TSO Primary Menu.
2. Select **9** (IFP) from the Environments Menu.
3. Type **SETUP** and press Enter.
4. Select **1** (LOADLIBS) from the Setup Menu.
5. On the Load Module Libraries screen, specify the application load library that contains the language-specific IVP load module. Also specify your Language Environment (LE) run-time library (usually CEE.SCEERUN).
6. Press Enter.
7. If the IMS libraries you are using to test XPEDAIFP were not established as site-wide defaults, select **I** (IMS) from the Setup Menu. This lets you override the following DDNAMEs for your test only:
 - PSB and DBD libraries
 - IMS pre-load list (PROCLIB)
 - DFSRESLB
 - PARMs.
8. After all your IMS datasets are specified, enter **END** (or press PF3) until you return to the IMS test screen.
9. Specify **XPEDAIFP** in the **Program ===>** field.
10. Specify **XPEDAIFP** in the **PSB ===>** field.
11. Press Enter to begin the Xpediter/TSO debugging session. If the intercepts are set, the following messages appear on the screen:

```
*** THE IMS INTERCEPTS ARE BEING SET ***
*** INTERCEPTS SET - STARTING THE subs IMS REGION ***
```



In the messages above, *subs* is the name of the IMS Subsystem you are connected to.

If an error is encountered, the intercept is not set and an appropriate error message appears on the message line or in the session log.

Eventually three asterisks (***) will be displayed.

12. Press Enter. The source will be displayed.
13. Type **BEFORE ALL PARA** on the COMMAND line and press Enter.
14. Go to an IMS terminal connected to an associated IMS/DC control region and type:

```
XPEDIFPA Hello World
```
15. Press Enter.
16. Go to the TSO terminal and press PF9 (GO 1) until the session “locks”. The execution arrow will continually move through the code. The execution status message indicates that you are **BEFORE** *program-name: line-number*.
17. When the session “locks”, go the IMS terminal. The **ANALYSIS** will display **SCALENE TRIANGLE**.
18. Type **0 0 0** for the three sides of the triangle and press Enter.
19. Go to the TSO terminal and press PF4 (EXIT) to exit the test session.
20. On the IMS terminal screen, the following will be displayed:

```
NON-CONVERSATIONAL INPUT MESSAGE FOLLOWS-                HELLO WORLD
```
21. Clear the screen, type:

```
XPEDAIFP goodbye
```


and press Enter.
22. Go to the TSO terminal and press PF4 (EXIT) to exit the test session.
23. On the IMS terminal screen, the following will be displayed:

```
DFS2082I RESPONSE MODE TRANSACTION TERMINATED WITHOUT REPLY.
```


Milestone 10: Configure DB2 Stored Procedure Support

Complete this milestone if you are licensed for Xpediter's DB2 Stored Procedure Support.



If your site is not licensed for DB2 Stored Procedure Support, skip ahead to ["Milestone 11: Configure BTS Support"](#).

Roles Involved

The following people are required for this milestone:



Xpediter/TSO and Xpediter/IMS Installer

DB2 DBA

z/OS Systems Programmer.

Tasks

Complete the following tasks to configure DB2 Stored Procedure Support.

Task 10.1 Installation Considerations

A stored procedure can be invoked by a client application running on almost any platform, but some environments may define a time-out interval. Interactive testing of a stored procedure using Xpediter involves establishing breakpoints, stopping at them, and waiting for user input. This means a delay is introduced that might cause the time-out interval to be reached. If this happens, the client application will receive an error and the stored procedure test is likely to end abnormally.

The only solution to this problem is to increase the time-out value(s) at your site. This process could involve numerous technical specialists for any time-out values set in DB2, in the LAN and its servers, in middleware such as DB2/Connect or IBM MQ, or in the client application itself.

Task 10.2 Specify PARMLIB Keywords for DB2 Stored Procedure Support

The following person is required for this task:



Xpediter/TSO and Xpediter/IMS Installer

In the PARMLIB member for Xpediter/TSO, specify:

```

DB2_STORED_PROCEDURE_SUPPORT=YES
DB2SP_SEARCH_PROC_DSNAME=proclib-dataset-name-1
DB2SP_SEARCH_PROC_DSNAME=proclib-dataset-name-2
.
.
.

```

for each PROCLIB that contains JCL used for your DB2 Stored Procedures.

Task 10.3 Grant DB2 Access to Xpediter/TSO

The following person is required for this task:



DB2 DBA

For each DB2 subsystem which requires Xpediter/TSO stored procedure testing, perform the following:

1. Bind a plan `XPvrrmm` where `vrrmm` is the version, release, and modification level of Xpediter/TSO. For example, Xpediter/TSO 17.2 would be `XP170200`.
2. Grant execute on plan `XPvrrmm` to either “public” or a list of authorization names allowed to use the Xpediter DB2 stored procedure support feature.
3. Use `SLXTSAMP(XPSPJ610)` as input to the bind, and either follow your site standard or use the online Bind Facility provided by Xpediter/TSO.



Xpediter users require read authority to the `MVSADMIN.WLM.POLICY` facility class to be able to retrieve stored procedure JCL from procedure libraries. If they are not granted read access, they must supply the stored procedure JCL manually.

Task 10.4 Create Workload Manager (WLM) Application Environments

The following person is required for this task:



Xpediter/TSO and Xpediter/IMS Installer

An Xpediter/TSO stored procedure test requires a set of Workload Manager Application Environments that must be defined for testing. Each concurrent Xpediter/TSO stored procedure test requires one application environment.

The names of Xpediter WLM Application Environments consist of a four-character prefix and a four-digit number. The default prefix is `XP AE`. It can be overridden with PARMLIB keyword:

```
CTLAEPRE=aaaa
```

(where `aaaa` is a 4-character alphabetic value).

The default number is 10 (indicating 0001 to 0010). It can be overridden with PARMLIB keyword:

```
CTLAENUM=nn
```

(where `nn` is a 2-digit number from 01 to 10 inclusive).

Use the IBM Workload Manager (WLM) “Create an Application Environment” screen to create the Xpediter/TSO Application Environments as follows:

1. For each Application Environment desired, specify in the Application Environment name field the Xpediter application name that you have selected. (The defaults are XPAE0001 through XPAE0010 and should match the prefix and number selected in the CTLAEPRE and CTLAENUM fields that were specified in the Xpediter/TSO PARMLIB member.)
2. Create an additional Application Environment, XPAE0000, for the sample verification programs with the same attributes as the other Application Environments.
3. Specify DB2 in the Subsystem Type field.
4. Specify spaces (ensure they are blank) for the Procedure Name field and the Start Parameters field.
5. Type a 1, 2, or 3 in the field Limit on starting server address spaces for a subsystem instance, then press Enter. Multiple server address spaces are allowed.
6. Using the Install Utility in the WLM application, install the WLM service definition that contains information about these application environments into the WLM couple dataset.
7. To activate the new Xpediter/TSO application environments, activate the WLM policy from the installed service.

Task 10.5 Activate the Xpediter/TSO DB2 Stored Procedure Intercept

The following person is required for this task:



Xpediter/TSO and Xpediter/IMS Installer

Activate the Xpediter/TSO DB2 Stored Procedure Intercept on the systems that will run the stored procedures as follows:

1. Edit SLXTINST(JCLDB2SP) and use the XTUPDATE command to customize the JCL.
2. After the SYSIN DD *, supply the name of the DB2 subsystems as a list of names separated by at least one space, with continuations allowed.



With DB2 group name support, a related group name, enclosed in parentheses, can be supplied following the DB2 subsystem name. For example, a group name of DB2G would be coded DB2T(DB2G), where DB2T is the subsystem’s real name, and DB2G is the name of the group it belongs to.

3. Submit the job. It should complete with return code 0.

Task 10.6 Configure z/OS to Start the Stored Procedure Intercept After an IPL

The following person is required for this task:



z/OS Systems Programmer

JCLDB2SP must be run after each IPL to re-enable Xpediter’s DB2 Stored Procedure Support. If you want JCLDB2SP to run automatically during z/OS startup, perform the following:

1. Copy SLXTINST(JCLDB2SP) to one of your installation PROCLIBs and use XTUPDATE to customize the JCL to run as a batch job.

2. Modify JCLDB2SP to meet your site's standards for a z/OS startup procedure, replacing the JOB statement with a PROC statement.
3. Verify that the PARM statement's OPTION parameter is set to ACTIVATE.
4. Configure your z/OS system to start JCLDB2SP at IPL time by either:
 - Updating your z/OS PARMLIB member COMMNDxx.
 - Configuring your automated operations application.

An example of the START command is provided in SLXTINST(COMMNDxx).

Task 10.7 DB2 Stored Procedure Installation Verification

As shown in [Table 18](#), the base Xpediter product includes four sets of IVP programs in the SLXTSAMP library: one for each programming language supported by Xpediter/TSO and Xpediter/IMS.

Table 18 DB2 Stored Procedure IVP Programs

Language	Programs	Comments
COBOL	TRIRPT, TRISPT, and TRISPM	TRISPM calls TRIRPT which invokes the TRISPT stored procedure
PL/I	TRIRPTP, TRISPTP, and TRISPMP	TRISPMP calls TRIRPTP which invokes the TRISPTP stored procedure
Assembler	TRIRPTA, TRISPTA, and TRISPMA	TRISPMA calls TRIRPTA which invokes the TRISPTA stored procedure
C	TRIRPTC, TRISPTC, and TRISPMC	TRISPMC calls TRIRPTC which invokes the TRISPTC stored procedure

Task 10.7.1 Prepare Sample Programs

Use the applicable Compuware Language Processor (LP) to compile or assemble the sample programs in the following order:

1. TRIRPT*
2. TRISPM*
3. TRISPT*

Some main routines statically link to subroutines higher in the list.



- Because the TRISPM* programs perform SQL calls, they must be compiled with DB2 precompile or DB2 integrated compile JCL.
- Because Xpediter requires STAY RESIDENT YES when defining the DB2 stored procedure, the related test program (TRISPT*) must be compiled and linked as reentrant.

Refer to the *Compuware Shared Services User/Reference Guide* for information on using the correct LP (COBOL, PL/I, Assembler, or C).

If you do not already have compile JCL which uses LP, you have two options for getting started:



- Access the online Compuware Shared Services Compile Facility by selecting option 1 (PREPARE) from the Xpediter/TSO Primary Menu.
- Edit an in-house compile procedure with a DB2 precompile that has been converted to run with Compuware Shared Services (CSS) to create a member in the DDIO dataset. There is no need to change the DB2 precompile step.

The SYSLMOD output from these compiles should **not** be directed to the Xpediter/TSO LOADLIB library, but to a dataset available to your application programmers for training sessions. For example, you could create a dataset named CPWR.XT.TRAINLIB.

To verify that the compile was successful and that a source listing member was created, check the listing under the DDNAME CWPERRM for a message similar to the following:

```
LISTING pgmname DATED nn/nn/nn AT nn.nn.nn SUCCESSFULLY WRITTEN TO CWPDDIO
```

For the TRISPM* programs, if the BIND step is not included in your JCL, bind the successfully compiled program either by following your site standard or by using the online Bind Facility provided by Xpediter/TSO.

Task 10.7.2 Define Sample Stored Procedure to DB2 Subsystem

Define the Xpediter sample stored procedure TRISPT* (provided in SLXTSAMP member TRISPT*) to each DB2 subsystem in which you want to verify Xpediter's DB2 stored procedure support. The SQL statements used to define the stored procedure can be found in the language-specific SLXTSAMP member listed in [Table 19](#).

Table 19 SQL Statement Members

Language	SLXTSAMP Member
COBOL	TRISPT6
PL/I	TRISPTP6
Assembler	TRISPTA6
C	TRISPTC6

To execute these commands, use your site's SQL statement processor, the DB2 SPUFI utility, or the JCL in SLXTSAMP member JCLSQL.

The stored procedure must be defined with

```
'STAY RESIDENT YES'
```

Task 10.7.3 Prepare to Run Test Session

To run the IVPs, you must:

1. Copy the sample WLM JCL (server) provided in the SLXTSAMP member TRIJCLST to a library of your choice, then customize it so that it conforms to your site's standards.
2. Copy the sample JCL provided in the SLXTSAMP member TRIJCLSM to a library of your choice, then customize it so that it conforms to your site's standards. (This job will call the DB2 program TRISPM* that will invoke the Stored Procedure.)

Before proceeding, be sure the following prerequisites have been completed:

- Workload Manager application environments have been defined.
- The test DB2 stored procedure has been defined.
- The sample programs have been compiled, linked, and bound.
- The Xpediter/TSO DB2 Stored Procedure Intercept has been activated.

Task 10.7.4 Perform the DB2 Stored Procedure Verification Test Session

1. Invoke the Xpediter/TSO Primary Menu.
2. Select **4** (STORED PROC) from the Xpediter/TSO Primary Menu.
3. Enter **SETUP** from the Standard test screen.
4. Select **1** (LOADLIBS) from the Setup Menu.
5. On the Load Module Libraries screen, specify the application load library that contains the language-specific IVP load module. Also specify your Language Environment (LE) run-time library (usually CEE.SCEERUN).
6. Press Enter.
7. Select **6** (DSNLOAD) from the Setup Menu.
8. On the DSNLOAD Libraries screen, specify the DB2 Subsystem name and the associated SDSNLOAD Load Library name.

9. Press Enter.
10. Enter **END** or press PF3 until you return to the Process DB2 Stored Procedures screen.
11. Specify the SCHEMA. (The default Stored Procedure IVP definition used **XT**).
12. Specify the Stored Procedure name (**TRISPT***).
13. Specify the UserID associated with the program that will invoke the DB2 Stored Procedure.
14. Specify **Y** on the User Supplied WLM JCL line.
15. Press Enter.
16. The Process Execute JCL screen should be displayed.
17. Specify the customized TRIJCLST dataset/member on the Dataset Name line, then press Enter.
18. Xpediter displays the Select Job Step screen.
19. Type the **I** line command in the field to the left of the step to be tested. (For the IVP, the DB2 WLM program is the first and only program in the JCL.)
20. Type **SUB** on the Command line and press Enter. This will cause Xpediter/TSO to submit the batch job for the test. Once the submitted job has started in an initiator, the stored procedure is ready to be called, and Xpediter/TSO will be ready to redirect clients/callers to that address space.



The stored procedure's batch address space must be started before starting the client application that will call it.

21. Type **STATUS** on the Command line of the Select Job Step screen, then press Enter. The batch job Status screen will be displayed.
22. The batch job that was just submitted must show **Ready** in the **CONNECT** column of the display. If not, press Enter to update the display.
23. When the job shows **Ready**, use split screen or another session to submit the customized TRIJCLSM dataset/member.
24. Return to the **STATUS** screen and type **A** in the **CMD** column next to the DB2 Stored Procedure batch job.
25. Press Enter.
26. The program source will be displayed.
27. Type **GO 1** on the Command line, then press Enter. The execution arrow will be on the next statement. The execution status message indicates that you are:


```
BEFORE program-name:line-number
```
28. Press PF12 (**GO**). You will receive the message "TEST COMPLETED".
29. Continue to press PF12 (**GO**) until you return to the **STATUS** screen.

Task 10.8 Supplemental Information

If you require additional RACF security for Xpediter/TSO DB2 Stored Procedure support, you can find information on implementation in the *Xpediter/TSO and Xpediter/IMS Advanced Configuration Guide*.

If you'd like a better understanding of how Workload Manager (WLM), DB2, and the Xpediter/TSO DB2 Stored Procedure Intercept function, you can find information in the *Xpediter/TSO and Xpediter/IMS Advanced Configuration Guide*.

Milestone 11: Configure BTS Support

If you are installing Xpediter/TSO and Xpediter/IMS with BTS support, you must do program specification block (PSB) gens for the sample programs.



If your site is not using—and does not plan to use—BTS support, skip ahead to ["Milestone 12: Enable High Performance Breakpointing"](#).

Roles Involved

The following person is required for this milestone:



IMS DBA

Tasks

Complete the following tasks to configure BTS support.

Task 11.1 PSB Gens



If you installed IMD/DC support in ["Milestone 9: Configure IMS/DC Support"](#) and have already generated PSBs for XPEDTRAN, XPEDTRNP, XPEDTRNA, and XPEDTRNC, skip ahead to [BTS Installation Verification](#) on page 80.

Create the PSBs required for the BTS sample verification programs.

1. Perform PSBGENs for the Xpediter/IMS programs using your site's standard PSBGEN utility JCL with the corresponding sample library SLXTSAMP members as input.

Table 20 SLXTSAMP Members for PSBGENs

PSBGENs	PSB Source SLXTSAMP Member
ADSIM001	IMS00311
ADSIM013	IMS00312
XPSTOP	IMS00313
ADSIM016	IMS00314

2. Perform the PSBGEN(s) applicable to the Xpediter/TSO option(s) for which your site is licensed.

Table 21 PSBGENs for Licensed Options

Language	PSBGENs	PSB Source SLXTSAMP Member
COBOL	XPEDTRAN	PSBDTRAN
PL/I	XPEDTRNP	PSBDTRNP
C	XPEDTRNC	PSBDTRNC
Assembler	XPEDTRNA	PSBDTRNA

Task 11.2 BTS Installation Verification

To verify that the BTS support is properly customized, the Xpediter IVP programs listed in [Table 22](#) are used.

Table 22 BTS IVP Programs

Language	Program/SAMPLIB Member
COBOL	XPEDTRAN
PL/I	XPEDTRNP
ASSEMBLER	XPEDTRNA
C	XPEDTRNC

Preparations for Testing the BTS IVPs

The programs in [Table 22](#) are contained in the SLXTSAMP library. Use the specific Language Processor (LP) to compile or assemble the sample programs.

Refer to the *Compuware Shared Services User/Reference Guide* for information on using the correct LP (COBOL, PL/I, Assembler, or C).

Optionally, you can access the online Compuware Shared Services Compile Facility by selecting option 1 (PREPARE) from the Xpediter/TSO Primary Menu.

- The COBOL program must be link-edited with a specific entry point:
 - If you compile using the PREPARE option, use the following for the SYSLIN Control field of the LINKEDIT Step panel of the compile:

```
SYSLIN Control Statements:
===> ENTRY DLITCBL
```

- If you compile outside of Xpediter, include the following entry statement in the LKED step:

```
//LKED.SYSLIN DD *
ENTRY DLITCBL
```

- The SYSLMOD output from these compiles should **not** be directed to the Xpediter/TSO LOADLIB library, but to a dataset available to your application programmers for training sessions. For example, you could create a dataset named CPWR.XT.TRAINLIB.
- To verify that the compile was successful and that a source listing member was created, check the listing under the DDNAME CWPERRM for a message similar to the following:

```
LISTING pgmname DATED nn/nn/nn AT nn.nn.nn SUCCESSFULLY WRITTEN TO CWPDDIO
```

Initiating the Verification Test Session

1. Select 2 (TSO) from the Xpediter/TSO Primary Menu.

2. Select **4** (BTS) from the Environments Menu.
3. Type **SETUP** and press Enter.
4. Select **1** (LOADLIBS) from the Setup Menu.
5. On the Load Module Libraries screen, specify the application load library that contains the language-specific IVP load module. Also specify your Language Environment (LE) run-time library (usually CEE.SCEERUN).
6. Press Enter.
7. If the IMS libraries you are using to test the program were not established as site-wide defaults, select **I** (IMS) from the Setup Menu. This lets you override the following DDNAMEs for your test only:

```
IMS      DFSVSAMP  MONITOR   PARMs    PROCLIB
IMSACB   IEFORDER  DFSRESLB  SYSPUNCH
```

8. After all your IMS datasets are specified, enter **END** (or press PF3) until you return to the BTS test screen.
9. Specify the language-specific program in the **Program ==>** field.
10. In the **BTSIN ==>** field, type 'CPWR.XT.SLXTSAMP(BTSIN)'. (Change the high-level node to your standard Xpediter/TSO qualifier.)
11. **Program Type** should be **DLI**.
12. **PARM Passing Option** should be **STD**.
13. Press Enter to begin the Xpediter/TSO debugging session. The screen clears, then displays several lines of BTSOUT data, concluding with the prompt:


```
ENTER BTS COMMAND OR /FORMAT OR /*
```
14. Type *program-name* THIS IS A TEST and press Enter. You will see additional BTS messages, then three asterisks (***)).
15. Press Enter and the source for the program (XPEDTR*) is displayed.
16. Type **GO 1** on the COMMAND line and press Enter. The execution arrow will be on the next statement. The execution status message indicates that you are BEFORE *program-name: line-number*.
17. Press PF12 (GO). On the bottom of the screen and continuing onto the next screen, you receive all your standard BTS output.
18. Press Enter until the program source is once again displayed.
19. Press PF12 (GO). You will receive more BTS messages.
20. Press Enter. This message will be displayed:


```
NON-CONVERSATIONAL INPUT MESSAGE FOLLOWS      THIS IS A TEST
```
21. Press Enter to receive the BTS message:


```
ENTER BTS COMMAND OR /FORMAT OR /*
```
22. Type **/*** and press Enter.
23. Press Enter to return to the Xpediter BTS menu.

Milestone 12: Enable High Performance Breakpointing

Xpediter/TSO and Xpediter/IMS can be configured to utilize a high-performance breakpoint processing methodology. This improved breakpoint system uses a TYPE 6 Supervisor Call (SVC) that significantly reduces the overhead of breakpoint processing. If using the TRAP instruction, the overhead is reduced even more. The result is faster response and run times with less system overhead than traditional breakpoint processing. SVC breakpoint processing is optional, however, and does not need to be installed for Xpediter to function properly.



Although COBOL, PL/I, and C are fully compatible with SVC breakpoint processing, Assembler language requires non-SVC breakpointing.



If your site is not using—and does not plan to use—high-performance breakpointing, skip ahead to ["Milestone 13: Deployment"](#).

Roles Involved

The following people are required for this milestone:



Xpediter/TSO and Xpediter/IMS Installer
z/OS Systems Programmer.

Tasks

Complete the following tasks to implement high performance breakpointing.

Task 12.1 Gather Configuration Information

The following person is required for this task:



Xpediter/TSO and Xpediter/IMS Installer

To implement SVC breakpointing, two items of information are required:

- The name of an MVS APF authorized library
- An SVC number between 200 and 255 inclusive.

If necessary, consult your site's z/OS System Programmer to obtain this information.

Task 12.2 Define SVC Number

The following person is required for this task:



Xpediter/TSO and Xpediter/IMS Installer

The SVC number that you have been given needs to be defined to the MVS operating system. This is done by running the SUPERVISOR CALL Installation Utility program. Sample JCL for executing the utility program is provided in the SLXTINST library, member JCLSVCIN. Refer to the section entitled “SUPERVISOR CALL (SVC) Installation Utility” in the *Xpediter/TSO and Xpediter/IMS Advanced Configuration Guide* for specific details about using the utility program.

Also, Xpediter/TSO and Xpediter/IMS need to be informed of the SVC number. This is done by customizing the options CTLUSVC and CTLSVCNO and, optionally, CTLUTRAP for trap processing. These options can be overridden in the CMSC PARMLIB member.

Task 12.3 Initialize the SVC Call

The following person is required for this task:



Xpediter/TSO and Xpediter/IMS Installer

- Xpediter/TSO and Xpediter/IMS Installer.
- 1. Use the XTUPDATE macro to configure SLXTINST(JCLSVCIN).
- 2. The PARM values are:

```
PARM='OPTION=INSTALL,SVC=sss,WAIT=Y'
```

where *sss* is the SVC number supplied to you by the z/OS Systems Programmer.

- 3. Submit the JCL. It should end with return code 0.

Task 12.4 Configure z/OS to Start the SVC Call After an IPL

The following person is required for this task:



z/OS Systems Programmer

JCLSVCIN must be run after each IPL to re-enable the high-performance breakpointing. If you want JCLSVCIN to run automatically during z/OS startup, perform the following:

1. Copy SLXTINST(JCLSVCIN) to one of your installation PROCLIBs and use XTUPDATE to customize the JCL to run as a batch job.
2. Modify JCLSVCIN to meet your site’s standards for a z/OS startup procedure, replacing the JOB statement with a PROC statement.
3. Verify that the PARM statement’s OPTION parameter is set to INSTALL, the SVC parameter is set to the correct SVC number, and the WAIT parameter is set to Y (Yes).
4. Configure your z/OS system to start JCLSVCIN at IPL time by either:

- Updating your z/OS PARMLIB member COMMNDxx.
- Configuring your automated operations application.

|

An example of the START command is provided in SLXTINST(COMMNDxx).

Milestone 13: Deployment

This chapter contains considerations to be aware of and tasks to perform during deployment of Xpediter/TSO and Xpediter/IMS.

Depending on your environment, you should review ["Milestone 4: Configure Xpediter/TSO and Xpediter/IMS — New Installation"](#) if you are deploying a new install or ["Milestone 5: Configure Xpediter/TSO and Xpediter/IMS — Upgrade"](#) if you are deploying an upgrade.

Roles Involved

The following person is required for this milestone:



Xpediter/TSO and Xpediter/IMS Installer

Tasks

Complete the following task to deploy Xpediter/TSO and Xpediter/IMS.

Task 13.1 Target Library Deployment

Copy the applicable libraries listed in [Table 2](#) to the destination LPAR.

Troubleshooting

This troubleshooting information can help you diagnose installation problems.

Occasionally, problems are encountered when attempting to intercept IMS transactions with Xpediter/IMS. The first section below provides troubleshooting suggestions that can help solve such problems.

In addition, under exceptionally rare conditions, the Xpediter Language Environment interface may experience a problem. If so, correct it by configuring the UserMOD provided in SLXTINST member JCLRA302. Refer to the *Xpediter/TSO and Xpediter/IMS Advanced Configuration Guide* for more information.

Typical Errors

After you verify that the installation of Xpediter/IMS was performed properly, there are four main problem areas to investigate:

- **Pre-launch items:** These items are common to both Xpediter's traditional transaction code swap and the newer UserID support and UserID/data value intercept support. These items can be checked before launching an Xpediter/IMS interactive test or an Xpediter/Eclipse batch test.
- **Launch-time items:** These are items that are checked after an Xpediter/IMS MPP test is launched. Some require the use of IMS commands entered after signing on to the IMS control region.
- **UserID (DFSCTRN0) items and/or UserID/data value intercept (DFSMSCE0) items:** These items should be checked if the installer specified CTLIMSUS=YES in PARMLIB to designate IMS UserID support or UserID/data value intercept support for transaction testing with Xpediter/IMS.
- **IMSplex (IMS Shared Queue) support requires UserID and/or UserID/data value intercept support.**

In addition, the DFSCCMD0 (Command Authorization Exit) supplied by Xpediter/IMS must be installed. For the DFSCCMD0 to receive control, the IMS control region must be started with

```
PARM='A0I1=A'
```

If, after checking the items specified in this troubleshooting procedure, you still have problems intercepting a transaction with Xpediter/IMS, contact Compuware Customer Solutions as described in [Customer Solutions](#) on page 93.

Pre-Launch Items to Check

Determine the following as described below:

- Classes reserved for Xpediter/IMS
- Maximum number of MPP tests allowed
- Total allowed users count.

If there are more users attempting to utilize Xpediter/IMS for MPP testing than the count specified in the maximum number of MPP tests allowed, some intercepts may fail.

If there are fewer users attempting to utilize Xpediter/IMS for MPP testing than the count specified in the maximum number of MPP tests allowed, but the total number of concurrent test sessions (MPP, BMP, and IFP) exceeds the total allowed users count, some intercepts may fail.

For Mainframe Xpediter/IMS Users

1. Launch Xpediter/TSO and navigate to the MPP test screen (2.8).
2. Type **SETUP** on the COMMAND line and press Enter. The Setup Menu is displayed.
3. On the COMMAND line, type **E.I** and press Enter. The test profile options are displayed.
4. On the COMMAND line, type **FIND 'IMS region ID:'** and press Enter. The displayed options file is positioned to the IMS Region ID section.
5. Take note of the following in the Maximum Users Per Region Type section:
 - MPP count
 - Total Users for All Regions count.
6. In the IMS CLASS CODES RESERVED FOR XPEDITER/IMS MPP TEST section, Class Code Numbers fields, take note of the listed class codes.
7. Immediately following the IMS CLASS CODES section is the CONFIGURATION INFORMATION FOR EACH HCI ON A PARTICIPATING LPAR. This section has data on the connections to the Host Communication Interface (HCI) task(s). This data is required for communication between LPARS if IMSplex (IMS Shared Queue) support is implemented. There can be up to 10 connections specified. If IMSplex support is expected and this data is missing or incorrect, transactions may not be intercepted. The Xpediter/IMS log will have more data if a failure occurs.

For Topaz Workbench Users

The IMS Class codes reserved for Xpediter/IMS are stored in the Compuware Shared Profile (CSPF) dataset. Compuware recommends using File-AID/MVS or a similar product to check on the contents of this file. You can also run a batch IDCAMS list utility to examine the CSPF dataset.

Using File-AID to Browse the CSPF Dataset

1. Select the Browse option, type in the dataset name of the CSPF file used by the Host Communication Interface (HCI), and press Enter.
2. Scroll to the Xpediter/TSO record, identified by `XTvrrmmXTDEFLT`s. For example, Xpediter/TSO 17.2 would be `XT170200XTDEFLT`s.
3. Type **FIND MPP** on the Command line and press Enter.
4. Take note of the following:
 - 3-digit Maximum users per MPP count
 - Skip the next 6 digits and take note of the 3-digit Total Users count
 - Immediately following the Total Users count, the 1-byte count (in hexadecimal) of Xpediter/IMS class codes that are reserved
 - Immediately following the class codes count, the actual 3-digit class codes
 - Immediately following the IMS class codes is the Host Communication Interface (HCI) configuration information for each LPAR in a Shared Queue environment. This section has data on the connections to the HCI task(s). This data is required for communication between LPARS if IMSplex (IMS Shared Queue) support is implemented. There can be up to 10 connections specified. Each connection consists of an 8-character LPAR name, a 5-digit Port number, a 50-character Host name (or IP address), and (optionally) an 8-character TCP name.

Using the IDCAMS List Utility to Examine the CSPF Dataset

1. In the IDCAMS output listing, find the line that has `XTvrrmmXTDEFLT`s. For example, for Xpediter/TSO 17.2 it would be `XT170200XTDEFLT`s. Then locate the characters MPP on that line.

2. Take note of the following:
 - 3-digit Maximum users per MPP count
 - Skip the next 6 digits and take note of the 3-digit Total Users count
 - Immediately following the Total Users count, the 1-byte count (in hexadecimal) of Xpediter/IMS class codes that are reserved
 - Immediately following the class codes count, the actual 3-digit class codes
 - Immediately following the IMS class codes is the Host Communication Interface (HCI) configuration information for each LPAR in a Shared Queue environment. This section has data on the connections to the Host Communication Interface task(s). This data is required for communication between LPARs if IMSplex (IMS Shared Queue) support is implemented. There can be up to 10 connections specified. Each connection consists of an 8-character LPAR name, a 5-digit Port number, a 50-character Host name (or IP address), and (optionally) an 8-character TCP name

Launch-time Items to Check

1. Enter Xpediter/TSO and navigate to the desired IMS test on the MPP screen (2.8).
2. Type a transaction and/or program name on the COMMAND line and press Enter.
3. If Xpediter does **not** generate a message stating THE TEST TRANSACTION CAN BE ENTERED, an error has occurred. Type LOG on the command line and press Enter, then look for the following messages:

```

XPD1173 THE TRANSACTION NAME ENTERED IS NOT DEFINED TO IMS.
XPD1023 XPTSO INTERCEPT MODULE module-name NOT IN USER LIBRARY.

```

4. If Xpediter **does** generate a message stating THE TEST TRANSACTION CAN BE ENTERED, check the IMS region for problems as follows:
 - a. Sign on to the IMS region being used with Xpediter/IMS.
 - b. Issue the IMS command **/DIS A**.
 - c. Check the following items:
 - The TSO UserID (or the Batch Jobname if using Xpediter/Eclipse) should display as a message processing region with an associated class. If you do not see the UserID/Jobname, you may have launched the test on a different IMS.
 - No other message processing region should be using the class(es) reserved for Xpediter/IMS. If another message processing region is using a class reserved for Xpediter/IMS, the test will fail.
 - It is possible that a class reserved for Xpediter/IMS is higher than that allowed in the MAXCLAS value specified in the IMSCTRL macro used in the IMS GEN. Have the person responsible for the IMS GEN check IMSCTRL macro variable MAXCLAS= and re-GEN this IMS if the value is less than any of the class codes reserved for Xpediter/IMS. Another alternative is to choose unused class codes that are less than the MAXCLAS value and update Xpediter/IMS and/or the CSPF accordingly.
 - It is possible for the class(es) defined for Xpediter/IMS to be in STOPPED status. If so, IMS will not select messages queued to these classes, making them non-dispatchable. This can be checked and corrected as follows, assuming the user has sufficient authority to issue the required IMS commands:
 1. Issue the IMS command **/DIS STATUS CLASS**.
 2. Examine the output. If the Xpediter/IMS class is STOPPED—and you have the authority to do so—issue the IMS command **/START CLASS class-code**.

UserID (DFSCTRNO) Items and/or UserID/Data Value Intercept (DFSMSCEO) Items to Check

Use the procedures in this section to verify that Xpediter/IMS has been properly configured for UserID support using the DFSCTRNO exit and/or UserID/data value intercept support using the DFSMSCEO exit.

Using the XENV Menu

1. From the Xpediter/TSO Primary Menu, type **XENV** on the OPTION line and press Enter.
2. From the XENV Menu, type **9** on the OPTION line and press Enter.
3. On the COMMAND line, type **FIND CTLIMSUS** and press Enter. CTLIMSUS must = Y for UserID and data value intercept support to function.
4. On the COMMAND line type **END** and press Enter.
5. From the XENV Menu, type **5** on the OPTION line and press Enter. The status shown for the IMS intercept must be **ACTIVE** for the listed LPAR. If not, one of the following will be displayed:

```
XPEDITER IMS INTERCEPT NOT INSTALLED
```

```
XPEDITER IMS INTERCEPT STATUS:INACTIVE
```

6. If the IMS intercept is active on this LPAR, check the IMS Subsystem Names to make sure the desired IMS is being monitored.
7. Note the MAX TRANCODE # associated with the desired IMS.

Verifying Pseudo Transactions are Defined to IMS

Both DFSCTRNO and DFSMSCEO make use of Xpediter/IMS pseudo transactions. These must be defined to the desired IMS. Check this as follows:

1. Sign on to the IMS region that is being used with Xpediter/IMS.
2. Issue the IMS command **/DIS TRAN XPED0***.
3. Press PA1 repeatedly to display the next screen of data until the end of the list is displayed. The number of pseudo transactions defined should match the MAX TRANCODE # noted above. The CLS field should reflect an IMS class that is **not** in use by any Message Processing Region and is **not** one of the classes reserved for use by Xpediter/IMS.

Verifying Exits are Correctly Installed in the IMS Control Region

Check to make sure that the IMS exits DFSCTRNO and/or DFSMSCEO are installed in the IMS control region and that the IMS exits acknowledge the presence of the intercept. If IMS Shared Queue support is enabled, also check that IMS exit DFSCCMD0 is installed in the IMS control region and that DFSCCMD0 acknowledges the presence of the intercept.

Perform the applicable checks as follows:

1. To ensure that the DFSMSCEO and/or DFSCTRNO exit is installed and active in the desired IMS region, use a product that allows viewing of the JES queue (such as SDSF, IOF, or Compuware's X4Z JES viewer) and select the desired IMS control region.
2. Issue a **FIND** against XPD (using the conventions of the product being used).

Messages for the DFSMSCEO exit, if installed, will occur first. The XPD8092 message will list the Xpediter/IMS release, the exit name DFSMSCEO, and the address of the exit in storage. The XPD8080 message will indicate that the PC intercept was active. If the PC intercept has not been activated, or if it was activated after the IMS control region started, an XPD8079 message will indicate that the PC intercept was not active. If no messages are found, the Xpediter/IMS DFSMSCEO exit is not installed in this IMS region.

```

XPD8092 - XPEDITER/IMS vv.rr.mm TRAN ROUT EXIT DFSMSCEO EPA=nnnnnnnn.
XPD8080 - FOUND IMS USER ID SUPPORT SETUP.
XPD8079 - IMS USER ID SUPPORT SETUP NOT FOUND.

```

3. If IMS Shared Queue support has been installed, check to make sure that the DFSCCMD0 exit is installed and active in the desired IMS region. Issue a **FIND** against **XPD** (using the conventions of the product being used). Messages for the DFSMSCEO exit, if installed, will occur first. Press the “repeat find” key (usually PF5) until the message referring to the DFSCCMD0 exit (usually XPD8098) is found, or until no XPD entries are left. If no messages are found, the Xpediter/IMS DFSCCMD0 exit is not installed in this IMS region. The XPD8098 message will list the Xpediter/IMS release, the exit name DFSCCMD0, and the address of the exit in storage. The XPD8097 message will indicate that the PC intercept was active. If the PC intercept has not been activated—or if it was activated after the IMS control region started—an XPD8096 message will indicate that the PC intercept was not active.

```

XPD8098 - XPEDITER/IMS vv.rr.mm MSG AUTH EXIT DFSCCMD0 EPA=nnnnnnnn.
XPD8097 - FOUND IMS USER ID SUPPORT SETUP.
XPD8096 - IMS USER ID SUPPORT SETUP NOT FOUND.

```

Note that message XPD8095 or XPD8094 will also be issued. Xpediter/IMS provides the capability of invoking the site’s original DFSCCMD0 exit (if any) by having the installer rename it to XPIMSMD0. In this situation, the messages will be similar to the following:

```

XPD8095 - MSG AUTH EXIT XPIMSMD0 EPA=nnnnnnnn.
XPD8094 - MSG AUTH EXIT XPIMSMD0 NOT FOUND.

```

4. If installed, check to make sure that the DFSCTRN0 exit is active in the desired IMS region. This exit is not driven until a transaction has been entered in the IMS control region. Issue a **FIND** against **XPD** (using the conventions of the product being used). Messages for the DFSMSCEO exit and/or the DFSCCMD0 exit, if installed, will occur first. Press the “repeat find” key (usually PF5) until the message referring to the DFSCTRN0 exit (usually XPD8078) is found, or until no XPD entries are left. If no messages are found, either no transaction has been entered in this IMS region, or the Xpediter/IMS DFSCTRN0 exit is not installed in this IMS region. The XPD8078 message will list the Xpediter/IMS release, the exit name DFSCTRN0, and the address of the exit in storage. The XPD8080 message will indicate that the PC intercept was active. If the PC intercept has not been activated—or if it was activated after the IMS control region started—an XPD8079 message will indicate that the PC intercept was not active.

```

XPD8078 - XPEDITER/IMS vv.rr.mm TRAN AUTH EXIT DFSCTRN0 EPA=nnnnnnnn.
XPD8080 - FOUND IMS USER ID SUPPORT SETUP.
XPD8079 - IMS USER ID SUPPORT SETUP NOT FOUND.

```

Note that message XPD8076 or XPD8077 will also be issued. Xpediter/IMS provides the capability of invoking the site’s original DFSCTRN0 exit (if any) by having the installer rename it to XPIMSRN0. In this situation, the messages will be similar to the following:

```

XPD8076 - TRAN AUTH EXIT XPIMSRN0 EPA=nnnnnnnn.
XPD8077 - TRAN AUTH EXIT XPIMSRN0 NOT FOUND.

```

Verifying Correct Case for Data Value Intercept

The Xpediter/IMS data value intercept requires use of the DFSMSCEO exit. On the Xpediter/IMS MPP test screen (2.8), values can be entered in the DATA fields using UPPER case, lower case, or MiXeD case. When the transaction is launched, the DATA TRAP portion of the intercept performs a case-sensitive scan of the transaction’s data buffer for the data exactly as entered on the Xpediter/IMS screen. Problems can occur if the correct case was not used.

Customer Solutions

Visit the Compuware Support Center, <https://go.compuware.com>, to find product documentation, knowledge articles, and other technical resources. You can open a case with the Customer Solutions team, order products, and much more.

Contact Customer Solutions by phone:

- USA and Canada: 1-800-538-7822 or 1-313-227-5444.
- All other countries: Contact your local Compuware office. Contact information is available at <https://go.compuware.com>.

Visit Compuware on the web at <http://www.compuware.com> for additional product information.

Information for Customer Solutions

If problems arise, please check your manual for assistance. If problems persist, please obtain the following information before calling Compuware for assistance. This information will help determine the exact cause of the problem as quickly as possible.

1. Identify the release number of Compuware product(s) in use.
2. Identify the operating system.
3. If an abend occurs, note the displacement and the module in which it occurs. If possible, obtain a copy of the system dump.
4. Note the sequence of steps (including all commands issued) that resulted in the problem. Also note any variable data types and programming languages involved.
5. To receive product fixes electronically, be ready to provide your email address.

Checklist of Milestones and Tasks

- ❑ Milestone 1: Ensure Installation and Configuration of Companion Products
 - ❑ Task 1.1 Install/Upgrade Enterprise Common Components
 - ❑ Task 1.2 Apply ECC Maintenance
 - ❑ Task 1.3 Import Xpediter/TSO and Xpediter/IMS License
- ❑ Milestone 2: Install Xpediter/TSO and Xpediter/IMS Using SMP/E
 - ❑ Task 2.1 Ensure Product Integrity
 - ❑ Task 2.2 Follow the Compuware Installation Guide
- ❑ Milestone 3: Configuration Preparation
 - ❑ Task 3.1 Authorize the SLXTAUTH Library
 - ❑ Task 3.2 Provide Users Access to Product Runtime Libraries and Files
 - ❑ Task 3.3 Allow Access for the Xpediter/TSO and Xpediter/IMS Installer
 - ❑ Task 3.4 Multi-Batch Considerations
 - ❑ Task 3.4.1 Set up RACF Rules for Multi-Batch Functionality
 - ❑ Task 3.4.2 Set up ACF2 SAFDEF Records for Multi-Batch Functionality
- ❑ Milestone 4: Configure Xpediter/TSO and Xpediter/IMS — New Installation
 - ❑ Task 4.1 Customize XTUPDATE Macro
 - ❑ Task 4.1.1 Copy SLXTINST(XTUPDATE) into a Library in Your SYSPROC Concatenation
 - ❑ Task 4.1.2 Edit the XTUPDATE Macro
 - ❑ Task 4.2 Configure XPLIBDEF and XPCGDSN
 - ❑ Task 4.2.1 Copy SLXTINST(XPLIBDEF) and (XPCGDSN)
 - ❑ Task 4.2.2 Edit the XPLIBDEF CLIST
 - ❑ Task 4.3 Configure the XOPTIONS File

- ❑ Task 4.3.1 Create a New XOPTIONS File
- ❑ Task 4.3.2 Code the XOPTIONS KEYWORD=*Value* Pair
- ❑ Task 4.4 Implement the CMSC PARMLIB
 - ❑ Task 4.4.1 Create an Initial PARMLIB Member
- ❑ Task 4.5 Configure Multi-Batch Support
 - ❑ Task 4.5.1 Create the Multi-Batch Staging File
 - ❑ Task 4.5.2 Activate Multi-Batch
 - ❑ Task 4.5.3 Configure z/OS to Start Multi-Batch After IPL
 - ❑ Task 4.5.4 Configure the Multi-Batch Communication Task
- ❑ Task 4.6 Perform Initial Verification
 - ❑ Task 4.6.1 Verify Libraries
 - ❑ Task 4.6.2 Verify Base Installation
 - ❑ Task 4.6.3 Verify DB2 Installation
- ❑ Task 4.7 Additional New Installation Configuration
- ❑ Milestone 5: Configure Xpediter/TSO and Xpediter/IMS — Upgrade
 - ❑ Task 5.1 Customize XTUPDATE Macro
 - ❑ Task 5.1.1 Copy SLXTINST(XTUPDATE) into a Library in Your SYSPROC Concatenation
 - ❑ Task 5.1.2 Edit the XTUPDATE Macro
 - ❑ Task 5.2 Configure XPLIBDEF and XPCGDSN
 - ❑ Task 5.2.1 Copy SLXTINST(XPLIBDEF) and (XPCGDSN)
 - ❑ Task 5.2.2 Edit the XPLIBDEF CLIST
 - ❑ Task 5.3 Configure the XOPTIONS File
 - ❑ Task 5.3.1 Reuse Previous XOPTIONS File
 - ❑ Task 5.3.2 Create a New XOPTIONS File
 - ❑ Task 5.3.3 Code the XOPTIONS KEYWORD=*Value* Pair
 - ❑ Task 5.4 Implement the CMSC PARMLIB
 - ❑ Task 5.4.1 Migrate Your Xpediter/TSO Defaults from a Prior Release
 - ❑ Task 5.4.2 Create a PARMLIB Member
 - ❑ Task 5.5 Configure Multi-Batch Support
 - ❑ Task 5.5.1 Create the Multi-Batch Staging File
 - ❑ Task 5.5.2 Activate Multi-Batch

- ❑ **Task 5.5.3 Configure z/OS to Start Multi-Batch After IPL**
 - ❑ **Task 5.5.4 Configure the Multi-Batch Communication Task**
- ❑ **Task 5.6 Perform Initial Verification**
 - ❑ **Task 5.6.1 Verify Libraries**
 - ❑ **Task 5.6.2 Verify Base Installation**
- ❑ **Task 5.7 Additional Upgrade Configuration**
- ❑ **Milestone 6: Configure Topaz Workbench Integration**
 - ❑ **Task 6.1 Configure the CSS Shared Profile Facility (CSPF) Dataset**
 - ❑ **Task 6.2 HCI Task Modification**
 - ❑ **Task 6.3 Verify the Topaz Workbench Integration**
- ❑ **Milestone 7: Configure Batch Connect Support**
 - ❑ **Task 7.1 Define VTAM APPLIDS**
 - ❑ **Task 7.2 Batch Connect Security**
 - ❑ **Task 7.3 Perform Initial Verification**
 - ❑ **Task 7.3.1 Verify Batch Connect Installation**
- ❑ **Milestone 8: Configure IMS/DB Support**
 - ❑ **Task 8.1 Create Input and Database Files**
 - ❑ **Task 8.2 DBD and PSB Gens**
 - ❑ **Task 8.3 IMS/DB Installation Verification**
- ❑ **Milestone 9: Configure IMS/DC Support**
 - ❑ **Task 9.1 IMS Control Blocks Gen**
 - ❑ **Task 9.2 Reservation of Transaction Class Code Numbers**
 - ❑ **Task 9.3 IMS Security Gen**
 - ❑ **Task 9.4 Additional IMS Gens**
 - ❑ **Task 9.5 Activate Xpediter/IMS**
 - ❑ **Task 9.6 Transaction Code Lockout**
 - ❑ **Task 9.7 IMS Requirements for DFSMSCEO**

- ❑ Task 9.8 Create Dummy Xpediter/IMS PSBs and Transactions
- ❑ Task 9.9 Run the Xpediter/IMS UserID Intercept Installation Utility
- ❑ Task 9.10 Configure z/OS to Start the IMS UserID Intercept After an IPL
- ❑ Task 9.11 IMS DC MPP Installation Verification
- ❑ Task 9.12 IMS DC IFP Installation Verification
 - ❑ Task 9.12.1 Initiating the COBOL, PL/I, and C IFP Verification Test Session
 - ❑ Task 9.12.2 Initiating the Assembler IFP Verification Test Session
- ❑ **Milestone 10: Configure DB2 Stored Procedure Support**
 - ❑ Task 10.1 Installation Considerations
 - ❑ Task 10.2 Specify PARMLIB Keywords for DB2 Stored Procedure Support
 - ❑ Task 10.3 Grant DB2 Access to Xpediter/TSO
 - ❑ Task 10.4 Create Workload Manager (WLM) Application Environments
 - ❑ Task 10.5 Activate the Xpediter/TSO DB2 Stored Procedure Intercept
 - ❑ Task 10.6 Configure z/OS to Start the Stored Procedure Intercept After an IPL
 - ❑ Task 10.7 DB2 Stored Procedure Installation Verification
 - ❑ Task 10.7.1 Prepare Sample Programs
 - ❑ Task 10.7.2 Define Sample Stored Procedure to DB2 Subsystem
 - ❑ Task 10.7.3 Prepare to Run Test Session
 - ❑ Task 10.7.4 Perform the DB2 Stored Procedure Verification Test Session
 - ❑ Task 10.8 Supplemental Information
- ❑ **Milestone 11: Configure BTS Support**
 - ❑ Task 11.1 PSB Gens
 - ❑ Task 11.2 BTS Installation Verification
- ❑ **Milestone 12: Enable High Performance Breakpointing**
 - ❑ Task 12.1 Gather Configuration Information
 - ❑ Task 12.2 Define SVC Number
 - ❑ Task 12.3 Initialize the SVC Call
 - ❑ Task 12.4 Configure z/OS to Start the SVC Call After an IPL

- ❑ Milestone 13: Deployment
 - ❑ Task 13.1 Target Library Deployment

