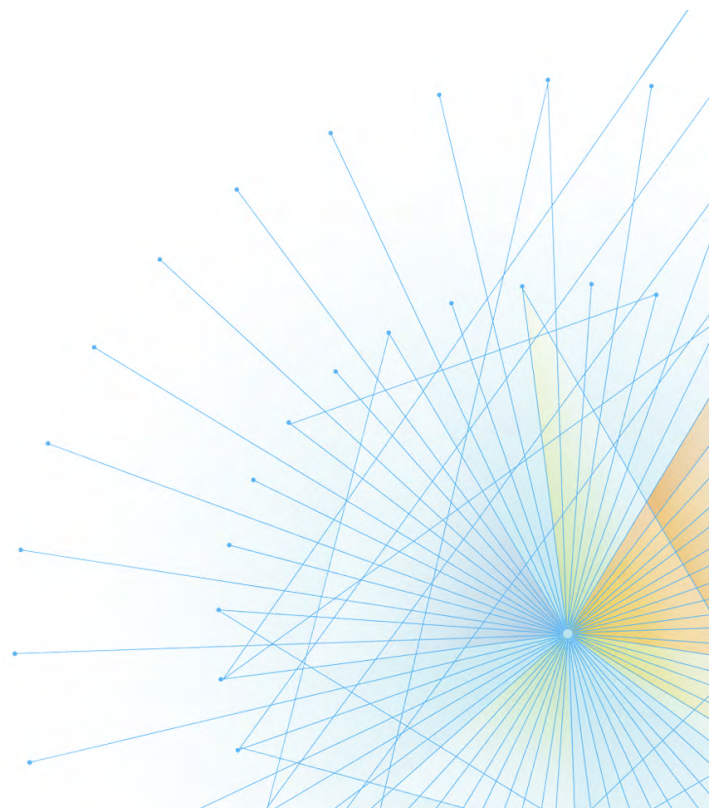




| The Mainframe Software Partner For The Next 50 Years

ISPW Deploy Integrating with CA Endeavor Guide

Release 17.02



Please direct questions about ISPW Deploy
or comments on this document to:

Compuware Customer Support

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

This document and the product referenced in it are subject to the following legends:

Copyright 1984 - 2017 Compuware Corporation. All rights reserved. Unpublished rights reserved under the Copyright Laws of the United States.

U.S. GOVERNMENT RIGHTS-Use, duplication, or disclosure by the U.S. Government is subject to restrictions as set forth in Compuware Corporation license agreement and as provided in DFARS 227.7202-1(a) and 227.7202-3(a) (1995), DFARS 252.227-7013(c)(1)(ii) (OCT 1988), FAR 12.212(a) (1995), FAR 52.227-19, or FAR 52.227-14 (ALT III), as applicable. Compuware Corporation.

This product contains confidential information and trade secrets of Compuware Corporation. Use, disclosure, or reproduction is prohibited without the prior express written permission of Compuware Corporation. Access is limited to authorized users. Use of this product is subject to the terms and conditions of the user's License Agreement with Compuware Corporation.

ISPW, ISPW Deploy, and FrontLine are trademarks or registered trademarks of Compuware Corporation.

CICS, CICS TS, DB2, IBM, IMS, MVS, MVS/ESA, OS/390, RACF, VTAM, and z/OS are trademarks or registered trademarks of International Business Machines Corporation.

Adobe® Reader® is a trademark of Adobe Systems Incorporated in the United States and/or other countries.

All other company and product names are trademarks or registered trademarks of their respective owners.

Contents

Introduction	v
Documentation Availability	v
Online Documentation	v
Accessibility Information	v
Customer Support	vi
Compuware FrontLine Customer Support Website	vi
Contacting Customer Support	vi
Corporate Website	vi
Chapter 1. Overview	1-1
Benefits of ISPW Deploy	1-1
Automated CA Endeavor Integration	1-1
Deploy Model	1-2
Deploy Concepts Diagram	1-3
Deploy Request	1-3
Chapter 2. Installation and Configuration	2-1
Step 1. Install ISPW Deploy	2-1
Step 2. ISPW Application Configuration	2-1
Step 3. ISPW Deploy Configuration	2-2
Step 4. Install ISPW CA Endeavor Package Exit	2-2
Step 5. Configure CA Endeavor to ISPW Mapping	2-2
Step 6. Configure Integration Controls	2-3
Load Module Configuration	2-3
M.ER Entry	2-4
Chapter 3. Using ISPW Deploy for Endeavor	3-1

Introduction

This manual describes the integration facilities provided by ISPW Deploy for CA Endeavor® users. It only covers those features related to integration with Endeavor. For more detailed information on ISPW Deploy, ISPW product installation, and ISPW usage in general, refer to the relevant ISPW manuals.

This manual contains the following chapters:

Chapter 1, “Overview”: Explains the benefits of ISPW Deploy, the automatic integration with CA Endeavor, the ISPW Deploy model, and ISPW Deploy requests.

Chapter 2, “Installation and Configuration”: Describes the main steps required to install and configure the ISPW Deploy for CA Endeavor feature.

Chapter 3, “Using ISPW Deploy for Endeavor”: Provides a brief description of how the automatic ISPW Deploy/CA Endeavor integration is typically used.

Documentation Availability

Online Documentation

The ISPW Deploy product installation package does not include the product documentation. Access the ISPW Deploy documentation from the Compuware FrontLine customer support website at <https://go.compuware.com> in the following electronic formats:

- Release Notes in HTML format
- Product manuals in PDF format
- Adobe PDF index file (PDX file)
- Product manuals in HTML format.

The product documentation is available for viewing or downloading:

- View PDF files with the free Adobe Reader, available at <http://www.adobe.com>.
- View HTML files with any standard web browser.

Accessibility Information

Compuware is committed to making its products and services easier for everyone to use. This section provides information about the features that make ISPW Deploy more accessible for people with disabilities. This section also applies to ISPW Deploy’s features and components.

ISPW Deploy is a mainframe application designed to run on IBM’s z/OS operating systems, utilizing IBM’s ISPF on IBM 327x-type terminals. This platform offers few if any accessibility features in the mainframe environment referenced above. Due to this fact, Compuware Corporation has focused its attention in regard to the accessibility of its mainframe products in the area of emulated 3270 sessions on personal computers (PCs) with Windows operating systems. ISPW Deploy supports and/or does not disrupt, with few exceptions, Windows accessibility features and Windows-based Assistive Technology (AT) devices and software such as Braille devices, screen readers, and magnifiers.

Look for more information on accessibility features on our Compuware FrontLine customer support website at <https://go.compuware.com/>.

Note: ISPW Deploy is a mainframe system development tool intended for use by mainframe systems software developers/programmers. Much of the input and output used and produced by ISPW Deploy, such as program execution statistics, are not easily understood by the general public, nor are they intended to be. Unfortunately, as in the case of ISPW Deploy reports, data/information in these formats by its very nature can be confusing to screen readers, and therefore to those who use them as well. Effective use of this application requires the specialized knowledge of a mainframe systems software developer/programmer.

Customer Support

Compuware provides a variety of support resources to make it easy for you to find the information you need.

Compuware FrontLine Customer Support Website

You can access online information for Compuware products via our FrontLine customer support website at <https://go.compuware.com>.

Compuware FrontLine provides access to critical information about your Compuware products. You can review frequently asked questions, read or download documentation, access product fixes, or e-mail your questions or comments. The first time you access Compuware FrontLine, you are required to register and obtain a password. Registration is free.

Contacting Customer Support

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>.

Web

You can report issues via the Quick Link **Create & View Support Cases** on the Compuware FrontLine home page.

Note: Please report all high-priority issues by telephone.

Mail

Compuware Customer Support
Compuware Corporation
One Campus Martius
Detroit, MI 48226-5099

Corporate Website

To access Compuware's site on the Web, go to <http://www.compuware.com>.

The Compuware site provides a variety of product and support information.

Chapter 1.

Overview

This chapter explains the benefits of ISPW Deploy, the automatic integration with CA Endeavor, the ISPW Deploy model, and ISPW Deploy requests.

Benefits of ISPW Deploy

The ISPW Deploy product was designed to provide an automated and powerful tool to manage the deployments of both mainframe and distributed applications into their runtime environments. It was originally created to provide a seamlessly integrated deployment tool for the ISPW source code management (SCM) product, but its design envisaged a future capability as an independent deployment tool. This capability is now being leveraged for the benefit of CA Endeavor customers who are looking for a better vendor-provided deployment solution.

CA Endeavor users typically had to construct most of their own deployment processes and controls themselves, often using the Endeavor Ship function. While the Ship function has been extended to offer some process management, it still falls short of the deployment model and capabilities that ISPW Deploy provides.

ISPW Deploy delivers a deployment model that better supports the demands of complex runtime environments, as well as the Agile development methods now being adopted by many companies.

Automated CA Endeavor Integration

ISPW Deploy for Endeavor provides for automated integration with the CA Endeavor SCM life cycle process. As shown in Figure 1-1, this version of ISPW Deploy for Endeavor uses Endeavor Packages as the integration point.

A CA Endeavor Package exit is used to automatically notify ISPW when a package of interest has completed processing. This notification will trigger the ISPW Endeavor Deploy Load process in an ISPW-controlled started task.

Configuration options are used to specify the Environments/Stages of interest. It is assumed that Deployment will be required for Packages that contain:

- a MOVE of elements to a specific Environment/Stage at that Stage and/or
- a GENERATE at that Stage.

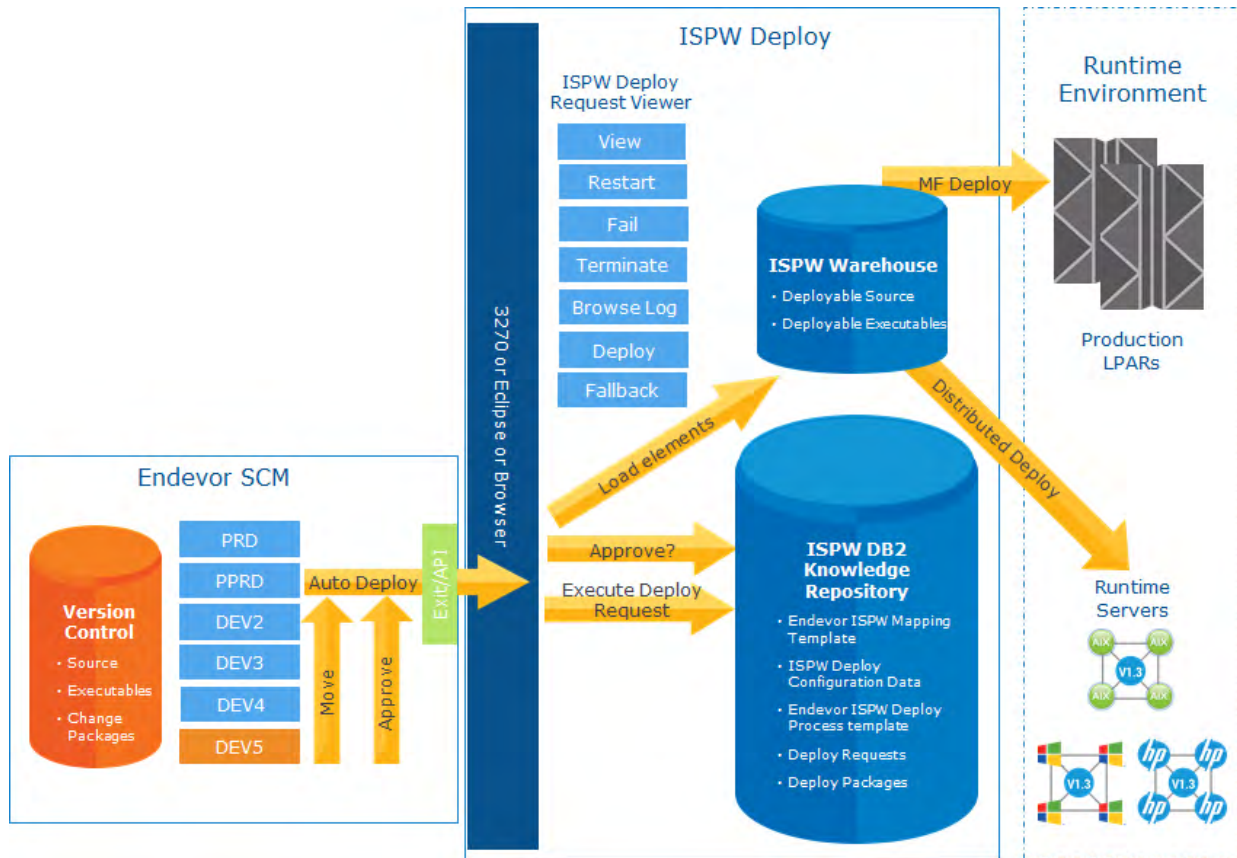
The Deploy Load process uses the CA Endeavor APIs to examine the package contents in conjunction with a user-defined configuration that maps the Elements in the package to an ISPW application. ISPW Deploy uses ISPW *Assignment Containers* that hold ISPW *Tasks* for deployment. The Deploy Load process mapping creates an Assignment Container with a Task for each mapped element.

The source of the Element is loaded into ISPW, and the CA Endeavor Component List feature is used to find and map any outputs, such as LOAD, DBRM, etc., that need to be loaded into ISPW and associated with the Task.

Depending on the configuration options, the Deploy Load process can automatically result in an ISPW Deployment Request being created, which would then be subject to any approvals and scheduling constraints that have been configured within ISPW Deploy.

Alternatively, the selection of the ISPW tasks to be deployed can be carried out manually using one of the ISPW user interfaces (TSO/ISPF or Compuware's Topaz Workbench) or driven by other third party or in-house tools using ISPW-furnished APIs.

Figure 1-1. ISPW Deploy and CA Endevor Integration



Deploy Model

ISPW Deploy lets you model your runtime environments and map how the software components are implemented into those environments.

Some of the key concepts are listed below:

Deploy Environment

This represents the logical execution environment where a specific version of one or more software products is implemented. For z/OS environments, you might consider all of your applications running in Production as a single logical runtime environment, even though they are physically implemented across many LPARs and in different runtime environments (batch/CICS/IMS). As a logical concept, it can also span different platforms.

Deploy Sub-Environment

This can be used to represent the actual runtime environments that are part of a Deploy Environment. ISPW Deploy only requires a Sub-Environment for each

platform (z/OS, Linux, Windows, etc.), but it may be useful on z/OS to use multiple Sub-Environments to manage the different runtime environments you may have.

Deploy Target

The target LPAR (or non-z/OS server) where the software is to be implemented. A Sub-Environment can have multiple Deploy Targets.

Deploy Type

This identifies the different types of components that you want to deploy.

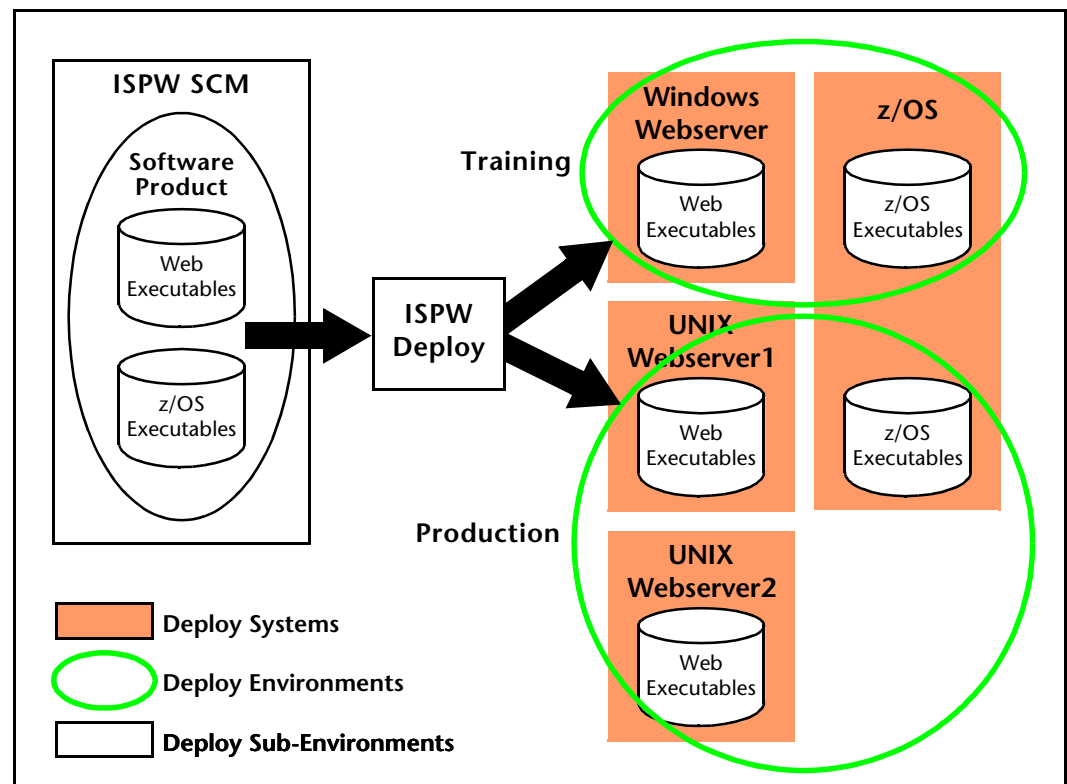
The ISPW administration option is used to define the deploy configuration using the above terminology.

As software changes move through the lifecycle, ISPW uses the Deploy Environment definition to automatically create Deploy Requests.

Deploy Concepts Diagram

Figure 1-2 depicts an example Deploy situation for the purpose of explaining the different concepts. Each section of this chapter makes reference to this diagram to help explain each concept.

Figure 1-2. ISPW Deploy Concepts



Deploy Request

A *Deploy Request* is an instruction to deploy one or more software component parts into a deployment environment. It provides a single point of control for any size of software release.

The runtime components to be deployed within a Deploy Request are automatically organized into one or more Deploy Packages. A Deploy Package has a list of the runtime

component parts that make up that package, which are referred to as Deploy Package Items.

Each Package can have its own processing and scheduling constraints. Dependencies can also be established between packages.

Refer to the *ISPW Deploy Reference* for a detailed description of the Deploy concepts, configuration, and processing.

Chapter 2.

Installation and Configuration

Table 2-1 lists the main steps required to install and configure the ISPW Deploy for CA Endeavor feature.

Table 2-1. Summary of Installation and Configuration Steps

Step	Description
"Step 1. Install ISPW Deploy"	Follow the <i>ISPW Installation and Configuration Guide</i> to get the basic ISPW Deploy product installed and working.
"Step 2. ISPW Application Configuration"	ISPW needs to be configured to have Applications defined that will manage the elements being delivered from CA Endeavor.
"Step 3. ISPW Deploy Configuration"	One or more ISPW Deploy Environments need to be defined that represent your runtime environments where deployment is needed.
"Step 4. Install ISPW CA Endeavor Package Exit"	This defines the ISPW Package exit to your CA Endeavor systems and makes it available to be called during Package processing.
"Step 5. Configure CA Endeavor to ISPW Mapping"	This specifies how elements are mapped into ISPW Deploy.
"Step 6. Configure Integration Controls"	This specifies various parameters which are needed for the connection between CA Endeavor and ISPW.

Step 1. Install ISPW Deploy

Use the *ISPW Installation and Configuration Guide* to install the ISPW Deploy product. This includes an Installation Verification Process (IVP) that tests the main ISPW functions to ensure that all necessary installation steps, configuration of the ISPW started tasks, and necessary authorizations have been carried out successfully.

There is a single installation process for the ISPW product, and the functions allowed within the ISPW product are determined by the license. An ISPW Deploy Only license limits the SCM functions.

Step 2. ISPW Application Configuration

This step concerns the ISPW configuration that is necessary to define applications to ISPW so that Endeavor elements can be loaded into ISPW.

An ISPW Application is usually analogous to a CA Endeavor System/Subsystem. It is a way to organize software components so that they can be managed and controlled through the software development life cycle.

Note: Refer to the section entitled "AD – Application Definition" in Chapter 3, "Maintenance Functions" in the *ISPW Technical Reference Guide* for an explanation of how to add an application.

ISPW Deploy for Endeavor still requires portions of the ISPW SCM Life Cycle. Therefore, it is necessary to configure one or more ISPW Streams (Life Cycle maps). Currently the Deploy Integration for Endeavor is designed to load the elements into the Production life cycle stage. In ISPW a life cycle stage is called a *Level*.

ISPW has a Component Type table that defines all the different types of both source and output components (COBOL, JCL, LOAD, DRBM, etc.). The initial installation creates a sample set which will need to be reviewed and changed as needed.

The Component Types to be supported must then be listed in the Stream definition, and the Warehouse Storage option for these types must be set to Y. This indicates that components loaded into ISPW will go directly into an ISPW Warehouse.

One or more ISPW applications can then be defined. Because the Warehouse Storage option has been selected in the Stream Definition, it is not necessary to specify any life cycle datasets.

Step 3. ISPW Deploy Configuration

ISPW Deploy has several configuration items that are required. The *ISPW Deploy Reference* explains the concepts and configuration items.

Using the *Reference* guide, determine the deploy configuration that matches your requirements, then create the required Deploy Definitions.

Step 4. Install ISPW CA Endeavor Package Exit

The Package Exit program WZZN7 provided in the ISPW base needs to be copied to your CA Endeavor Exit dataset.

Update your C1UEXITS table to add an additional row:

```
@C1UEXIT EXIT#=7,NAME=WZZN7,ANCHID=0,AUTH=YES
```

Note that this exit is not required to run authorized, so could specify AUTH=NO if placed in a non-authorized library, for example for testing.

Step 5. Configure CA Endeavor to ISPW Mapping

The mapping of Endeavor Element source and output components to ISPW tasks is controlled by specifications in four sequential input members. They can be placed in the normal ISPW parameter library or in any dataset of your choosing. The name of the dataset used to hold these members needs to be defined in M.ER entry NPCFGDSN.

The four members required are:

- DLMAPAL
- DLMAPCT
- DLMAPG1
- DLMAPG2.

DLMAPAL maps an Endeavor Environment/System/Subsystem/Stage to an ISPW Application/Stream/Level:

```
*
*  ENV   SYSTEM   SUBSYS   STAGE   --->  APPL  STREAM  LEV
*
C1DEMO  ENV1     SUB1     1           SUB1  NDVR    PROD
C1DEMO  ENV1     SUB1     2           SUB1  NDVR    PROD
C1DEMO  ENV1     V100300  1           PAS1  BASIC   HOLD
C1DEMO  ENV1     V100300  2           PAS1  BASIC   HOLD
```

DLMAPCT maps Endeavor Type to ISPW Component Type:

```

*
* TYPE MAPPING
* =====
*
* NDVR --> ISPW
*
SOURCE      COB
ASM         ASM
ASMSRC     ASM
JCL        JOB

```

DLMAPG1 and DLMAPG2 provide alternate means of identifying ISPW Generated Part Types from available information about the corresponding Endeavor Components.

DLMAPG1 uses the Endeavor Processor information (Proc, Step, and DDname) to map to ISPW Generated Part Type. This is the preferred method and should require fewer entries:

```

*
* PROC  STEP      DDNAME  -->  TYPE
*
ISPWGEN ASMMODS  SYSIN      ASM
ISPWGEN ASMMODS  SYSPRINT  LIST
ISPWGEN LINK     OBJLIB    OBJ
ISPWGEN LINK     SYSLMOD   LOAD

```

DLMAPG2 maps Endeavor Component dataset name to ISPW Generated Part Type. This is an alternative method that is likely require many more entries than using DLMAPG1.

```

*
* DSNAME                                -->  TYPE
*
CW.TECH.NDVRTEST.ENV1.ASM              ASM
CW.TECH.NDVRTEST.ENV1.OBJECT           OBJ
CW.TECH.NDVRTEST.ENV1.LIST             LIST
CW.TECH.NDVRTEST.ENV1.LOAD             LOAD

```

Step 6. Configure Integration Controls

A load module and an entry on the M.ER screen are used to configure the integration between ISPW Deploy and CA Endeavor.

Load Module Configuration

The main configuration/connection information is in non-executable load module WZZN7SCD. Sample source can be found in the ISPW SAMPLIB and is shown below:

```

WZZN7SCD CSECT
XMEMID  DC  CL4'W3T'
SERVERID DC  CL4'W3T'
TSUFFIX DC  CL4'ISPW'
RTCONFIG DC  CL8'W3TINT'
SXPROC  DC  CL8' '          OPTIONAL - MAY BE SPECIFIED IN GPR$NPTL
LOADCT  DC  CL8' '          OPTIONAL - MAY BE SPECIFIED IN GPR$NPTL
END

```

This code needs to be configured and assembled/linked, then made available in a library accessible to the ISPW Deploy Endeavor exit WZZN7.

XMEMID, SERVERID, and TSUFFIX have the same meaning as in the traditional ISPW SCD file. RTCONFIG is self-explanatory, while SXPROC is the proc for the SX to run the ISPW Deploy Load. LOADCT is the CT used to issue the START command for that SX.

M.ER Entry

Entry GPR\$NPTL contains details of the SX GPR started task to be used to run the ISPW Deploy Load function, with the following sample value:

```
ISPWTCT P=ISPWTSX J=ISPWTSX0
```

The first string is the CT which is to issue the START command. The string prefixed P= is the SX procedure name. The string prefixed J= is the SX jobname.

Note that the CT name is mandatory, while procedure name and jobname are optional. Where specified, they can be in either order, but must be separated by spaces.

CT name and procedure name (if coded) will override LOADCT and SXPROC from the WZZN7SCD load module.

Chapter 3.

Using ISPW Deploy for Endeavor

Once all configuration is completed, whenever a Package of interest is completed in CA Endeavor, an ISPW SX started task will be initiated to run the Deploy Load process for the Package.

Successful execution of the Deploy Load process will result in an ISPW Assignment being created which will contain all the Tasks for the Elements that were selected from the Package, based on the mapping configuration.

If the configuration was specified to also trigger a deployment, then it will create a Set or an ISPW Implement operation containing all the loaded Tasks, which will then result in a Deploy Request being created.

