

IBM Installation Manager on z/OS Introduction and 2014 Update

Stéphane LOTH

zTEC technical Support

IBM France

Lothstep@fr.ibm.com



Agenda

- Key concepts : Installation manager and product repositories on z/OS
- Which IMS products require IIM usage
- Initial installation of IBM Installation manager on z/OS
- Using IIM to install IMS products
- Maintenance of IIM and of the product libraries/ZFS
- Installation manager commands and utilities (Demonstrations)

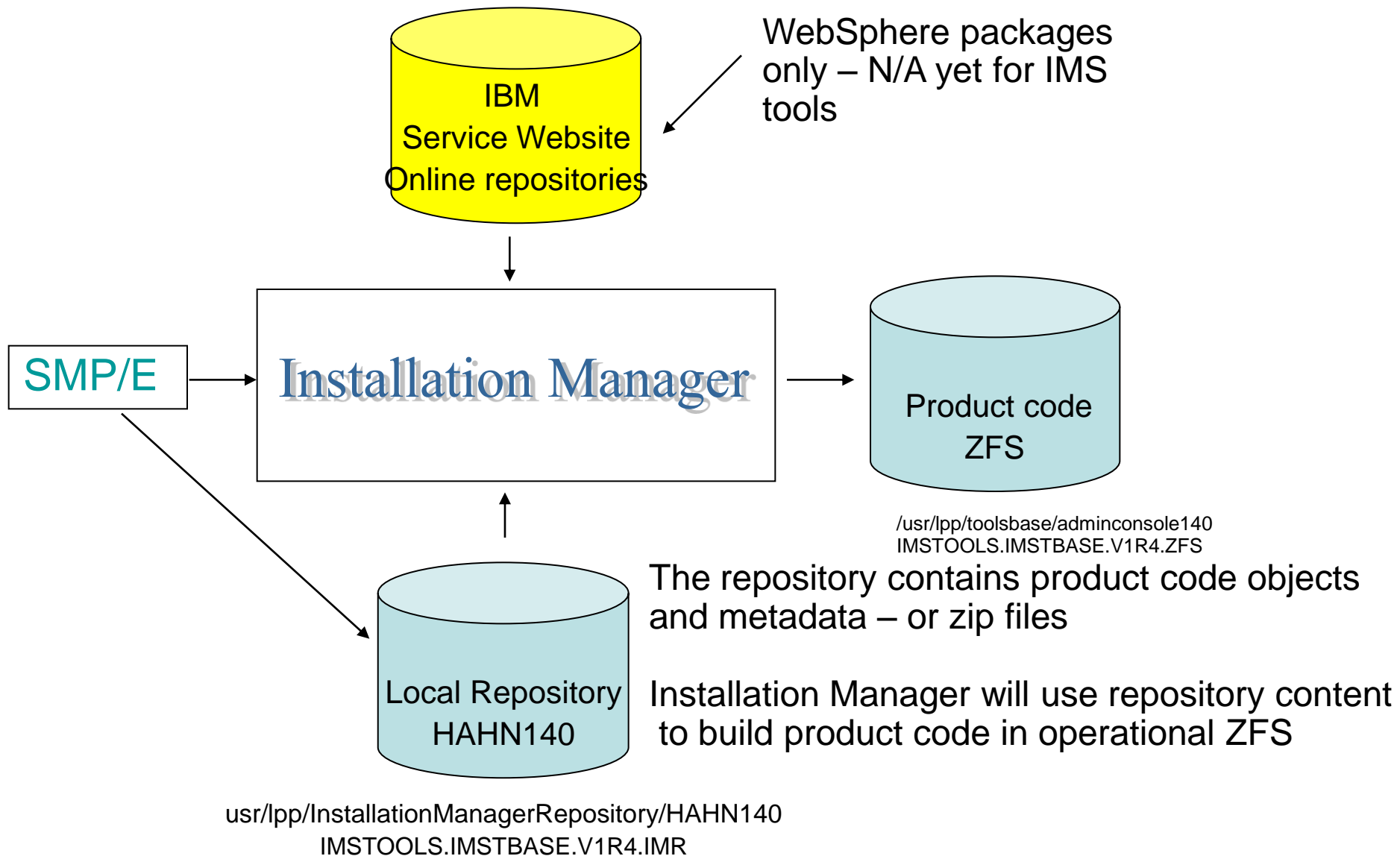
IBM Installation Manager

- Why using IIM for IMS stack products?
 - The admin console delivered in IMS tools base 1.4 is using Websphere Liberty technology
 - Since WebSphere Application Server Version 8, WebSphere based products have moved to a single cross-platform installer: IBM Installation Manager.
 - Allow better coordination between base products, stack products, and feature packs

Which IMS products require IIM usage?

- Any IMS related product deployed on a Liberty runtime server :
 - Tools Base for z/OS HAHN140
 - IMS Library Integrity Utility H27P220 (part of Database solution pack)
 - IMS Gateway Mobile JAHF31A and Soap JAHF311(part of IMS Enterprise suite V3)
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Using IIM on z/OS



What is a product repository

- A repository contains code elements and metadata for one or more product packages. It can also simply include a zip file
- It is a HFS or ZFS file system with subdirectories containing these elements
- A local installation manager will use these elements to build the product code binaries

`/usr/lpp/InstallationManagerRepository/HAHN140`

What is a product repository (cont)

- Regardless of the method used, smpe will now install and potentially maintain a product REPOSITORY, not the operational product ZFS
- Installation Manager can install and maintain the product code using either local or remote (online) IBM repositories. Online repositories are available for WAS, not for IM products at this point.

Terminology - Product repositories and packages

- A Package = an offering = a product to be installed with Installation manager
- Package name without product level :
 - com.ibm.imac IBM Tools base admin console
 - com.ibm.imac.liu Library Integrity Utility
 - com.ibm.ims.sgw IMS Enterprise Suite V3.1 SOAP Gateway
 - com.ibm.websphere.zOS.v85 is Websphere version 8.5 on zOS
 - com.ibm.websphere.IBMJAVA.V70 Java SDK V7.0
 - com.ibm.websphere.liberty.zOS.v85 Liberty Runtime
- Fully qualified package identifier :
 - com.ibm.imac_1.4.0.20140606_1558 IBM Tools base admin console
 - com.ibm.imac.liu_2.2.0.20131120_1320 Library Integrity Utility
 - com.ibm.ims.sgw.imsserver.v31_3.1.0.20130823_1333
 - com.ibm.ims.sgw.imsbase.v31_3.1.0.20130823_1333

Installing a product with IIM on z/OS

1. Create an Installation Manager in your service system
 - Install an Installation Manager toolkit with SMP/E or download it from an IBM site.
 - Use the IM toolkit to create an Installation Manager operational Instance on your service system
2. Create a IIM repository on z/OS (SMP/E)
 - SMP/E will populate a subdirectory with the FMID name
 - Example : `usr/lpp/InstallationManagerRepository/HAHN140`
3. Create the operational product code (ZFS)
 - Installation Manager only
4. Move operational ZFS to test and/or production environment

Step 1 : Obtain the IIM install kit

- When ordering IBM Tools 1.4 , The FMIDs received will include :
 - HAHN140 IBM Tools Base 1.4
 - HTCZ110 Tools customizer
 - HGIN140 Installation manager install kit
- HGIN140 is also part of the IMS Enterprise suite V3R1 package
- HGIN140 is also ordered separately on ShopZ

- What to do next :
 - Start installing the Installation Manager install kit – SMP/E RECEIVE, APPLY, ACCEPT
 - File system WASIM.V1R4.SGINKIT
 - Mounted on /usr/lpp/InstallationManager
 - IIM 1.6.2 is required for IBM Tools Base 1.4

*** IIM install kit is also downloadable on Fix Central

<http://www.ibm.com/support/fixcentral/>

Creating an IIM instance – jobs GIN2CFS and GIN2INST

- Create the IIM operational ZFS (install job GIN2CFS)

- zCreateFileSystem WASIM.GINHFS
- Mounted on /etc/InstallationManager/

- Customize job GIN2INS to populate the IIM zfs with operational code

```
/usr/lpp/InstallationManager/V1R4/groupinstc +  
-installationDirectory /etc/InstallationManager/bin +  
-dataLocation /etc/InstallationManager/appdata +  
  
-acceptLicense
```

- Choose between groupinstc, userinstc, installc

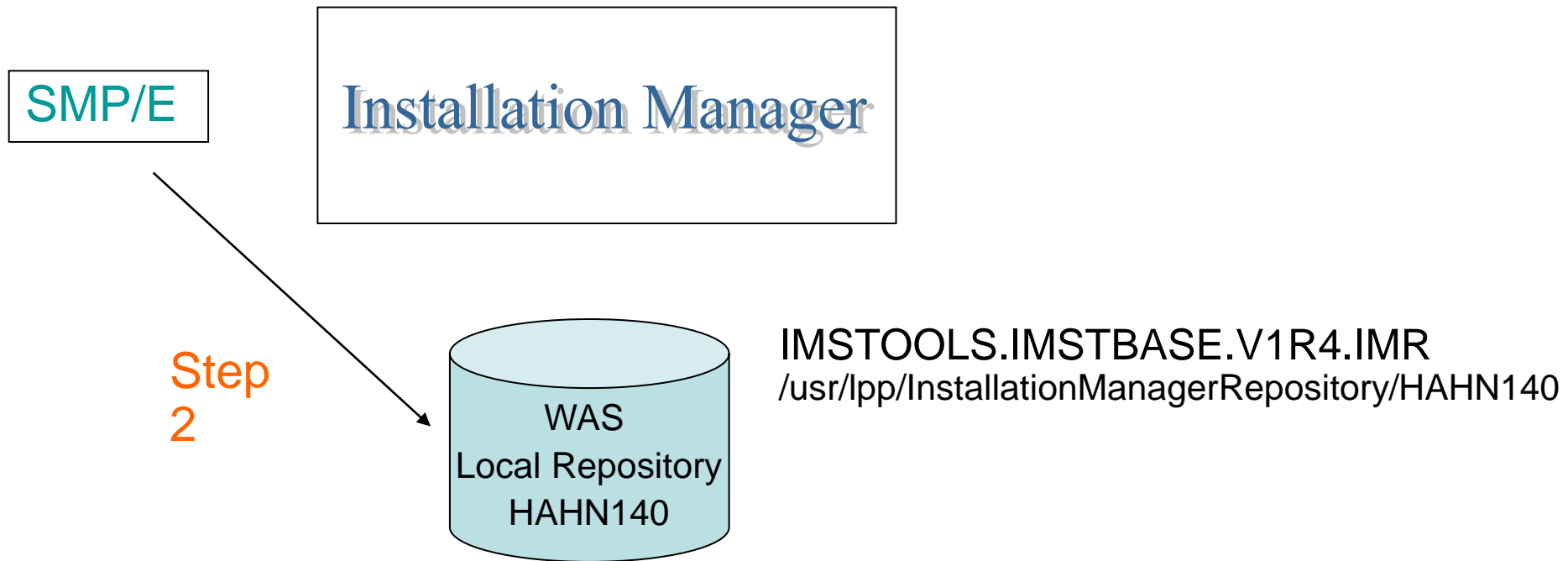
- installc will install your IM in admin mode – only a superuser (uid=0) can invoke the resulting IM instance
- userinstc will install your IM in user mode – only the userid running this job, or a superuser, can invoke the resulting IM instance
- groupinstc will install your IM in group mode – only the users connected to the IMGROUP can invoke IM

Your Installation manager instance - Subdirectories

- **/etc/InstallationManager/bin** will contain the IM binaries
includes imcl, imutilsc, zCreateFileSystem.sh, zMountFileSystem.sh
- **/etc/lpp/InstallationManager/appdata** will contain the IM runtime data
Includes install histories, log files, installregistry xml files

**Your INSTALLATION MANAGER IS NOW OPERATIONAL, READY TO
INSTALL your Liberty-based console – or any other WAS-based product**

Step 2 : Create/populate a local repository

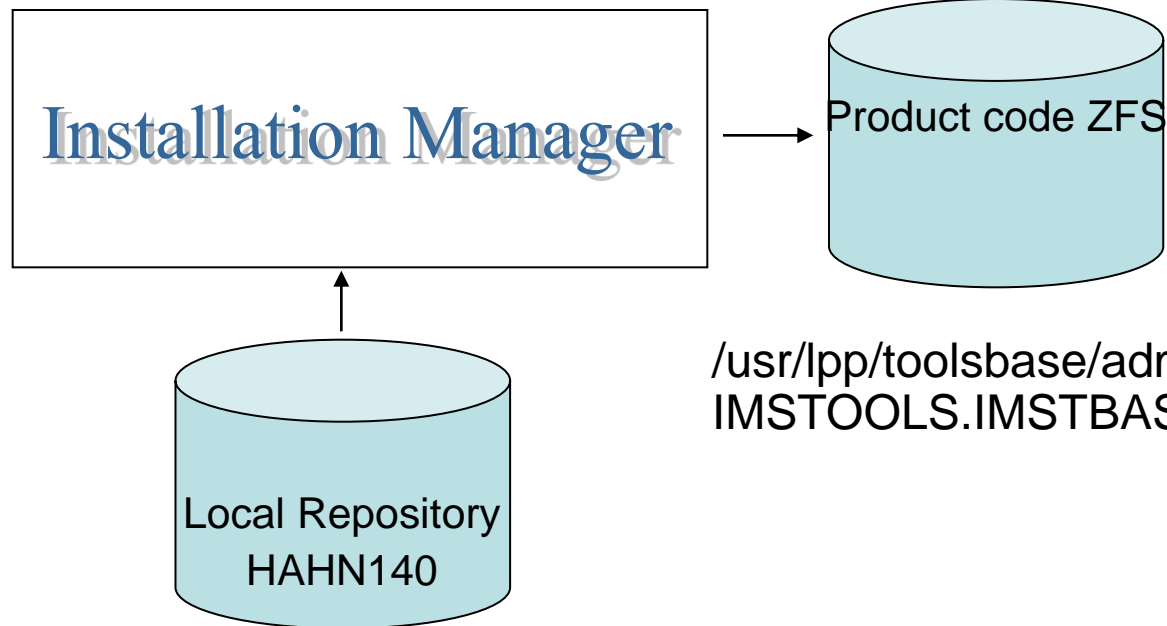


Installation Step 2 – Create product repository –SMP/E

- SMP/E will install the HAHN140 FMID and create a product repository
- The install process (job AIIZFS) will create a zFS called IMSTOOLS.IMSTBASE.V1R4.IMR and mount it at /usr/lpp/InstallationManagerRepository/HAHN140 (this is your console product repository)
- Key point : SMP/E installs or maintains the product REPOSITORY, not the operational product code ZFS; For this, you will be using the Installation Manager.

step 3 – Create operational product ZFS

Step3



/usr/lpp/toolsbase/adminconsole140
IMSTOOLS.IMSTBASE.V1R4.ZFS

IMSTOOLS.IMSTBASE.V1R4.IMR
/usr/lpp/InstallationManagerRepository/HAHN140

Step 3 - Create operational ZFS

1. Allocate and mount your product ZFS – job AIIGCFS

```
/etc/InstallationManager/bin/eclipse/tools/zCreateFileSystem.sh
-name IMSTOOLS.IMSTBASE.V1R4.ZFS
-type ZFS
-volume DMTD01
-cylinders 500 250
-mountpoint /usr/lpp/toolsbase/adminconsole140
-owner IMADMIN
-group IMGROUP
```

2. Installation manager will install the product code in your ZFS - JOB AIIGINS

```
/etc/InstallationManager2/bin/eclipse/tools/imcl +
install 'com.ibm.imac' +
-installationDirectory /usr/lpp/toolsbase/adminconsole140 +
-sharedResourcesDirectory /etc/InstallationManager2/sharedResources +
-repositories /usr/lpp/InstallationManagerRepository/HAHN140/adminconsole140.zip +
-accessRights admin +
-preferences com.ibm.cic.common.core.preferences.preserveDownlo+
adedArtifacts=false +
-properties +
user.enableHttpPortCheckButtonUserData,,com.ibm.imac=true,+
user.httpPortPropertyUserData,,com.ibm.imac=9580,+
user.enableHttpsPortCheckButtonUserData,,com.ibm.imac=true,+
user.httpsPortPropertyUserData,,com.ibm.imac=9543,+
user.zosJavaHomeUserData,,com.ibm.imac=/usr/lpp/java/J7.0_64 +
-acceptLicense -sVP
```


Case of IMS Library Integrity Utilities

- IMS Library Integrity Checker must be installed in the same path of Administration Console of IBM Tools Base for z/OS V1.4
- Installation manager will install the product code in the same path name - JOB HPSAIINS

```
/etc/InstallationManager2/bin/eclipse/tools/imcl +  
  install com.ibm.imac.liu +  
    -installationDirectory /usr/lpp/toolsbase/adminconsole140 +  
-sharedResourcesDirectory /etc/InstallationManager2/sharedResources +  
  -repositories  
/usr/lpp/InstallationManagerRepository/H27P220/liu220.zip +  
  -preferences com.ibm.cic.common.core.preferences.preserveDownlo+  
    adedArtifacts=false +  
  -properties +  
    user.zosJavaHomeUserData,,com.ibm.imac=/usr/lpp/java/J7.0_64 +  
-acceptLicense -sVP
```

Maintenance of IIM

- Fix Central Download of latest IIM install kit or :
- Upgrade fmid HGIN140 with latest PTF
- Then rerun IIM install job GIN2INS
- APAR/PTF table of IIM on z/OS :

<http://www-01.ibm.com/support/docview.wss?uid=swg27023075>

IIM APAR/PTF Table

www-01.ibm.com/support/docview.wss?uid=swg27023075

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APAR/PTF table for IBM Installation Manager for z/OS

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Product documentation

Abstract
This table includes APAR/PTF information for IBM Installation Manager for z/OS

Content
This table includes committed APAR/PTF information for IBM Installation Manager for z/OS.

Notes:
- This table is for reference only. Last updated 17 September 2014.

Availability Date	APAR	PTF	Version
09/16/2014	PI25204	UI21162	1.8.
06/13/2014	PI19104	UI18566	1.7.3
03/15/2014	PI13302	UI15835	1.7.2
12/06/2013	PI07187	UI13121	1.7.1
09/18/2013	PM96652	UK97412	1.7
06/14/2013	PM89385	UK94495	1.6.3.1
03/27/2013	PM83465	UK91935	1.6.2
12/05/2012	PM73429	UK83780	1.6.1
10/04/2012	PM73429	UK82000	1.6.0
06/14/2012	PM66543	UK79476	1.5.3
03/22/2012	PM60434	UK77059	1.5.2

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Document information

More support for:
[WebSphere Application Server for z/OS](#)
[Install SMP/E](#)

Software version:
8.0

Operating system(s):
z/OS

Reference #:
7023075

Modified date:
2014-09-18

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Maintenance of Tools Base ZFS

- SMP/E apply of latest ptf's for HAHN140 (and H27P220 if required) :
 - product repository update
- Rerun install jobs AIIGINS/HPSAIINS
 - imcl install package-name
- Replace test/production ZFS by new level

IIM commands and utilities

- `imcl install`
- `imcl uninstall`
- `imcl listAvailablePackages`
- `imcl listInstalledPackages`
- `imcl version`
- `imcl -f response_file`
- The `imutilsc` command is used to create credentials files for accessing secured repositories.
- `Imcl -c`

Annex (WAS only) : Using both local and online repositories

- You may build a new websphere runtime environment at the latest fix pack by pointing your imcl install to both your initial (local) repository and the IBM online repository

```
imcl install com.ibm.websphere.zOS.v80 +
  -installationDirectory /usr/lpp/zWebSphere/V8R0/ +
  -repositories /usr/lpp/InstallationManagerRepository/HBBO800, +
  http://www.ibm.com/software/repositorymanager/+
  com.ibm.websphere.zOS.v80/repository.config +
  -acceptLicense -keyring /u/sloth/sloth.keyring
```

- This way, you never have to maintain your local WAS repository
 - no more smp/e
 - No more need to take care of SMP/E dasd space for new fix packs
- You may choose to install only the Base WAS 8 FMIDS in your smp/e environment, and access the fix packs remotely : save 50% of dasd space in your repository

Useful links

Infocenter : <http://pic.dhe.ibm.com/infocenter/install/v1r7/index.jsp>

IBM education assistant :

http://publib.boulder.ibm.com/infocenter/ieduasst/v1r1m0/index.jsp?topic=/com.ibm.iea.was_v8/was/8.0/zOS/WASV8_zOS_Installation/player.html

WAS 8.5 info center

http://pic.dhe.ibm.com/infocenter/wasinfo/v8r5/index.jsp?topic=%2Fcom.ibm.websphere.installation.zseries.doc%2Fae%2Ftins_zosspreadsh.html

WAS 8 and IM on z/OS cookbook

<http://www-03.ibm.com/support/techdocs/atmastr.nsf/WebIndex/WP102014>

THANK YOU!

Lothstep@fr.ibm.com

+33 4 67 34 45 76