



IBM Software Group

# IBM WebSphere Application Server V6.1

*Installation : z/OS platform*



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This presentation will show the Installation and configuration process of a WebSphere® Base Application Server V6.1 on z/OS®.

## Agenda

- V6.1 System Structure on z/OS
- System Prerequisites
- Overview of Install Process
- zPMT Customization Panels
  - ▶ Base Application Server

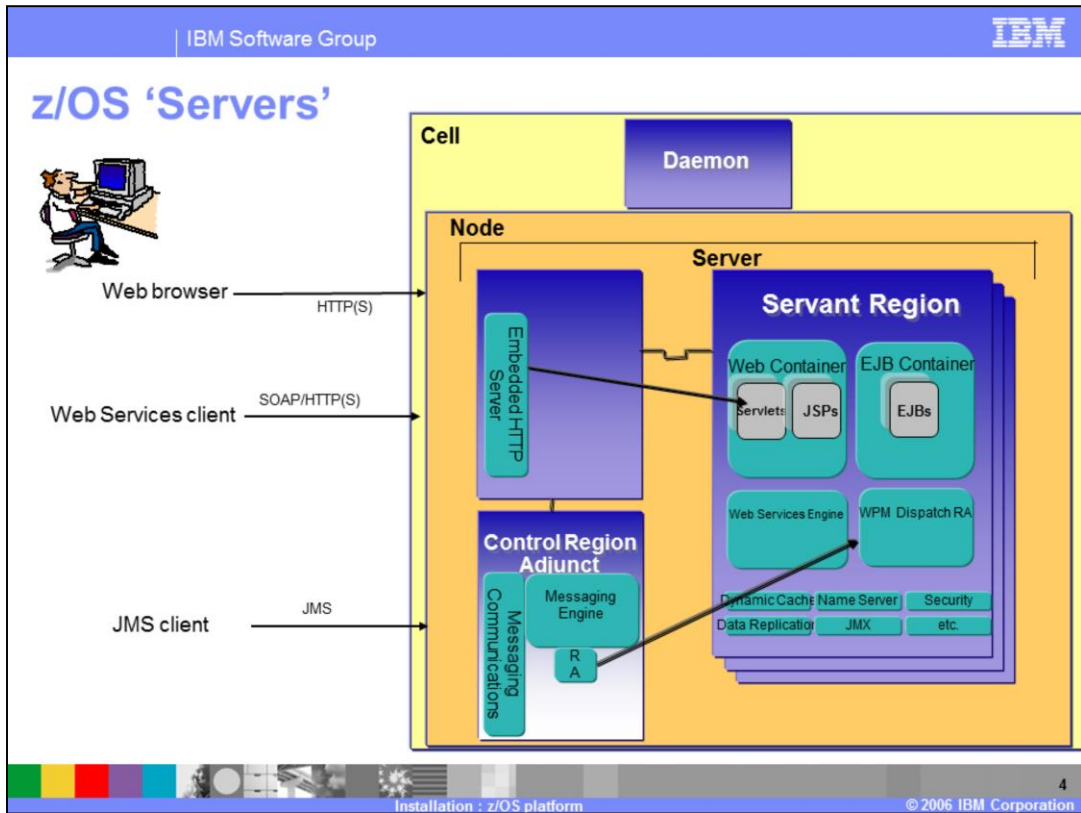


This presentation will briefly introduce WebSphere Application Server V6.1 system structure on z/OS, system prerequisites, a brief overview of the install process, and then cover the new customization tool, zPMT.

## Section

# ***V6.1 system structure on z/OS***

This section will discuss Version 6.1 system structure on z/OS.



WebSphere for z/OS version 6.1 involves the same address spaces as version 6.0.1. The Control Region that is familiar from the V5 days is still there plugging away, taking care of the HTTP communications. The Control Region Adjunct, or CRA, helps out with the messaging communications. Unlike the Control Region which is ALWAYS there, the Control Region Adjunct is only present when the a server becomes a bus member and has a messaging engine created. The messaging engine runs in the CRA, communicating with the Resource Adapter (RA) shown.

## Section

# ***System prerequisites***



This section will discuss system prerequisites.

## Prerequisites

- Hardware requirements
  - ▶ Any hardware that supports z/OS 1.6 or higher or z/OSe 1.6 or higher
- Software requirements
  - ▶ z/OS 1.6 or higher or z/OSe 1.6 or higher with the following features installed, enabled and configured
    - z/OS Communications Server (TCP/IP) or equivalent
    - z/OS UNIX® System Services and the hierarchical file system (HFS)
    - z/OS SecureWay Security Server (RACF) or equivalent security management product
    - z/OS System Logger
    - z/OS Workload management
    - z/OS Resource recovery services
  - ▶ SMP/E Version 3.3



WebSphere Application Server V6.1 requires hardware that supports z/OS V1.6 or higher, or z/OSe V1.6 or higher. The software that is required for WebSphere Application Server V6.1 is, a communications server, HFS, a SecureWay Security Server, such as RACF, system logger, workload manager and Resource Recovery services (RRS). SMP/E Version 3.3 is required for installation.

## Implementation options (optional)

- Optional based on WebSphere Application Server configuration:
  - ▶ IBM HTTP Server for z/OS or equivalent
  - ▶ Lightweight Directory Access Protocol (LDAP) Server
  - ▶ Tivoli® Access Manager (TAM) V6.0



Optional software products that can be used with WebSphere Application Server V6.1 are IBM HTTP Server for z/OS, Lightweight Directory Access Protocol Server, and Tivoli Access Manager.

## Implementation options (optional)

- Optional based on Application Requirements:
  - ▶ DB2® Universal Database Server for z/OS, Version 8
  - ▶ Information Management System IMS v8.1 or later; IMS Connect v2.2
  - ▶ CICS® TS 2.2.0
  - ▶ WebSphere MQSeries® 5.3.1 for OS/390® or z/OS or higher
  - ▶ WebSphere MQ Integrator Broker for z/OS V2.1 or higher



Optional software products based on an application requirements are DB2 for z/OS, IMS v8.1 and IMS connect v2.2, CICS transaction Server 2.2.0, WebSphere MQSeries 5.3.1 and WebSphere MQ Integrator Broker v 2.1.



## Section

# *Overview of installation process*



This section will discuss the installation process.

## Installation on z/OS

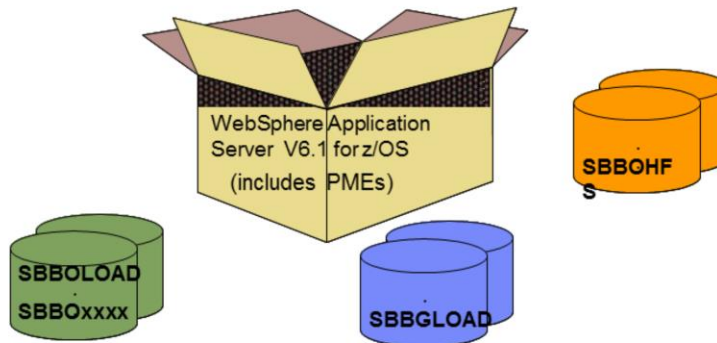
- SMP/E
  - ▶ Product Code now includes SDK
    - Unpaxed automatically during the APPLY process
  - ▶ isclite.ear, filetransfer.ear stays with product binaries even after configured
    - /usr/lpp/zWebSphere/V6R1/systemApps
- ISPF Installation Dialog
  - ▶ Same interface as V6.0
  - ▶ A few new fields/panels to deal with V6.1 changes
  - ▶ Should be able to reuse some of V6.0 values
  - ▶ ex 'BBO.SBBOEXEC(bbowstrt)'



WebSphere Application Server V6.1 installation process is similar to V6.0. The product code now includes the new SDK which is unpaxed automatically during the SMP/E apply process. The adminconsole.ear file has been renamed to isclite.ear. A couple of other 'systemApps' are introduced in V6.1: EventService.ear, wim.ear and wimwmm.ear, which can be found in the product 'systemApps' directory.

The ISPF dialog panels have the same appearance and functionality as V6.0, with a few new fields and panels added to address WebSphere Application Server V6.1 enhancements. V6.0 values can be reused to populate V6.1 ISPF dialog panels.

## WebSphere Application Server V6.1 packaging



Component Name:	WebSphere Application Server for z/OS V6.1
Program Number:	5655-N01
FMID:	H28W610
COMPID:	5655I3500 (same as WebSphere Application Server V.6.0.1)
PSP Bucket:	Upgrade=WASAS610, Subset=H28W610



WebSphere Application Server V6.1 has a couple of packaging changes. There is no longer an SBBOHFS2 shipped as part of the SMP/E installable image, all additional material is shipped on a series of CD's.

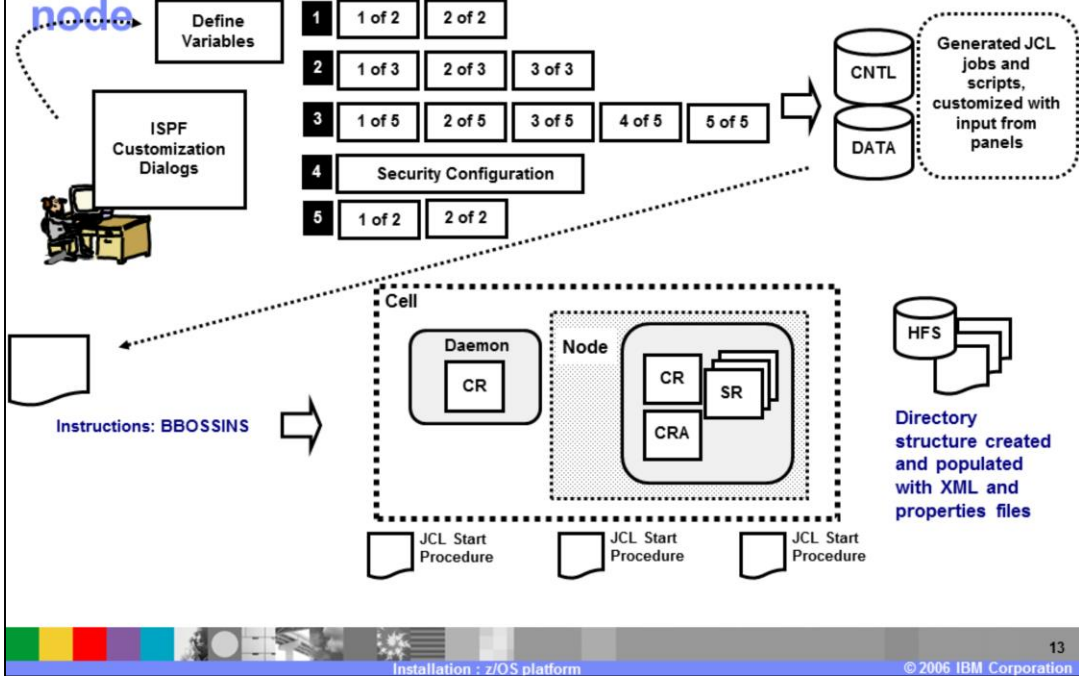
SBBGLOAD is new in the WebSphere Application Server V6.1. SMP/E will require both a new DDDEF and a dataset named <HLQ>.SBBGLOAD. The SBBGLOAD dataset will have the same properties as SBBLOAD.

## Customization environments

Environment	Description
Base Application Server	<ul style="list-style-type: none"><li data-bbox="482 319 1120 344">▪ Configure a z/OS WebSphere Base Application Server with Security</li></ul> 

The new zPMT tool allows WebSphere Application Server V6.1 customization to occur using a workstation. zPMT is in addition to the ISPF dialogs and provide identical function.

# Creating the stand-alone application server node



WebSphere Application Server V6.1 ISPF customization dialog panels have a few changes from V6.0.x. All changes previously shown in the zPMT tool are mirrored in the dialog panels.

## ISPF dialog security customization

- Three options to support security at time of installation
  - ▶ z/OS security product
  - ▶ WebSphere Application Server
  - ▶ No security
- LocalOS options streamlined
- “WebSphere Application Server Owner” user ID created to own configuration file system
- Digital certificate / keyring name changes



Primarily, the WebSphere Application Server V6.1 customization changes were added to support security at the time of installation.

As a result of default security, THREE different options to configure security were available; z/OS security product (SAF/LocalOS), WebSphere Application Server (file-based/WIM), or No Security. Allowing this choice complicated the security configuration. Rather than putting all the security decisions up front, ONLY a minimal set of RACF definitions that are initially needed are defined. All other security setup is deferred until later when you have chosen a security option. Doing this caused many items to be moved from the security setup panels into the individual node or cell setup paths.

LocalOS options have been streamlined, which means that rather than trying to provide all the toggles during the ISPF Customization Dialogs, the basic security setup for each path was provided. The expectation is that once the cell is up and running, you can make additional changes (like SAF versus non-SAF authorization and delegation).

Since the “File-based/WIM” and “No Security” option do not require an administrator and guest to be defined as SAF user IDs, a user ID needed to be defined that would own the configuration file system, the ID “WAS Owner” was created for this purpose.

The names used in digital certificates are being changed to avoid some of the browser security pop-up challenges that happen when the certificate name doesn't match the IP address. Also, the keyring name changed to include the cell name by default, ensuring each cell gets its own certificates and certificate labels were adjusted to avoid overlaps.

Note : The customization scripts ALWAYS create a keyring for the servant ID, and connect the CA cert, when SAF security is specified.

## BBOSSINS: base application server install

Message Translation (optional)	BBOMSGC
Build RACF commands	BBOSBRAJ, BBOCBRAJ
Execute RACF commands	BBOSBRAK, BBOCBRAK
Creates home directories for user IDS.	BBOSBRAM
Create HFS	BBOWCHFS
Populate HFS	BBOWHFS
Copies tailored JCL to PROCLIB	BBOWCPY1
Set up runtime HFS	BBOWWPFA
Complete HFS Initialization	BBOWHFSB
Run the IVT Application	BBOWIVT
Create an error logstream in a coupling facility	BBOERRLC
Create a DASD-only error logstream	BBOERRLD

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Installation - z/OS platform

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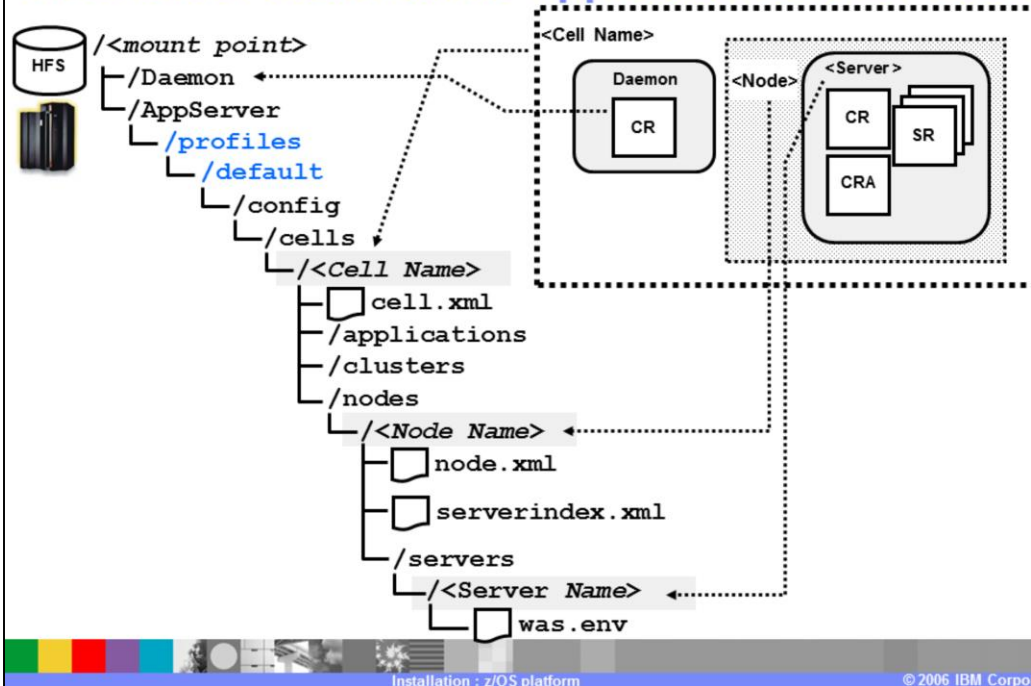
Most jobs are similar to V6.0 jobs. Some have disappeared while a couple are new:

**BBOWWPFA:** A long running job that may cause certain error conditions; such as: an ABEND 522 which indicates that 'all of the tasks in a job step were in an SVC wait state for the time specified in the JWT parameter in the SMFPRMxx parmlib member'.  
**TIME=NOLIMIT** solves the problem. If you receive the 522, you may need to delete the 'default' directory to continue.

You will notice the batch job to create the Web Server (BBOWCFGW) has been removed. The web server will either be configured during the normal "profile" build process, or unlike 6.0.1, the stand-alone administration console in V6.1 will allow you to create a web server definition once the cell is running.



## HFS under stand-alone application server node



All of the configuration information for a Stand-alone Application Server Node is kept in the HFS.

The <mount point> is a directory that serves as the mount point for the HFS file system that will hold this stand-alone application server's information and applications. The name for <mount point> may be anything you want.

Under the mount point you will find two directories -- one for the Daemon server and one for the Application Server. The Application Server directory has been expanded above to show you the details, but be aware that the Daemon directory has a similar structure as well. The "Daemon" name is fixed; the "AppServer" name can be changed.

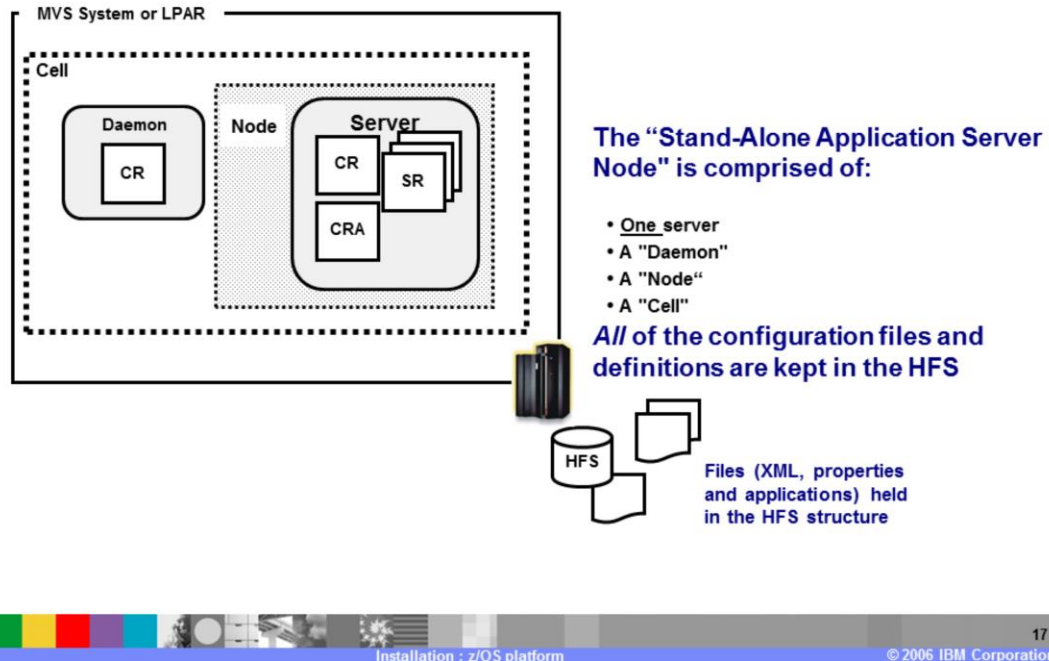
Digging into the "AppServer" directory -- under the /profiles/default/config/cells directory -- you see a directory that will have the same name as you provided for the "Cell Long Name" during the customization for this stand-alone application server.

Notice under profiles you still see default, the "profile" you created on your workstation is not reflected here. The name "default" is always used in WebSphere Application Server V6.1 for z/OS, profiles can not be created or modified directly by customers.

Further down you find a directory -- under the /nodes directory -- there is a directory that bears the same name as you provided for the "Node Long Name."

Finally, down under the /servers directory you will find a directory that has the same name as the name you provided for the "Server Long Name." It is in this directory that a very special file resides: the was.env file. The was.env file is the primary configuration file for the application server.

## V6.1 'Stand-alone' application server node



As in past releases, the WebSphere Application Server V6.1 requires one Daemon per cell, per system or LPAR. The concept of "cells" and "nodes" does not reveal itself when looking at a Stand-alone Application Server Node. It is important to understand that a Base Application Server Node has one node and one cell. The cell/node structure can be found in the HFS underlying the Base Application Server. The V6.1 administration console has no option to add additional servers, hence the 'stand-alone' designation. The control region adjunct address space only becomes relevant after adding the server as a member of a defined service integration bus. This can be done after the stand-alone server is configured, through the administration console or wsadmin scripting.

## Summary

- Nothing radically different in the WebSphere for z/OS V6.1 installation
- Same familiar ISPF install customization
- New zPMT workstation based customization



In this release, the installation process is very similar to V6.0, with the same familiar ISPF customization panels used to configure your WebSphere Base Application Server. The zPMT tool is introduced to provide you with greater customization options.

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