

z/OS
2.5

Upgrading to z/OS V2R5



Abstract for the z/OS Upgrade Workflow

This information supports z/OS® 3.1 and z/OS V2R5, and the IBM® z16™ and IBM z15® servers.

Plan your upgrade to z/OS 3.1

IBM z/OS 3.1 marks a new era in operating system intelligence. The new version of z/OS is planned to provide a framework for infusing AI throughout the system, enabling intelligent systems administration guidance and automation that learns and improves. With z/OS 3.1 as the foundation of a hybrid cloud strategy, enterprises can deploy and colocate Linux®-based applications together with core business workloads and enjoy the unique value propositions of both environments. Built on over 50 years of continuous innovation, research, and development, z/OS is the core computing platform for the world's top financial institutions, insurers, retailers, utilities, governments and more. Designed for high availability with quantum-safe technologies, the new z/OS 3.1 will be a resilient platform for the future of industry's most critical workloads.

Planning information for z/OS 3.1

To help you start planning for z/OS 3.1, the book *z/OS: Planning for Installation* is provided at the following link:

[z/OS Planning for Installation.](#)

This information is intended for planning and instructional purposes. The ordering details in this document become effective upon the ordering availability of z/OS 3.1 at the IBM Shopz website.

Introducing the z/OS 3.1 Upgrade Workflow

The z/OS 3.1 Upgrade Workflow provides the steps for upgrading to z/OS 3.1 from your currently supported z/OS system. When you run the workflow in IBM z/OS Management Facility (z/OSMF), you perform the system upgrade as an interactive, step-by-step process. The z/OS 3.1 Upgrade Workflow uses the latest functions in z/OSMF to provide a smooth upgrade experience.

In the workflow, discovery functions run automatically to further streamline your upgrade experience. Only the upgrade actions that apply to your particular system are identified in the z/OSMF user interface (UI).

The z/OS 3.1 Upgrade Workflow is available in a choice of two z/OSMF workflows, depending on your upgrade path — from z/OS 2.5 or z/OS 2.4:

- `zOS3.1_From_zOS2.5_Upgrade_Workflow.xml`
- `zOS3.1_From_zOS2.4_Upgrade_Workflow.xml`

Depending on whether you are upgrading from z/OS V2R5 or z/OS V2R4, select the workflow that applies to your upgrade path and download it to your system. Then, create the workflow on your z/OS system, as described in [“Creating the upgrade workflow in z/OSMF”](#) on page vi.

IBM provides the upgrade workflows as part of the z/OS product. Updates and fixes for the upgrade workflows are delivered through the standard z/OS service process. To obtain the latest PTFs for the z/OS 3.1 Upgrade Workflow, run the SMP/E REPORT MISSINGFIX command on your z/OS systems and specify a FIXCAT value of "IBM.Coexistence.z/OS.3.1".

The z/OS 3.1 Upgrade Workflow can be run on z/OS releases V2R4, V2R5, and 3.1.

New discovery functions

The z/OS 3.1 Upgrade Workflow includes the following functional enhancements:

- Runs the SMP/E MISSINGFIX report to determine whether any applicable fix category (FIXCAT) APARs should be installed.
- Discovers which upgrade-related APARs are installed, then automatically skip steps for which no actions are required if a given APAR is installed.

New workflow structure

Upgrade actions are now sequenced in the order in which you must perform them, rather than grouped by z/OS element. This enhancement makes it easier for you to track your progress at each stage of the upgrade, as follows:

- **Phase 1: Actions to perform before installing z/OS 3.1** Upgrade actions that you can perform on your existing ("old") system so that you have fewer actions to perform after you install the new release of z/OS. You do not need the z/OS 3.1 level of code to make these changes, and the changes do not require the z/OS 3.1 level of code to run after they are completed.
- **Phase 2: Actions to perform before the first IPL of z/OS 3.1** Upgrade actions that you can perform after you have installed z/OS 3.1, but before the first time you IPL. These actions require the z/OS 3.1 level of code to be installed, but do not require it to be active on your system.
- **Phase 3: Actions to perform after the first IPL of z/OS 3.1** Upgrade actions that you can perform only after you have IPLed z/OS 3.1. You need a running z/OS 3.1 system to perform these actions.

In previous versions of the z/OS Upgrade Workflow, actions were organized by the z/OS element. The new structure helps to simplify the upgrade process by consolidating the steps for each phase of the upgrade.

Introducing the IBM z16 Upgrade Workflow

The IBM Z® platform is recognized for its security, resiliency, performance, and scale—relied upon by businesses around the globe for mission-critical workloads and as an essential element of their hybrid cloud infrastructure. IBM z16, the first IBM Z system that is built with the IBM Telum Processor, extends the platform's capabilities and adds new value with innovative technologies that businesses require as they digitally transform their enterprises.

The IBM z16 uses a 19-inch form factor and industry-standardized power and networking hardware, which easily aligns with the modern cloud data center.

The IBM z16 machine type 3932 is the newest IBM z16 server.

The IBM z16 platform includes the following hardware models:

- Machine type 3931 (Model A01), with five feature codes to represent the processor capacity. The feature codes are 0667, 0668, 0668, 0669, and 0670 with (respectively) 39, 82, 125, 168, and 200 processors. This system is configurable as a one-to-four 19-inch frame system.
- Machine type 3932 (Model A02 and AGZ), with four feature codes to represent the processor capacity. The feature codes are 0672, 0673, 0674, and 0675 with (respectively) 5, 16, 32, and 68 processors. The system is configurable as a single-frame or rack-mount system.

z/OS3.1 can run on the IBM z16 server, and on the earlier IBM Z servers, IBM z15™, z14, and z14 ZR1.

The IBM z16 Upgrade Workflow contains the upgrade steps for the IBM z16 server (all models). These include considerations, restrictions, and actions to take before and after you receive your server, and a checklist of items that are planned to be discontinued on future servers.

In the workflow, references to "z16" pertain to all models and processor configurations of the IBM z16, unless otherwise noted.

The IBM z16 Upgrade Workflow is provided and maintained with z/OS PTFs that are assigned to the following SMP/E fix categories (FIXCATs). IBM z16 A01 installations must use the FIXCATs for machine type 3931. IBM z16 A02 or AGZ installations must use the FIXCATs for both machine types (3931 and 3932).

- Required service for IBM z16 machine type 3931(Model A01):

- IBM.Device.Server.z16-3931.RequiredService
- Required service for IBM z16 machine type 3932 (Model A02 or AGZ):
 - IBM.Device.Server.z16-3931.RequiredService
 - IBM.Device.Server.z16A02-3932.RequiredService

After the PTFs are installed, you can create the workflow on your z/OS system, as described in [“Creating the upgrade workflow in z/OSMF”](#) on page vi.

z/OS V2R5 Upgrade Workflow

The z/OS V2R5 Upgrade Workflow provides the steps for upgrading your system to z/OS V2R5. Two workflows are provided. Depending on whether you are upgrading from z/OS V2R4 or z/OS V2R3, select the workflow that applies to your upgrade path and open it in z/OSMF to begin the upgrade process.

In the workflow, discovery functions run automatically to further streamline your upgrade experience. Only the upgrade actions that apply to your particular system are identified in the z/OSMF user interface (UI).

IBM provides the upgrade workflows as part of the z/OS product. Updates and fixes for the upgrade workflows are delivered through the standard z/OS service process. To obtain the latest PTFs for the z/OS V2R5 Upgrade Workflow, run the SMP/E REPORT MISSINGFIX command on your z/OS systems and specify a FIXCAT value of "IBM.Coexistence.z/OS.V2R5".

The z/OS V2R5 Upgrade Workflow can be run on z/OS releases V2R3, V2R4, and V2R5.

Prior levels of the z/OS Upgrade Workflows for z/OS V2R2, V2R3, V2R4, and z14 are available online at the following location: [z/OSMF workflows for the z/OS platform \(github.com/IBM/IBM-Z-zOS/tree/main/zOS-Workflow\)](https://github.com/IBM/IBM-Z-zOS/tree/main/zOS-Workflow).

Next, you create the workflow on your z/OS system, as described in [“Creating the upgrade workflow in z/OSMF”](#) on page vi.

A better z/OS upgrade experience with z/OSMF workflows

Using a z/OSMF workflow, you can perform a z/OS upgrade as an interactive, step-by-step process. The z/OS Upgrade Workflow uses the latest functions in z/OSMF to provide a smooth upgrade experience.

As of z/OS V2R4, IBM no longer provides a *z/OS Migration* publication. Since z/OS V2R2, the preferred method for learning about migration actions has been the z/OS Upgrade Workflow. Discovering, performing, and verifying many upgrade actions through the z/OSMF Workflows task instead of a more traditional book format allows for a tailored and specific upgrade path that is associated with a particular system. Beginning with z/OS V2R4, IBM provides upgrade tasks in a z/OSMF workflow, as well as a single exported file. By providing the z/OS V2R4 upgrade materials in both formats, users can enjoy the advantages of a z/OSMF workflow and still be able to search, browse, and print in a more traditional format.

Along with the change of format—a workflow instead of a book—is a change in terminology: *Upgrade* instead of *migrate*. In our industry, the process of replacing software with a newer level is most often referred to as *upgrading the software*. In contrast, the phrase *migrating the software* can be taken to mean moving software from one server to another. When you perform the actions that are described in the workflow, you are upgrading z/OS to a newer level of function than the prior release. Thus, *upgrade* is the appropriate term for what these workflows do. Similarly, the z/OS Migration Workflow was renamed to the *z/OS Upgrade Workflow* to better identify that each z/OS release contains a higher level of functionality than the prior release. In the workflow, the term *upgrade* is used in place of *migration*.

With the removal of the traditional *z/OS Migration* publication, it is strongly recommended that you plan for your next upgrade by having z/OSMF ready to use in at least one location in your enterprise. Notice that the exported format of the z/OS upgrade materials that can be read or printed for those without any z/OSMF capabilities is not tailored for your environment.

Creating the upgrade workflow in z/OSMF

Your user ID requires at least READ authority to the workflow XML files and the related .txt files.

For the z/OS 3.1, IBM z16, and IBM z15 workflows, the workflow definition files reside in file path /usr/lpp/bcp/upgrade after you install the associated PTFs on your z/OS system. You might also find the z/OS V2R5 workflows from earlier installations in that directory.

To create an upgrade workflow on your system, do the following:

1. In the z/OSMF Desktop, open the Workflows task.
2. From the Actions menu, select **Create Workflow**. The Create Workflow dialog is displayed.
 - a. Type the name of the workflow definition file that corresponds to the workflow that you want to run:
 - For the z/OS 3.1 Upgrade Workflow, enter either of the following path names, depending on whether you are upgrading from z/OS V2R4 or z/OS V2R5:
 - /usr/lpp/bcp/upgrade/zOS_3.1_from_V2.4_Upgrade_Workflow.xml
 - /usr/lpp/bcp/upgrade/zOS_3.1_from_V2.5_Upgrade_Workflow.xml
 - For the z/OS V2R5 Upgrade Workflow, enter either of the following path names, depending on whether you are upgrading from z/OS V2R3 or z/OS V2R4:
 - /usr/lpp/bcp/upgrade/zOS_V2.5_from_V2.3_Upgrade_Workflow.xml
 - /usr/lpp/bcp/upgrade/zOS_V2.5_from_V2.4_Upgrade_Workflow.xml
 - For the IBM z16 Upgrade Workflow, enter /usr/lpp/bcp/upgrade/z16_zOS_Upgrade_Workflow.xml
 - For the IBM z15 Upgrade Workflow, enter /usr/lpp/bcp/upgrade/z15_zOS_Upgrade_Workflow.xml
 - b. For the **Workflow variable input file**, leave this field blank.
 - c. In the **System** field, specify the system on which you will run the upgrade workflow jobs (the system that you are upgrading).
 - d. To continue, click **Next**.
 - e. Complete the following input fields:
 - In the **Workflow name** field, enter a descriptive name for the workflow.
 - In the **Owner user ID** field, specify the user ID of the person who will perform the workflow.
 - In the **Comments** field, you can optionally enter any information that you want to associate with the workflow (up to 500 characters).
 - Let the **Access type** default to Public, or select a different access type (see the online help for details).
 - Select **Open workflow on finish**.
 - Select **Assign all steps to owner user ID** if you want all of the steps to be assigned to you on creation of the workflow. Otherwise, leave this checkbox cleared (the default).
 - Click **Finish** to create the workflow.

Usage tips

- Use the enhanced discovery functions. Follow the instructions in the first step *"Discover z/OS features in use"* to allow z/OSMF to skip as many inapplicable steps as possible, thus reducing the number of steps for you to perform. The additional discovery includes the option to skip steps that are empty (which have actions that are shown as "None"). In addition, discovery is enhanced to skip over the hardware server levels that you have already upgraded to.
- Some upgrade actions have associated health checks. For those steps, the health check is invoked to determine whether the upgrade action is applicable for your system. Read the instructions carefully on the **Perform** tab before running the health check for important information about each check.

- For the individual upgrade actions and for the entire upgrade effort, you can optionally provide your feedback to IBM. Follow the instructions that are shown in the workflow. You do not need to provide feedback to complete each step of the workflow.

Exported upgrade workflow files

You can generate an exported file from an active z/OSMF workflow at any time. In the z/OSMF Workflows task, select the action **Export Workflow as a Printable Format** in the Workflow Steps table to view options for formatting the workflow as a printable document. After selecting the applicable options, click **OK** to create the output (an HTML file), which opens in a new web browser window. To print the file, select the print function for your web browser.

Although it is recommended that you use the upgrade workflows directly, you might find the following exported HTML files to be suitable for browsing or searching:

- Upgrading to z/OS 3.1:
 - [z/OS V2R5 to z/OS 3.1 Upgrade Workflow](#)
 - [z/OS V2R4 to z/OS 3.1 Upgrade Workflow](#)
- Upgrading to the IBM z16:
 - [z16 Upgrade Workflow](#)
- Upgrading to the IBM z15:
 - [z15 Upgrade Workflow](#)
- Upgrading to z/OS V2R5:
 - [z/OS V2R4 to z/OS V2R5 Upgrade Workflow](#)
 - [z/OS V2R3 to z/OS V2R5 Upgrade Workflow](#)

The files that are listed here are available as HTML files. To request one, send an email request to zosmig@us.ibm.com. In your email, indicate which exported files you'd like to receive and include your email address for receiving the files. The files range in size from approximately 500 KB to 12 MB.



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