sysdumpdev Command

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Purpose

Displays and modifies the information and settings that are related to traditional system dump and firmware-assisted system dump.

Syntax

sysdumpdev **-P** { **-p** *device* | **-s** *device* } [**-q**] [**-i**]

sysdumpdev [**-p** *device* | **-s** *device*] [**-q**]

sysdumpdev [**-d** *directory* | **-D** *directory* | **-e** | **-I** | [**-k** | **-K**] | **-l** | **-p** *device* | **-q** | **-s** *device* | **-z**]

sysdumpdev [**-i**]

sysdumpdev **-L** { **-v** | -S device }

sysdumpdev [**-t** { traditional | fw-assisted }] [**-f** {disallow, allow, require }]

Description

The **sysdumpdev** command changes the primary or secondary dump device designation in a system that

is running. The primary and secondary dump devices are designated in a system configuration object. The new device designations are in effect until you run the **sysdumpdev** command again, or you restart the system.

If you use no flags with the **sysdumpdev** command, the dump devices defined in the **SWservAt** ODM object class are used. The default primary dump device is **/dev/hd6**. The default secondary dump device is **/dev/sysdumpnull**. If the system has 4 GB or more of memory, then the default dump device is **/dev/lg_dumplv**, and **/dev/lg_dumplv** is a dedicated dump device. AIX V7.1 extends firmware assisted dump capabilities to make it as the default system dump method if it is supported by the platform.

Note

- A mirrored paging space might be used as a dump device.
- Do not use a diskette drive as your dump device.
- If you use a paging device, only use hd6, the primary paging device. The AIX® operating system supports using any paging device in the root volume group (rootvg) as the secondary dump device.
- If you use a removable device such as a tape or DVD, be aware that the dump does not span volumes. Thus, the dump must fit on a single volume.
- You can configure an iSCSI software initiator device in the root volume group (rootvg) as the dump device for a firmware-assisted system dump, for AIX Version 6.1 with the 6100-01 Technology Level.
- Remote dumps for thin servers are supported for AIX 6.1. You must define the relative dump resource on the NIM master to see the dump resource on the NIM client as an iSCSI disk that can only be used to configure the primary dump device. Only firmware-assisted system dump can be configured on an iSCSI disk device.
- For AIX Version 6.1 with the 6100-06 Technology Level, you can configure a firmware-assisted dump of kernel memory.

For AIX 6.1 and later versions, all dumps are compressed. You should use the **savecore** command to copy dumps from the dump device to a file.

The **sysdumpdev** command supports firmware-assisted system dump for the following features:

- Return of dump size estimation
- Display of information about most recent dump
- Detection of a new dump

The sysdumpdev command also provides the dump type including the traditional dump type or the fw-assisted dump type.

The **-t** flag specifies the type of dump. Its possible values are traditional and fw-assisted.

The **-f** flag specifies the full memory system dump mode. This mode is relevant only for the firmware-assisted system dump. In this mode, the dump is performed independently of the operating system. All of the partition memory is saved to the dump.

Running sysdumpdev in Non-rootvg Volume Groups

You can use a dump-logical volume outside the root volume group, if it is not a permanent dump device and for a traditional system dump only. For example, if the **-P** flag is not specified. However, if you choose a paging space, the dump device cannot be copied unless it is in rootvg. If the dump device must be copied, only rootvg is active before paging is started.

The primary dump devices must always be in the root volume group for permanent dump devices. The secondary device might be outside the root volume group unless it is a paging space.

Flags

Item	Description
-d *directory*	Specifies the *directory* the dump is copied to at system boot. If the copy fails at boot time, you can use the **-d** flag to ignore the system dump.
-D *directory*	Specifies the *directory* the dump is copied to at system boot. If the copy fails at boot time, you can use the **-D** flag to copy the dump to an external media.

> **Note:** When using the **-d** *directory* or **-D** *directory* flags, the following error conditions are detected:
>
> - *directory* does not exist.
> - *directory* is not in the local journaled file system.
> - *directory* is not in the **rootvg** volume group.

-e	Estimates the size of the dump (in bytes) for the current running system. The size that is shown is the estimated size of the compressed dump.

Item	Description
-f{ disallow | allow_kernel | require_kernel | allow_full | require_full }	Specifies whether firmware-assisted system dump does allow, require or forbid the dump of either the kernel memory or the full memory. In kernel memory or full memory mode, the dump is performed independently of the operating system. All of the kernel relevant memory is saved to a kernel memory system dump. All of the partition memory is saved to a full memory system dump. The **-f** flag has the following variables: • The disallow variable specifies that neither the full memory system dump mode nor the kernel memory system dump mode is allowed. It is the selective memory mode. • The allow_full variable specifies that the full memory system dump mode is allowed but is performed only when operating system cannot properly handle the dump request. • The require_full variable specifies that the full memory system dump mode is allowed and is always performed. When the full memory dump is allowed, the dump size estimation specified with the **-e** flag corresponds to the memory size with the applied compression factor.
-i	Indicates that the **sysdumpdev** command was called from a system function. This flag is only used by system utilities. The **-i** flag will not make the requested change if the effected value has already been modified by other than an automatic IBM® function; that is, the **-i** flag will not override a previous change.
-I	Resets the indications of previous changes. After the **-I** flag is specified, changes

	are allowed with the **-i** flag.
-k	If your machine has a key mode switch, it is required to be in the service position before a dump can be forced with the dump key sequences.
-K	If your machine has a key mode switch, the reset button or the dump key sequences will force a dump with the key in the normal position, or on a machine without a key mode switch. Note On a machine without a key mode switch, a dump can not be forced with the key sequence without this value set.
-l	Lists the current value of the primary and secondary dump devices, copy directory, and **forcecopy** attribute. The **-l** flag also displays the current dump type. The following list indicates the possible values that are displayed: • **fw-assisted**: The preferred dump type is firmware-assisted system dump. • **fw-assisted (suspend)**: The preferred dump type is firmware-assisted system dump, but the primary dump device is either not configured or it does not support firmware-assisted system dump. In the latter case, a traditional system dump is triggered. • **traditional**: Only the traditional system dump is available after the **sysdumpdev -t traditional** command. It might also because the firmware-assisted system dump is not supported on this system. To support firmware-assisted system dump, there must be sufficient memory when the system starts up, and POWER6® or later hardware and the supported firmware must be installed.
-L	Displays statistical information about the most recent system dump. This includes date and time of last dump, number of bytes written, and completion status. The **-L** flag shows both the compressed size and the uncompressed size of the dump. The compressed size is the size of what was actually written to the dump device. If no previous dump was recorded in nonvolatile memory, this flag scans the dump devices for the existing dump. Note: 1. The dump sizes shown might not reflect the exact size of the dump on the media. There can be a small difference because of disk and copy block sizes.

2. If the dump has failed due to an I/O error, the major and minor device numbers will be those for the failing device.

-P Makes permanent the dump device specified by **-p** or **-s** flags. The **-P** flag can only be used with the **-p** or **-s** flags.

-p *device* Temporarily changes the primary dump device to the specified device. The device can be a logical volume, writable DVD, or a tape device or an iSCSI disk configured by NIM for remote dump.

-q Suppresses all messages to standard output. If this flag is used with the **-l**, **-z**, or **-L** flag, the **-q** flag will be ignored.

-s *device* Device Temporarily changes the secondary dump device to the specified device. The same devices valid for the **-p** flag are valid here.

-S *device* Scans a specific dump device for a valid compressed dump. The dump must be from an AIX release with parallel dump support. This flag can be used only with the -L flag.

-t{ traditional | fw-assisted } Specifies the type of dump to perform. The **-t** flag has the following variables:

- The traditional variable specifies that the traditional system dump is performed. In this dump type, the dump data is saved before the system reboot.
  Under any of the following circumstances, you can only specify the traditional variable:
  - Firmware-assisted system dump is not supported.
  - Memory is not sufficient when the system starts.
  - POWER6 or later hardware is not installed.

  You cannot use the traditional system dump on an iSCSI software initiator dump device.

- The fw-assisted variable specifies that the firmware-assisted system dump is performed. In this dump type, the dump data is saved in parallel with the system reboot. If the system starts in a low memory configuration, you must explicitly enable the full memory dump using the **-f** flag, especially

	in iSCSI software initiator configuration where firmware-assisted system dump cannot fall back on the traditional system dump if the full memory dump is not allowed. If you specify the fw-assisted variable but the primary dump device is either not configured or it does not support firmware-assisted system dump, a traditional system dump is triggered.
	When the firmware-assisted system dump type is not allowed at configuration time, or is not enforced at dump request time, a traditional system dump is performed. In addition, because the scratch area is only reserved at initialization, a configuration change from traditional system dump to firmware-assisted system dump is not effective until the system is rebooted.
-v	When the dump status is not 0, this option will display available dump debug information. The debug data, when available, is used by service to diagnose dump failures. This flag can only be used with the **-L** flag.
-z	Determines if a new system dump is present. If one is present, a string containing the size of the dump in bytes and the name of the dump device will be written to standard output. If a new system dump does not exist, nothing is returned. After the **sysdumpdev -z** command is run on an existing system dump, the dump will no longer be considered recent.

If no flags are used with the **sysdumpdev** command, the default dump devices are used.

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