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1 Configuring HAM

1.1 Introduction

High availability module (HAM) is a self-developed system high availability (HA) technology. It monitors exceptional exit of software processes of a device to automatically start the processes or monitors frequent restart of a software process to automatically restart the device, thus quickly and automatically restore services. Used during patch upgrade, this function can prevent device reset due to patch upgrade exceptions.

1.2 HAM Application

HAM is mainly used for:

- Software process HA service: When a software process exits abnormally, HAM automatically starts the software process to restore services.
- Device restart service: When a software process restarts frequently, HAM attempts to automatically restart the device to restore services.

Typically, the HA service of one frequently restarting process is enabled on all devices. You can run command line interface (CLI) commands on the master device to enable/disable this service and synchronize the service status to other non-master devices. During a patch upgrade, a process may restart due to an abnormal process. If the device automatically restarts, traffic may be interrupted. Therefore, you must disable the HA service of one frequently restarting process. After a patch upgrade, you can enable the HA service of one frequently restarting process when confirming that no process restarts frequently.

Caution

If you disable the HA service of one frequently restarting process by running a command, services may not automatically be restored to normal because some processes frequently restart due to no automatic restarting of the device. As a result, failure time prolongs.

1.2.1 Detection Process

HAM monitors kernel advertisements to perceive the status of an abnormal process and automatically restores services based on the following rules:

- If one process exits five times within two minutes, HAM attempts to start the process five minutes later.
- If a process restarts twice within 10 minutes, services cannot be restored. In this case, you must restart the device to restore them.

1.3 Configuring the HA Service of One Frequently Restarting Process

1. Overview

When one process exits abnormally, you can automatically restore services by configuring the HA service of one process that restarts frequently. You can further determine the exception to check whether the device needs to be restarted to restore services.

2. Restrictions and Guidelines

If one process frequently restarts, disabling its HA service may lead to a longer failure time. Therefore, you are advised to enable the configuration in scenarios other than patch upgrades.

3. Procedure

- (1) Enter the privileged EXEC mode.

enable

- (2) Disable the HA service of one frequently restarting process.

no ham single-process-ha auto-restart enable

The HA service of one frequently restarting process is enabled by default.