

# **VMware ESXi 5.0, 5.1, 5.5 Shutdown Method**

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## Shutdown Method of the ESXi 5.x host

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VMware ESXi(host) is not available to install a software.

Mount LAN Interface Card (hereinafter referred to as “LAN card”) into the UPS to control shutdown function via network.

Shutdown function to the host is available as the following methods.

1. Connect to the ESXi(host) via SSH to shutdown by the LAN card.
2. Install the vMA (VMware vSphere Management Assistant) in the host to shutdown using vMA.

## Shutdown Method of the ESXi 5.x (by SSH login)

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Make SSH connection setting available, and change SSH server setting file (sshd\_config) to connect by the UPS (LAN card).



The ESXi(host) will be shutdown using SSH by the UPS.

Guest OS will be shutdown by either of the following methods.

- 1: Install the UPS Management Software (hereinafter referred to as the SANUPS SOFTWARE) on each guest OS.
- 2: Execute shutdown command to each OS by the ESXi(host).

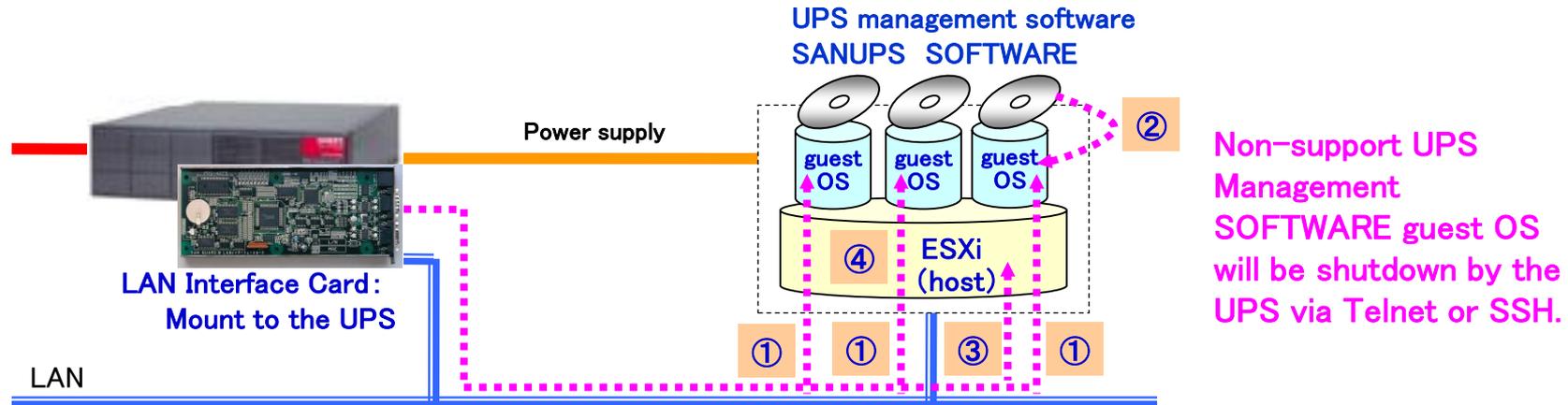
※After the power-recovery, release maintenance mode by the LAN card via SSH to start guest OS.

### (Caution)

- A royalty-bearing license of the VMware ESXi is required to shutdown the VMware ESXi!
- Make sure to install the VMware Tools on each guest OS.

## Method 1 (Install the SANUPS SOFTWARE on guest OS)

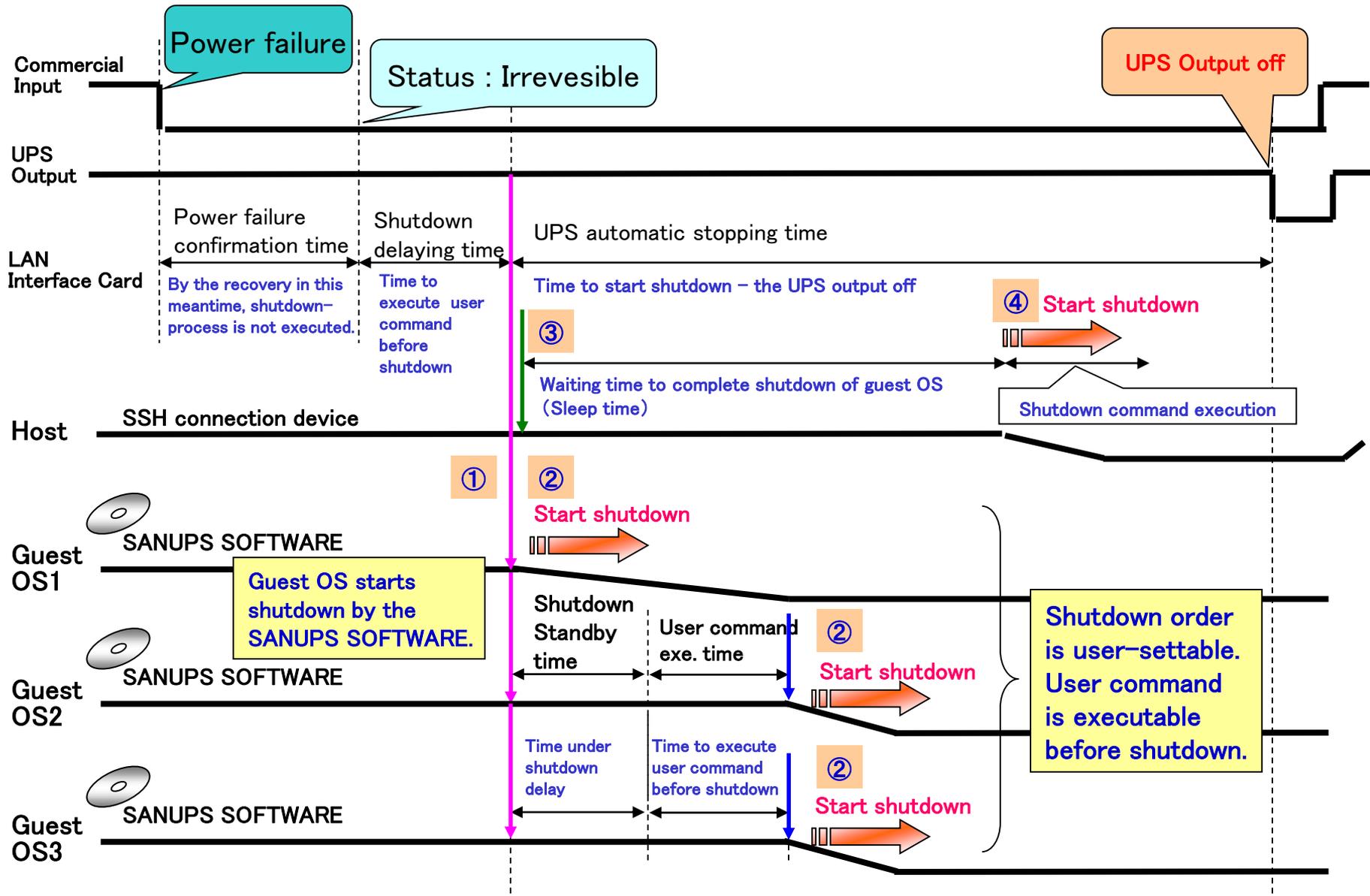
Guest OS will be shutdown by installing the SANUPS SOFTWARE. The ESXi(host) executes shutdown command of the host via SSH.



### Shutdown method

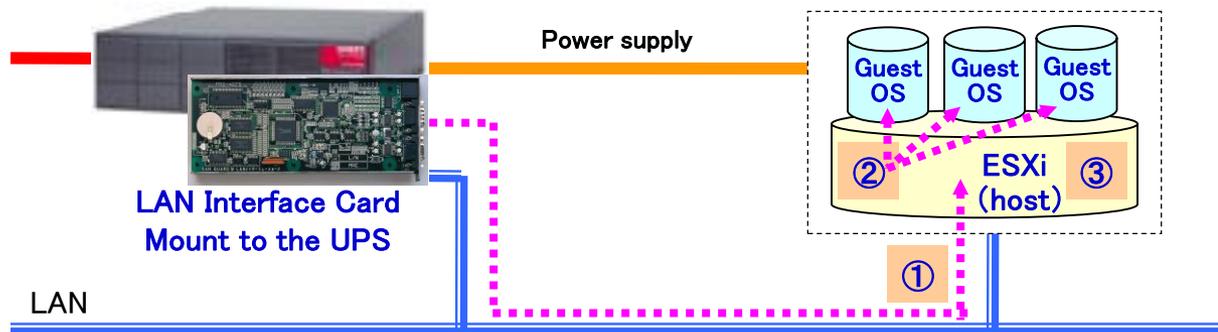
1. Notify the SANUPS SOFTWARE of shutdown order to guest OS by the UPS(LAN card).
2. Shutdown the guest OS by the SANUPS SOFTWARE.
3. Connect to ESXi(host) by the UPS(LAN card) via SSH.
4. After shutdown completion time of guest OS, execute shutdown command of the host.

# Sequence 1 (Install the SANUPS SOFTWARE on guest OS)



## Method 2 (The host execute shutdown command to guest OS)

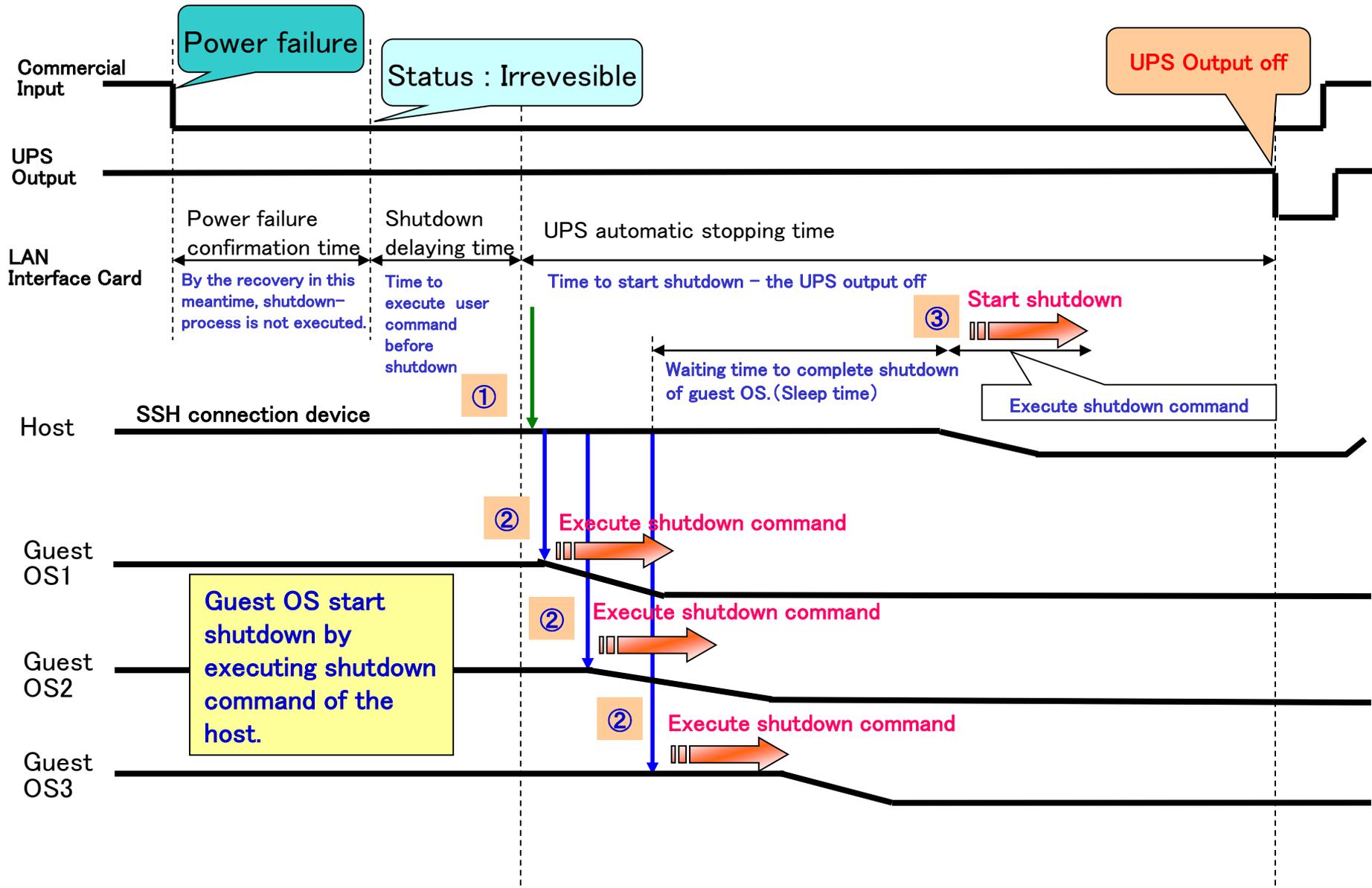
Execute shutdown command of guest OS and the host by connecting to ESXi(host) via SSH.



### Shutdown Method

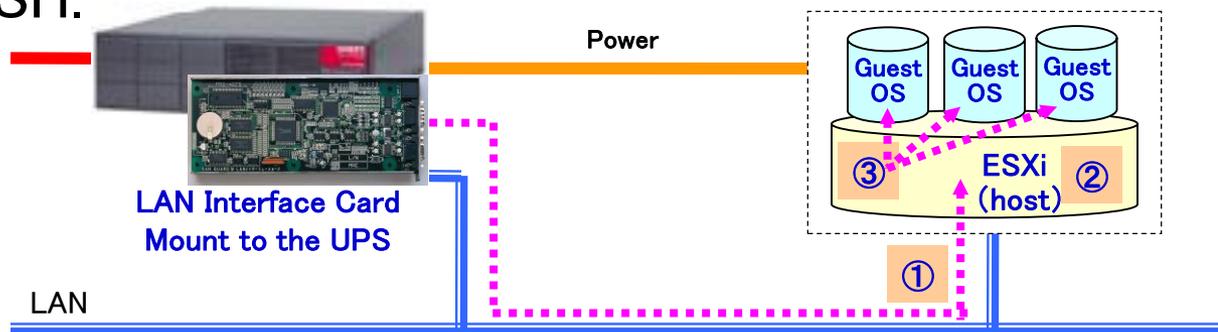
1. Connect to ESXi (host) by the LAN card via SSH.
2. Execute shutdown command to each guest OS by the ESXi (host).
3. After shutdown completion time of guest OS, execute shutdown command to shutdown the host.

# Sequence 2 (The host execute shutdown command to guest OS)



## The Automatic-start after the power-recovery

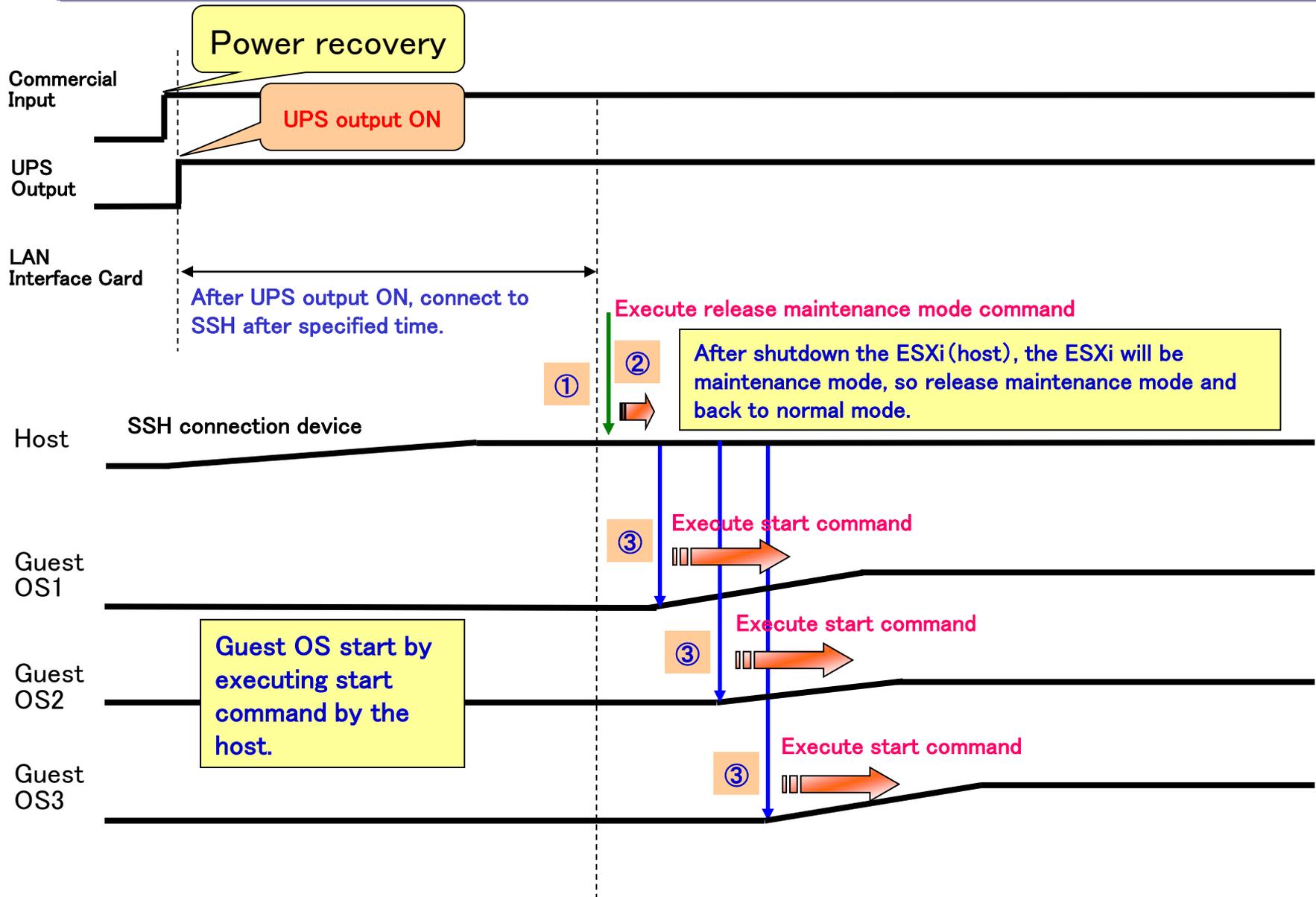
By executing shutdown command to the ESXi(host) via SSH, the host will be switched to maintenance mode. Therefore after the power-recovery, start guest OS by releasing maintenance mode via SSH.



### Start Method

1. Connect to the ESXi(host) via SSH by the UPS(LAN card).
2. Execute release maintenance-mode command by the ESXi(host).
3. Start guest OS in order by the ESXi(host).

# The Automatic-start sequence after the power-recovery



## Shutdown Method of the ESXi 5.x (In the case of installing the vMA)

In the case of the ESXi is installed the VMware vSphere Management Assistant (hereinafter referred to as “vMA”), how do you shutdown?

By the method of “Method 2 (The host execute shutdown command to the guest OS)”, the vMA could be shutdown in the same way of guest OS.

As other method, the UPS is available to shutdown the vMA via SSH by changing the SSH server setting file(sshd\_config) of the vMA.



The following shutdown methods are available by connecting to vMA via SSH.

Method 3: Execute shutdown command to the host by vMA.

Guest OS will be shutdown by the shutdown function (Virtual Machine startup/shutdown) of the ESXi.

Method 4: The guest OS and host shutdown by installing a script to shutdown on vMA.

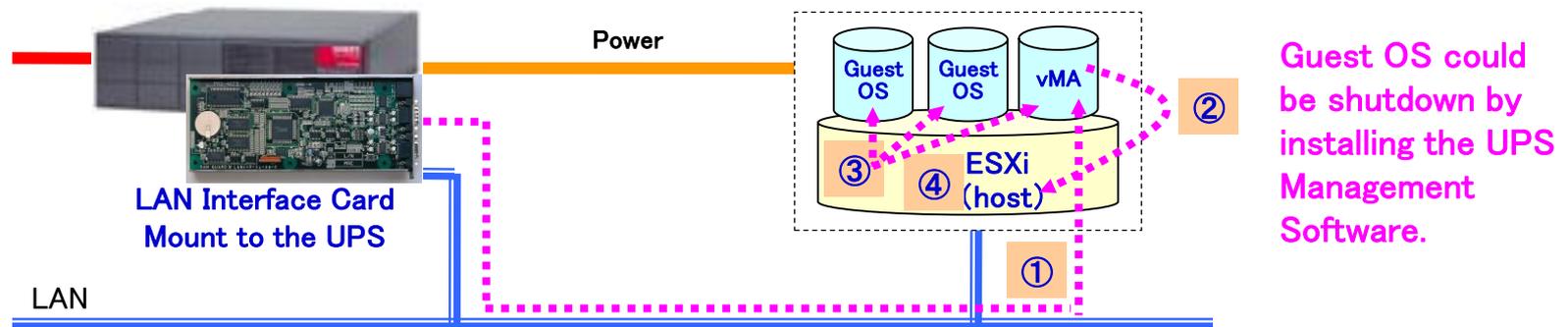
※After the power-recovery, startup the guest OS by the shutdown function (Virtual Machine startup/shutdown) of the ESXi.

### (Caution)

- In the case of shutdown the host using vMA, shutdown function is not available under VMwareHA environment because vMA will be shutdown by using the shutdown function (Virtual Machine Startup/Shutdown).
- A royalty-bearing license of VMware ESXi is required to shutdown the VMware ESXi!
- Make sure to install the VMware Tools on each guest OS.

## Method 3 (Execute shutdown command to the host by the vMA)

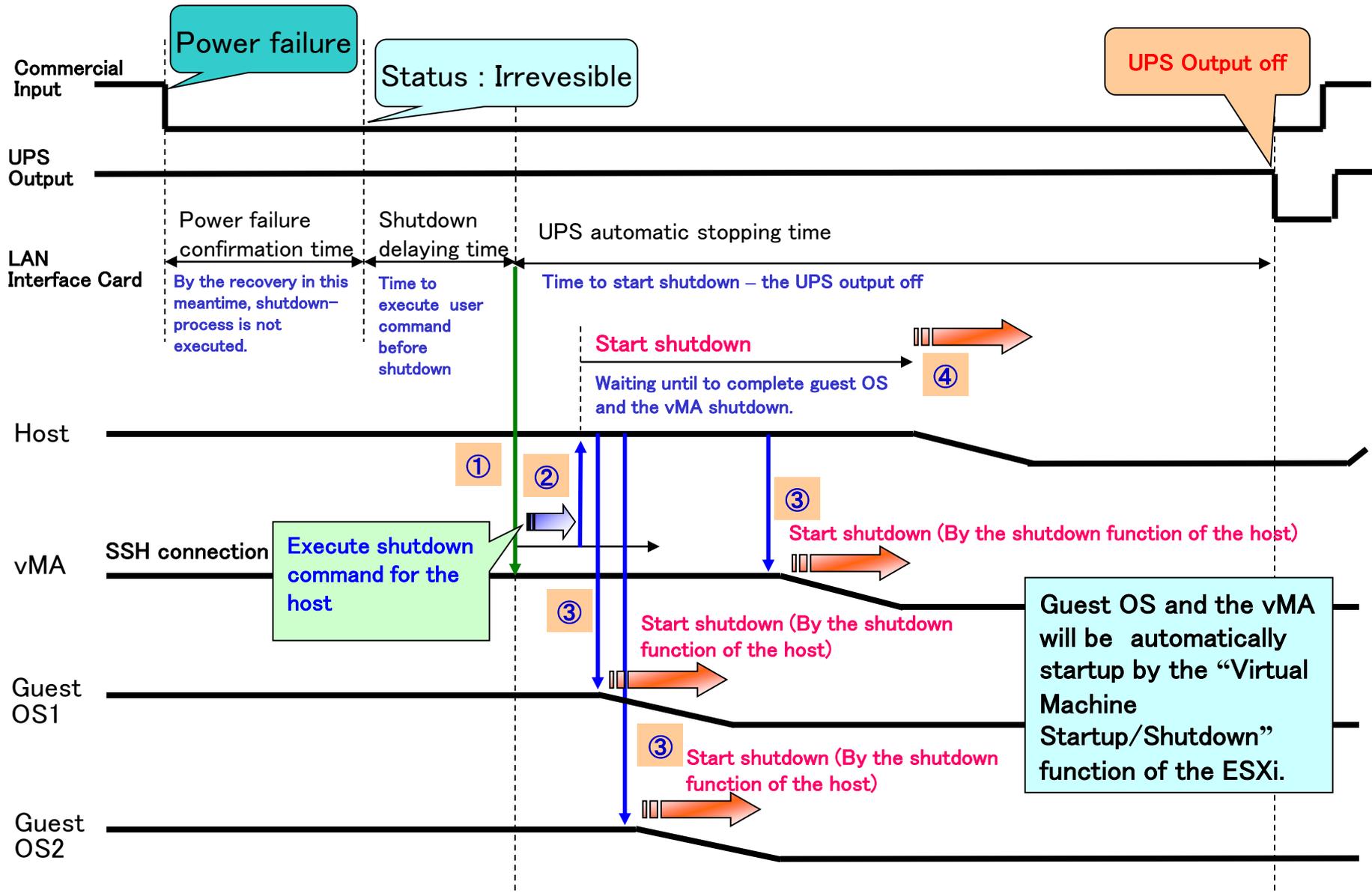
Execute shutdown command of the host to the vMA via SSH. Guest OS and the vMA will be shutdown with the host by the shutdown function(Virtual Machine Startup/Shutdoen) of the ESXi.



### Shutdown Method

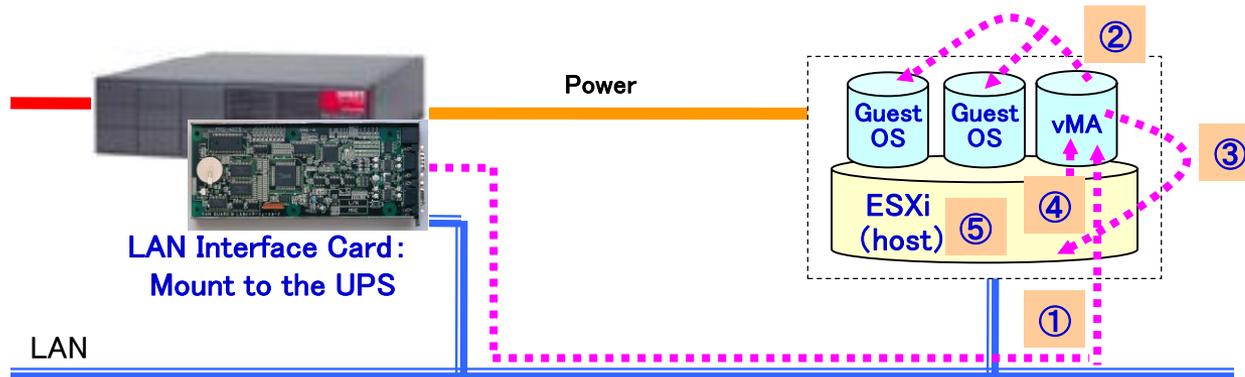
1. Connect to the vMA via SSH by the UPS(LAN card).
2. Execute shutdown command to the host by vMA.
3. Before shutdown of the host, guest OS and the vMA will be started shutdown automatically by the shutdown function of the ESXi.
4. After guest OS and the VMA shutdown complete, start shutdown of the host.

# Sequence 3 (Execute shutdown command to the host by vMA)



## Method 4 (Execute script by the vMA)

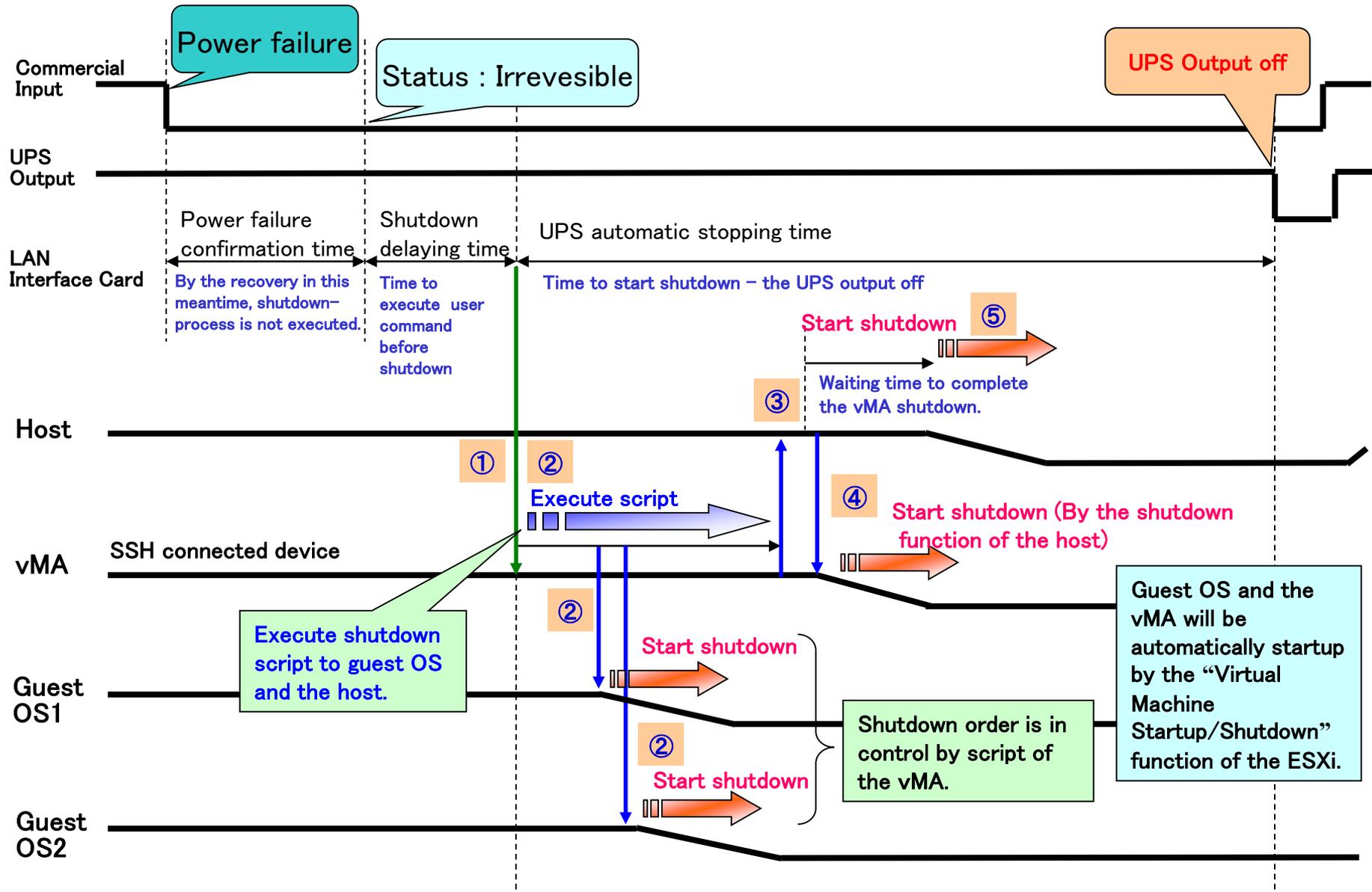
Execute shutdown script to guest OS and the host by connecting to the vMA via SSH. The vMA will be shutdown with the host by the shutdown function(Virtual Machine Startup/Shutdown) of the ESXi.



### Shutdown method

1. Connect to the vMA by the UPS(LAN card) using SSH.
2. Execute shutdown script for guest OS on the vMA.
3. After guest OS shutdown by script on the vMA, start shutdown the host.
4. Before shutdown of the host, the vMA will be started shutdown automatically by the shutdown function of the ESXi.
5. After complete vMA shutdown, start the host shutdown.

# Sequence 4 (Execute script by vMA)



# Characteristic of Shutdown Methods and Recommendation

Shutdown Method \ Characteristic	1	2	3	4
	Install the SANUPS SOFTWARE on the guest OS	Shutdown command to the guest OS by the host	Shutdown command to the host by vMA	Enter script by vMA
vMA	N/A	N/A (except vMA)	Possible	Possible
UPS Management Software	Each guest OS	N/A	N/A	N/A
Guest OS shutdown order	○	△ (by script)	△ (ESXi func.)	○ (by script)
Execute user command under guest OS shutdown (Enter AP-stop command before shutdown)	○	×	×	×
Guest OS shutdown under vMotion/HA environment (Resource and destination UPS/same)	○	○	×	×
Guest OS shutdown under vMotion/HA environment (Resource and destination UPS/not same)	×	○	×	×

○: Available △: Conditional ×: Unavailable

Under vMotion/VMwareHA environment, a source UPS and a destination UPS are the same,

**“1 Install the SANUPS SOFTWARE on guest OS”** will be recommended.

## Merits of Our product

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- **The SANUPS SOFTWARE is available for guest OS.**
  - Shutdown order is user-settable.
  - Executing user command (such as AP down command) is available before starting shutdown.
  
- **Shutdown function is controllable by SSH to the ESXi (host)**
  - vMA (VMware vSphere Management Assistant) is not required to shutdown host as a virtual machine.
  
- **Available under VMwareHA**
  - Shutdown and automatic start of guest OS is available without using the shutdown function (Virtual Machine Startup/Shutdown) of the ESXi, so available under VMwareHA environment.