acontis technologies GmbH

SOFTWARE

Hypervisor Major Changes

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Version 9.x

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1 Major changes in release 8.1

This document describes the major changes in the RTOSVisor release 8.

1.1 Hypervisor Commands

1.1.1 File location

- the `inithv.sh` shell script for the first time RTOSVisor installation has moved from `/hv/config` to `/hv/bin`
- all shell scripts located in `/hv/config` except the hardware partitioning scripts have been moved from `/hv/config` to `/hv/bin`
- the initial configuration files are located in `/hv/templates/config` and copied to `/hv/config` at the first time initialization done by `/hv/bin/inithv.sh`

1.1.2 Basic Commands

- most RTOSVisor shell scripts are available via a `hv_XXXX` *alias* command and can be executed at **any** location. For example the `/hv/bin/set_autostart.sh` shell script is available at any location using the `hv_set_autostart` command
- device assignment is done using the commands `hv_addeth` or `hv_addpcidev`
- guests are started or stopped in the following way:
  1. change the working folder to the guest (e.g. `cd /hv/guests/guestrtlinux`)
  2. call `hv_guest_start` to start the guest
  3. call `hv_guest_restart` to restart the guest without reloading the Hypervisor configuration (only supported for RTOS guests)
  4. call `hv_guest_console` to show the guest console
  5. call `hv_guest_stop` to shutdown the guest

1.2 Guests

All guests are stored in `/hv/guests`.

Hint: Initially, the Hypervisor Host does **not** provide any example guest folders. To switch to an example guest, you must execute the corresponding initialization. For instructions on how to initialize the examples, refer to the chapter **RTOS Guests** in the Hypervisor Manual.

The following example guest configurations are provided:

- the Windows example guest configuration has been moved from `/hv/VMs/vm1` to `/hv/guests/guestwindows`
- a new Ubuntu example guest configuration is located in `/hv/guests/guestubuntu`
- the RT-Linux example guest has been moved from `/hv/lx` to `/hv/guests/guestrtlinux`
- the VxWorks example guest has been moved from `/hv/vx` to `/hv/guests/guestvxworks`
- the RTOS-32 example guest has been moved from `/hv/rtos-32` to `/hv/guests/guestrtos32`

1.2.1 File server

The file server will **expose** the folder `/hv/guests` as the root folder for **all** guests.

1.3 Partitioning

Devices to be used by the RTOS have to be put into `/hv/config/usr_hvpart.sh` instead of `/hv/hvpart.sh`.

2 Major changes in release 8.2

2.1 Init Hypervisor

The `inithv.sh` and `reset.hv` shell scripts for initializing the RTOSVisor are now called without any parameters. The memory and CPU assignment is done by synchronizing the project in the System Manager.

2.2 Software-based license

With the software-based licensing method, you can replace a physical USB dongle with a virtual dongle. To utilize a virtual dongle license, you must select a network card, as it will act as one part of the hardware key for the licensing system.

2.3 Docker support

With the new Docker image it is possible to use Docker in Real-time Linux guests. First, you should initialize the real-time Linux guest. Refer to the *RTOS Guests* chapter in in the Hypervisor Manual.

Open System Manager in a browser and verify that System Manager is connected, synchronized and in Config mode. In the Navigator tab, open the rt-linux example. Change Hardware/Memory to at least **1200 Mb** and change RTOS Image to “Linux 5.15 x64 Docker”

3 Major changes in release 8.3

3.1 Sharing removable devices

Using the new `hv_diskshare` tool it is possible to share removable devices like USB sticks or Compact Flash cards with multiple guests.

The `hv_diskshare` tool is an integral part of the hypervisor solution, providing file-sharing capabilities for removable devices. The tool is capable to mount the file systems on the hypervisor and expose the file system via NFS (network file system) and/or SMB (server message block). The exposed file systems then can be accessed from within one or multiple guests.

3.2 RTOSVisor Host SecureBoot support

It is now possible to install RTOSVisor on a host with Secure Boot activated.

To achieve this, we suggest the following steps:

1. Deactivate Secure Boot
2. Install `RTOSVisor.iso`
3. Install the acontis certificate in UEFI
4. Activate the acontis bootloader
5. Activate Secure Boot

Refer to the *Miscellaneous* chapter in the Hypervisor Manual.

4 Major changes in release 8.4

4.1 Default editor

The default editor has changed from *gedit* to **mousepad**.

5 Major changes in release 9.0

This document describes the major changes in the RTOSVisor release 9.

5.1 Hypervisor Host Linux version

- Starting from version 9.0 the Hypervisor host is based on Debian Linux.
- Debian kernel 6.12 (or later) is used for the Hypervisor host.
- Manual first-time initialization using inithv.sh is no longer necessary.

5.2 Hypervisor Real-time Linux Guests

- The RT-Linux guest kernel version 4.9 is deprecated and has been removed.
- A RT-Linux guest with Docker support has been added.
- Support x2Apic mode
- Kernel update to version 5.15.177
- Memory based PCI config space access

5.3 Default editor

The default editor has changed from *gedit* to **mousepad**.

6 Latest Changes

Please check the ReleaseHistory.txt for latest changes.