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1 New HIMatrix Operating System Versions V12.x/V16.x

The new versions only support devices with enhanced performance:

- F10 PCI 03 (discontinued)
- F30 03
- F31 03 (discontinued)
- F35 03
- F60 CPU 03

1.1 Operating System Versions for the Various Controllers

The new versions V12.x/V16.x include the following operating system versions of the various devices:

OS version	Product designation in the revision list (Device-Type)/File name	Description
V12.8	L3CPU-HA1-L3-OS-V12.8/ L3CPU_HA1_L3_OS_V12.8.ldb	Safety-related CPU operating system for F30 03, F35 03, F60 CPU 03
V11.2	L3CPU-HA1-L3-OSL-V11.2/ L3CPU_HA1_L3_OSL_V11.2.ldb	OS loader for CPU
V16.20	L3COM-HA1-L3-OS-V16.20/ L3COM_HA1_L3_OS_V16.20.ldb	COM operating system for F30 03, F35 03, F60 CPU 03
V16.8	L3COM-HA1-L3-OSL-V16.8/ L3COM_HA1_L3_OSL_V16.8.ldb	OS loader for COM

Table 1: Operating System Versions for the Various Devices

1.2 Overview

- Chapter 2 describes the new functions.
- Chapter 3 specifies the improvements compared to previous versions.
- Chapter 4 specifies the current restrictions.
- Chapter 5 describes the procedures to migrate from the previous versions.
- Chapter 6 specifies references to other documents.

1.3 Compatibility

The functions of V12.x/V16.x are compatible with the functions of the previous versions V11.x/V16.x.

The new functions described in Chapter 2 require the use of SILworX V8 and higher.

2 New Features of Versions V12.x/V16.x

HIMatrix V12.x/V16.x and higher feature the following new capability:

- 1 Support for the safety-related communication protocol HIPRO-S V2
The safety-related communication protocol, HIPRO-S V2, is used for communicating with the HIQuad PES.
Notice: The HIQuad PES needs a suitable operating system version, refer to the HIQuad documentation for details.
- 2 Support for the safety-related communication protocol ISOfast
Refer to the ISOfast manual (HI 801 465 E) for more details.
- 3 Support for 255 safe**ethernet** connections
HIMatrix V12.x/V16.x and higher now supports 255 safe**ethernet** connections instead of 128.

3 Improvements of V12.x/V16.x Compared to V11.x/V16.x

V12.x/V16.x contains the following improvements:

- 1 The *Systemtick* system variable provides the correct value
In the previous version, the *Systemtick HIGH* variable always provided 0. [HE26223]
- 2 The *Power Supply State* and *Temperature State* system variables provide a plausible value
The *Power Supply State* and *Temperature State* system variables return the value 0xff (not available) for modules that are in the state STOP/INVALID CONFIGURATION or NOT CONNECTED. In such cases, the system variables in the previous version provided 0 (normal, no error). [HE26904]
- 3 Reload of a license successful
Inserting and removing a valid license and the enabled functions are possible during one reload process. In the previous version, two reload processes were necessary. [HE27502]
- 4 Reset commands executable with Read and Operator permission
Users with at least *Read and Operator* permission may perform the commands **Reset Cycle Time Statistics** and **Reset Total Number of Errors, Faults or Warnings**. In the previous version, the *Read and Write* permission was required. [HE27005]
- 5 MAC address of the Ethernet switch port is the MAC address of the sender for LLDP
LLDP uses the MAC addresses of the Ethernet switch port as MAC addresses of the sender. This procedure can prevent network problems potentially occurring if the Ethernet switch is split into separated networks through port-based VLAN. [HE26603, HE26152]
- 6 Communication protocols remain functional when unmatching message appears
In the previous version, a safe**ethernet** message not matching the loaded project could block the process data communication of a communication module. This occurred when the protocols only used this communication module to communicate. [HE26525]

4 Restrictions of V12.x/V16.x

- 1 Ethernet communication via processor module can have high response times
If the communication module is rarely used for communication or not used at all, Ethernet communication via the processor module (safe**ethernet**, OPC, HIPRO-S V2) may have unexpectedly high response times.
Workaround: Use the communication module for communication. [HE27939]

5 Migration from V11.x/V16.x to V12.x/V16.x

Only processor and communication operating system versions that were released together can be used together.

The operating system of processor and communication modules can only be upgraded in STOP.

When upgrading the operating systems, HIMA recommends upgrading the associated OS loaders as well.

5.1 Procedure

The order described below must be absolutely observed!

Upgrading HIMatrix System to V12.x/V16.x

1. Stop the resource if still in RUN.
2. In the Hardware Editor online view, connect to the communication module (system login) and upgrade the OS loader to V16.8.
3. Upgrade the communication operating system to V16.20.
4. Connect to the processor module by logging in to the system and upgrade the OS loader to V11.2.
5. Connect to the processor module and upgrade the processor operating system to V12.8.
The resource reboots.

The HIMatrix system has been upgraded to V12.x/V16.x.

6 References

- HIMatrix system manual, document number HI 800 141 E
- HIMatrix safety manual, document number HI 800 023 E
- Communication manual, document number HI 801 101 E
- HIPRO-S V2 manual, document number HI 800 723 E
- ISOfast manual, document number HI 801 465 E