syn1588® Software Suite

Release OS Support

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General

We test the syn1588 Software Suite with the current OS/distributions marked green in the following tables.

OS/distributions that will be phased-out by the OS maintainer themselves soon are marked yellow. The current release is not fully tested against these versions, but basic tests have shown good compatibility.

OS/distributions marked orange are no longer actively tested with the current release and may be moved out of support with upcoming releases, if you require support for these in your systems, please contact us (support@oregano.at).

Support for newer versions of OS/distributions (not colorized) will be added with upcoming releases.

Linux

Main Distributions

The main line syn1588® Software Suite supports in 32-Bit and 64-Bit Linux distributions. The syn1588® Software Suite is currently delivered in a USB LiveSystem based on Ubuntu 20.04 LTS (64-Bit). Some older Linux distributions are still supported but come with limitations and may be phased-out for future versions of the syn1588® Software Suite.

The default syn1588® Software Suite is statically linked with musl to provide support for various environments. Other flavors can be made available on-demand.

Table 1: Main Linux Distributions

syn1588® Software Suite		Distribution	Kernel	syn1588® Hardware		Support
from	till			PCIe NIC	Dual NIC (3)	
n.a.	planned	Ubuntu 20.04.5 LTS	not announced	planned	planned	Full support with future release
v1.14	ongoing	Ubuntu 20.04.4 LTS	5.13	yes	yes	Full support
v1.14	ongoing	Ubuntu 20.04.3 LTS	5.11	yes	yes	Full support
v1.13	ongoing	Ubuntu 20.04.2 LTS	5.8	yes	yes	Full support
v1.13	ongoing	Ubuntu 20.04.1/0 LTS	5.4	yes	yes	Full support
v1.13	ongoing	Ubuntu 18.04.x LTS	4.15 [1] … 5.4	yes	yes	Full support
v1.11	ongoing	Ubuntu 16.04.x LTS	4.4 … 4.15 [1]	yes	yes	Full support
v1.3.2	on demand	Ubuntu 14.04.x LTS	3.13 … 4.4	yes	yes	Available on demand
v1.13	on demand	Ubuntu pre-14.04	2.26.32 +	possible	possible	Available on demand
v1.13	ongoing	CentOS 8.x	4.18.* [1]	yes	yes	Full support
v1.2.374	on demand	CentOS 7.x	3.10.0-*	possible	possible	Available on demand [4]
v1.0	on demand	CentOS 6.x	2.6.32-* [2]	yes	yes	Available on demand
v1.0	on demand	CentOS 5.x	2.6.18-*	no	no	software-based timestamping only
v1.14	ongoing	Debian "Bullseye" 11.x	5.10	yes	yes	Full support
v1.13	ongoing	Debian "Buster" 10.x	4.19 [1]	yes	yes	Full support

syn1588® Software Suite		Distribution	Kernel	syn1588® Hardware		Support
from	till			PCIe NIC	Dual NIC (3)	
v1.13	ongoing	Debian "Stretch" 9.x	4.9	yes	yes	Full support
v1.2.419	on demand	Debian "Jessie" 8.x	3.16	yes	yes	Available on demand
v1.2.x	on demand	Debian pre-8.x	2.26.32 +	possible	possible	Available on demand
v1.2.253	on demand	Fedora 13+	2.26.32 +	possible	possible	Available on demand

(1) … a missing check in a Linux module for CvP (Configuration via Protocol) FPGA handling caused issues when operating a syn1588® PCIe NIC, you may experience these issues in systems with Kernel 4.14 … 4.20 (fixed with 5.0), the Application note: "**an023_issues_with_linux_4_14_and_altera-cvp_module**" describes this further and provides a solution.

(2) … The Linux Kernel for CentOS 6.x contains some features backported from Linux Kernel 3.5 (e.g., PHC interface)

(3) … The syn1588® Dual NIC support has been added with Release v1.12 of the syn1588® Software Suite

(4) … CentOS 7.x 64 Bit systems are incompatible with the default build of the syn1588® Software Suite, we can provide a build on-demand

Custom Linux

We support 32 Bit distributions as well as these are typically needed for Linux based SoC systems (e.g., Yocto or Petalinux). If you plan to use syn1588® Technology in your custom SoC/Linux system, we recommend that you enable the following kernel configurations for a seamless integration:

- Linux Device Tree
  SoC/Linux based systems rely on the Linux Device Tree to describe the system and provide proper information to device modules. We can provide support for integrating the syn1588 technology device modules in your Linux Device Tree based system.
- SO_TIMESTAMPING (Linux Kernel 2.26.32+)
  This interface is provided by the Linux kernel as general interface for software and hardware Ethernet packet timestamping. If you plan to use our syn1588® PCIe NIC or Dual NIC in your system, we recommend keeping this feature in the kernel. If you want to use the syn1588® IP cores, we can help you in setting up the system for operation with the syn1588® Software Suite.
- Use without syn1588® hardware technology, for optimal performance you will need an IEEE 1588 capable network device, to be more precise:
  - SO_TIMESTAMPING support in the network device (SOF_TIMESTAMPING_RX_HARDWARE and SOF_TIMESTAMPING_TX_HARDWARE).
  - PHC support in the network device
- PHC (Physical Hardware Clock)
  This interface is provided by the Linux kernel (3.0+) as general interface to a hardware clock. If the syn1588® Software Suite is used together with syn1588® PCIe NIC, Dual NIC, or IP Cores this is not required.

Windows

Table 2: Main Windows Versions

syn1588® Software Suite		Windows version (32/64 Bit)	Latest Build	syn1588® Hardware		Support for Windows **without network layer 2 VLAN operation**
from	till			PCIe NIC	Dual NIC [1]	
On demand	On demand	Windows Server	18362+	possible	no	Qualification on demand
v1.6-2	ongoing	Windows Server 2019	17763	yes	no	Full support for Windows
v1.4	ongoing	Windows Server 2016	14393	yes	no	Full support for Windows
v1.3.2	ongoing	Windows Server 2012	9600	yes	no	Full support for Windows [2]
v1.0	ongoing	Windows Server 2008	7601	yes	no	Full support for Windows [2]
v1.0	v1.2.419	Windows Server 2003	3790	possible	no	Old version, on demand

syn1588® Software Suite		Windows version (32/64 Bit)	Latest Build	syn1588® Hardware		Support for Windows without network layer 2 VLAN operation
from	till			PCIe NIC	Dual NIC [1]	
On demand	On demand	Windows 10	21H2+	possible	no	Qualification on demand
v1.4	ongoing	Windows 10	19043 (21H1)	yes	no	Full support for Windows
v1.3.2	ongoing	Windows 8.1	9600	yes	no	Full support for Windows [2]
v1.3.2	ongoing	Windows 8	9200	yes	no	Full support for Windows [2]
v1.0	ongoing	Windows 7	7601	yes	no	Full support for Windows [2]
v1.0	v1.2.419	Windows XP	3790	possible	no	Old version, on demand

[1] … the Dual NIC is currently only available for Linux based systems, contact Oregano Systems if you require support for Windows

[2] … there is no support for signed drivers for these OS versions. Secure boot must be disabled to use the driver on these OS versions. Windows 7 users might need to install → KB3033929.

Limitations for Windows systems

The support of Windows, i.e., no network layer 2 VLAN operation, will reduce the feature-set of the PTP stack on a Windows system. Some PTP Profiles require operation over network layer 2 VLANs, i.e., Power profiles (C37.238-2011 and C37.238-2017) and are not supported on a Windows-based system.
We recommend customers to use a Linux-based system for operating the syn1588® Software suite for these application scenarios.

Please refer to the Application Note "**an006_ptp_profiles**" to get a full overview of the PTP profiles supported by the syn1588® Software Suite.

Other OS

The syn1588® Software Suite has been ported to various hardware platforms and operating systems. A porting guide, a brief overview of the different components, estimations, and further information is given in the Application Note "**an016_porting_syn1588_ptpstack**".

Further Information

You are looking for further information about our syn1588® product line-up? Please contact Oregano Systems support! We will be pleased to provide you all the required information.

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