

Document Release Notes WeOS 5.19.1	
Date February 2, 2024	Document No 224004-g0c254bc846

## WeOS 5.19.1 Release Notes

### Contents

1	Summary of Changes . . . . .	5
1.1	News in 5.19.0 . . . . .	5
1.1.1	DHCP Classless Static Routes . . . . .	5
1.1.2	Interface Dynamic Distance . . . . .	5
1.1.3	ALG Helpers . . . . .	5
1.1.4	User Lockout Policy . . . . .	6
1.1.5	Ring Coupling version 3 . . . . .	6
1.1.6	Combo ports . . . . .	6
1.1.7	Redfox product Family Extention . . . . .	6
1.2	News in 5.19.1 . . . . .	6
1.2.1	Fixed CVEs . . . . .	6
2	Fixed Issues . . . . .	7
2.1	WeOS 5.19.0 . . . . .	7
2.2	WeOS 5.19.1 . . . . .	8
3	Known Limitations . . . . .	9
3.1	Ring Coupling version 2 not supported . . . . .	9
3.2	Port Access Control . . . . .	9
3.3	Login . . . . .	9
3.4	Setting Date Manually . . . . .	9
3.5	Available ports for boot specific functionality . . . . .	9
3.6	Routing Hardware Offloading . . . . .	10
3.7	SNMP . . . . .	10
3.8	FRNT . . . . .	10
3.9	RSTP . . . . .	11
3.10	IEC 61375 . . . . .	11
3.11	LLDP . . . . .	12
3.12	Port Monitoring . . . . .	12
3.13	Media Redundancy Protocol (MRP) . . . . .	12



Document Release Notes WeOS 5.19.1	
Date February 2, 2024	Document No 224004-g0c254bc846

3.14	10G SFP Ports . . . . .	13
3.15	Search function in User Guide . . . . .	13
4	Known Issues . . . . .	14
4.1	List of known issues . . . . .	14
4.2	#18163: Work-around for OSPF NSSAs convergence issue . . . . .	15
5	Quick Start Guide . . . . .	17
5.1	Default User and Password . . . . .	17
5.2	General . . . . .	17
5.3	CLI . . . . .	18
6	Firmware Upgrade . . . . .	20
6.1	WeOS Image . . . . .	20
6.2	Boot Loader . . . . .	20
7	Significant differences between WeOS 4 and WeOS 5 . . . . .	21



Document Release Notes WeOS 5.19.1	
Date February 2, 2024	Document No 224004-g0c254bc846

## Legal Information

The contents of this document are provided “as is”. Except as required by applicable law, no warranties of any kind, either express or implied, including, but not limited to, the implied warranties of merchantability and fitness for a particular purpose, are made in relation to the accuracy and reliability or contents of this document. Westermo reserves the right to revise this document or withdraw it at any time without prior notice. Under no circumstances shall Westermo be responsible for any loss of data or income or any special, incidental, and consequential or indirect damages howsoever caused.

More information about Westermo at <http://www.westermo.com>

Document Release Notes WeOS 5.19.1	
Date February 2, 2024	Document No 224004-g0c254bc846

## Important User Information

This section details important user information, directed in particular to new users of WeOS 5:

- WeOS 5.19.0 has been interoperability tested with WeOS 4.33.0.
- When using WeConfig to manage WeOS 5.19, WeConfig 1.17.2, or later is recommended.

For help with getting started using WeOS 5, refer to the Quick Start Guide in section 5.

## User Guide

In WeOS 5, the primary user documentation is referred to as the *WeOS 5 User Guide*. Compared to the *WeOS 4 Management Guide*, the User Guide is a web first publication focusing on use-cases, documented in stand-alone “HowTo:s”, and configuration guides for all supported sub-systems.

The User Guide is included in the release Zip file in the sub-directory: `user-guide/`. To access the documentation, open the following file in your web browser:

`file://Downloads/WeOS-5.19.1/user-guide/index.html`

The *User Guide* is also available online at <https://docs.westermo.com/weos/weos-5/>.

Document Release Notes WeOS 5.19.1	
Date February 2, 2024	Document No 224004-g0c254bc846

## 1 Summary of Changes

This section details new features added in this major release.

Users new to WeOS 5 are recommended to read section 7 carefully, as it highlights some of the major differences between WeOS 4 and WeOS 5.

### 1.1 News in 5.19.0

The subsections below describe news in WeOS 5.19.0. In addition, section 2.1 includes information on fixed issues.

#### 1.1.1 DHCP Classless Static Routes

The DHCP Server function has been extended to provide support for the Classless Static Route Option (aka DHCP option 121) as defined in RFC3442. Additionally, support for the Microsoft variant of Classless Static route Option (aka DHCP option 249) was also introduced.

For more information on configuring DHCP Server, see the WeOS User Guide section *Configuration Guides* → *DHCP Server*.

#### 1.1.2 Interface Dynamic Distance

The WeOS Event System has been extended to control interface administrative distances. It is now possible to configure the interface distance to track an Event trigger's status. When the event trigger is in its fault-state the interface and its associated routes will have their administrative distances set to 254, allowing the routing table to use another route until the event trigger's fault has been resolved.

This can be a useful function in cases where routes are provided to interfaces through dynamic means such as DHCP where the static route monitor function can't be leveraged.

For more information on configuring Interface Dynamic Distance, see WeOS User Guide section *Configuration-Guides* → *Interface*.

#### 1.1.3 ALG Helpers

ALG Helpers (Application Level Gateway) for FTP and TFTP protocols are added. When this is enabled implicit rules are added to the Firewall that are needed for FTP and TFTP transfers to complete smoothly.

For more information on configuring ALG Helpers, see the WeOS User Guide section *Configuration Guides* → *Firewall*.

Document Release Notes WeOS 5.19.1	
Date February 2, 2024	Document No 224004-g0c254bc846

## 1.1.4 User Lockout Policy

Lockout policy is a security feature that prevents unauthorized access to the device by locking out users who enter incorrect login credentials too many times.

For more information on configuring User Lockout Policy, see the WeOS User Guide section *Configuration Guides* → *AAA and User Management*.

## 1.1.5 Ring Coupling version 3

RiCo version 3 has been extended to support up to two instances with a single device and up to four coupling ports in each instance.

With this release RiCo v3 support has been extended to also include the Redfox 5000 and 7000 series as well as Lynx 5000 series.

This means that all currently available WeOS-5 products support RiCo version 3.

For more information on configuring RiCo, see the WeOS User Guide section *Configuration Guides* → *Ring Coupling version 3*.

## 1.1.6 Combo ports

Combo port support is now back in WeOS. The Combo ports are by default in auto mode, i.e. the first link up between TP and Fibre will remain active. This can be changed by setting the port option preferred to fibre or tp in the CLI.

## 1.1.7 Redfox product Family Extension

WeOS has now been extended to support Redfox 5528 and 5728 with 24 fiber SFP slots.

## 1.2 News in 5.19.1

WeOS 5.19.1 is a bug fix release. See section 2.2 for a list of fixed issues.

### 1.2.1 Fixed CVEs

WeOS 5.19.1 includes fixes for the following CVE(s):

- CVE-2015-7987
- CVE-2015-7988

Document Release Notes WeOS 5.19.1	
Date February 2, 2024	Document No 224004-g0c254bc846

## 2 Fixed Issues

### 2.1 WeOS 5.19.0

Fixed issues in WeOS 5.19.0 (as relative to 5.18.0).

Issue	Category	Description
#19493	System	Configuration is always reapplied even if no changes exists
#19492	Link Aggregation	VRRP MAC address gets stuck as learned atu entry on Link aggregation port (Dagger)
#19486	TCN	Multicast addressed to the local consist is not forwarded to all CNs
#19477	System	WeOS standard devices comes up as Basic (Cosmetic)
#19460	WEB	Changes for the Management Services in the Web, removes snmp settings
#19457	GRE	Management (ssh/http) from remote end unavailable through GRE tunnel in specific setups
#19448	WEB	Unable to cancel remote server without inputting password in gui
#19441	LED	Yellow LEDs do not work on SFP ports on Envoy
#19437	FRNT	Ring-port not qualified on member device
#19430	TCN	Reappearance of known ETBN not possible if train inauguration is inhibit
#19413	SNMP	Asking for snmp values during snmpd startup makes snmpd to crash and disconnect from snmpsubagent
#19412	IEEE1588/PTP	PTP link partner to OC gets high peer delay
#19403	WEB	Web UI page System/Management/Service a change of mDNS options affect SNMP options
#19402	FRNT	Changing the fwd-delay setting in the FRNTv2 PLC redundancy functionality causes a storm
#19401	LLDP	LLDP output not present in Tech Support bundle
#19400	FRNT	Enabling port mirroring on an FRNTv2 PLC redundancy port causes a storm
#19383	System	MAC multicast static entries adds the CPU even though not specified to atu
#19356	SNMP	Wrong physical hw revision number via snmp
#19349	Kernel	System Reset counter (sysResets) increments on each power cycle
#19348	Kernel	Watchdog reset cause when performing a power cycle differs between old and new kernel version
#19334	WEB	Creating a static route in WEB displays error message of Invalid trigger when Track is set to Disabled
Continued on next page		

Document Release Notes WeOS 5.19.1	
Date February 2, 2024	Document No 224004-g0c254bc846

Continued from previous page

Issue	Category	Description
#19322	DHCP	DHCP-Relay does not perform DHCP-Snooping on Tagged ports

## 2.2 WeOS 5.19.1

Fixed issues in WeOS 5.19.1.

Issue	Category	Description
#19545	System	Boot up time has been increased. Hanging 6-8 seconds in 'Consume Boot Settings'
#19533	TCN	TCN Multicast DNAT for consist specific groups can not be activated
#19531	FRNT	FRNTv2 member config change causes one of the ring ports to get stuck in Not Qualified
#19530	FRNT	Changing ports on an FRNTv2 Focal Point throws out the user from the CLI
#19503	System	Switches not responding to mDNS requests
#19471	TCN	ETBN late insertion disrupts communication



Document Release Notes WeOS 5.19.1	
Date February 2, 2024	Document No 224004-g0c254bc846

## 3 Known Limitations

This section describes known limitations in WeOS.

### 3.1 Ring Coupling version 2 not supported

Support for FRNT Ring Coupling (RiCo) version 2 was removed in 5.15.0 due to problems with the stability of the function. Most of the use cases for RiCo version 2 can be covered today through the use of FRNTv2 and RiCo v3.

For information around FRNT v2 and RiCo v3 usage please contact local Westermo support.

### 3.2 Port Access Control (IEEE 802.1X and MAC Authentication)

Wake-on-LAN is currently not possible on controlled ports. The reason is that broadcast traffic is not allowed to egress a controlled port until there is at least one MAC address authenticated on the port.

### 3.3 Login

Known limitations related to the Login service.

#### Side-effect of disabling console login

When disabling login from console, login via telnet is also prohibited (even when telnet login is enabled).

#### SSH Public Key Lost When Disabling Built-in User

WeOS 5.13.0 introduces support for importing SSH public key for built-in users, as well as the ability to enable/disable a user. When disabling a user, the intention is that the user shall be prohibited from logging in, while other user configuration is still kept in the configuration file.

However, the disabling of a user currently implies that any SSH public key associated with the user is removed and needs to be imported again upon enabling the user.

### 3.4 Setting Date Manually

Setting a manual date on the WeOS unit before 1 January 2000 will render an error message.

### 3.5 Available ports for boot specific functionality

The boot loader rescue mode only supports regular copper ports, not SFP ports. On RedFox-5528, ports 1-4 are also not supported until the system has booted.

Document Release Notes WeOS 5.19.1	
Date February 2, 2024	Document No 224004-g0c254bc846

## 3.6 Routing Hardware Offloading

The routing hardware offloading support for Viper-TBN introduced in WeOS 5.8 has shown to have instabilities. In particular, when used with dynamic routing, there are issues not yet solved. Therefore hardware offloading has temporarily been disabled by default. For use cases with static routing setups, hardware offloading can be enabled as shown in the example below.

```
viper:/#> configure
viper:/config/#> ip
viper:/config/ip/#> offload
viper:/config/ip/#> leave
```

When offloading is enabled, regular IPv4 forwarding is handled in hardware with some exceptions, see the WeOS 5 User Manual for details (section 'Configuration Guides'/'Routing'/'Offloading').

Use of the WeOS Firewall together Hardware Offloading is not supported and the behaviour of doing so is undefined. The exception is when firewall configuration is limited to *filter input* rules.

Hence, if the Firewall is used to configure *filter forwarding* rules, *NAPT* rules or *port forwarding* rules on a Viper-TBN, it is necessary to disable the hardware offloading (opposite steps to the example above).

```
viper:/#> configure
viper:/config/#> ip
viper:/config/ip/#> no offload
viper:/config/ip/#> leave
viper:/#>
```

## 3.7 SNMP

SNMP in WeOS 5 is read-only.

When configuring SNMPv3 authentication it will not inform the user if the password length is valid (minimum of 8 characters).

The MIBs folder in the release ZIP-file contains a conformance folder listing all supported MIBs and OIDs.

## 3.8 FRNT

Fastlink must be enabled manually for FRNT (gigabit Ethernet) ring ports.

Fastlink is a unique feature of Westermo products to optimise gigabit Ethernet link-down fail-over times in layer-2 redundancy protocols such as FRNT.

Document Release Notes WeOS 5.19.1	
Date February 2, 2024	Document No 224004-g0c254bc846

### 3.9 RSTP

WeOS 5 supports RSTP, compliant to IEEE 802.1D-2004. Due to limitations in the WeOS 4 implementation of RSTP, a WeOS 4 unit will keep ports in blocking mode longer than needed when connected to a WeOS 5 node.

Hence, mixing WeOS 4 and WeOS 5 units in RSTP topologies may exhibit relatively long periods with limited connectivity during topology changes, this applies to both link failure and when a link comes up again.

Link aggregate path-cost use the configured port speed value(s) and not the negotiated speed value. This can lead to RSTP making the non-optimal path selection. Work-around this issue by setting a fixed path-cost in the spanning-tree port configuration.

### 3.10 IEC 61375

In this release, not all of the recovery use cases, nor the optional cases, are supported.

It is possible to manually configure DNS rules when the train protocols are enabled. But the manually added rules, will be removed when train protocols updates the DNS configuration after inauguration. Thus, manually added DNS configuration currently cannot co-exist with the IEC 61375 support.

TTDP and non-TTDP multicast can be used simultaneously in this release, but is considered unstable and is strongly recommended to be avoided.

"Automatic Gap Insertions", when several vehicles have the same name, can lead to unexpected behaviour. This is also true when Ethernet speed on backbone ports is set to Gigabit speed.

When recovery-mode is set to deferred/wait, an ECSC must be running on the configured multicast address. If no ECSC is running and sending data on the configured multicast address, no node will come up at all.

Gigabit speed on backbone ports limits the handling of lost and recovering middle nodes.

Since hardware offloading was introduced in WeOS 5.8.0, Viper TBN can now route data at a faster rate than the CPU could previously, leading to a potential of overloading the CPU during the time when the offloading tables are being set up. Since this happens during TTDP train inauguration, it is strongly recommended to enable inauguration inhibition on all nodes to reduce spurious re-inaugurations and guarantee a stable train communication.

For applications with HW offloading active in the system there is currently a known limitation in case high loads of multicast traffic for which a multicast route has not been explicitly set up, when the device is otherwise acting as a multicast router. This commonly happens with backup devices in TTDP using VRRP where the backup device will receive all routed multicast data from the backbone in the CPU causing unwanted load to the device. With 5.14.3 a temporary workaround has been introduced which

Document Release Notes WeOS 5.19.1	
Date February 2, 2024	Document No 224004-g0c254bc846

require a manual configuration change with an added VLAN used as blackhole for the multicast traffic. The solution with an additional VLAN is only for TTDP and might not cover all use cases.

The “ECSP inhibit sync” function should only be enabled in consists with simple or straightforward ECN configurations. In complex configurations with non-symmetric ETBN/ECN connections and/or configurations where different ETBNs are master routers for different ECNs simultaneously, the backup ETBNs will not be able to unambiguously determine which ETBN is the master router/ECSP, which can in turn lead to unexpected behaviour with regards to the local inauguration inhibition value. In these cases, manually setting the local inauguration inhibition values on the backup ETBNs, via the ETBN\_CTRL telegram, should instead be performed.

### 3.11 LLDP

When using Link Aggregation, the individual member ports will transmit LLDP frames using the MAC address of the link aggregation interface, i.e. all member links in an aggregate will be using the same MAC address.

### 3.12 Port Monitoring

It is not possible to utilise port monitoring directly on a link aggregation port interface. However it is still fully possible to monitor the individual member ports that constitute any given link aggregate.

Therefore, in order to fully monitor an aggregate, monitoring must be configured for each of the aggregate member ports.

### 3.13 Media Redundancy Protocol (MRP)

- *MRM not supported for MRP 30 profile:* WeOS 5 units can be configured to operate in MRP 200 or MRP 30 profile. However, for MRP 30 profile, configuring the WeOS 5 unit as MRP Master (MRM) is not supported. A WeOS 5 unit can be used as MRP Client (MRC) with MRP 30 profile with MRMs from other vendors.

More details: When a link comes up between two MRP clients, the clients send *link-up* messages to the MRP master. The MRP 30 ms profile only gives the MRP master 4 ms to block its secondary port from the time the MRP clients send their first *link-up* message. The WeOS 5 MRP Master is not always capable of doing that, resulting in a short transient loop in the MRP ring when the ring is healed.

To avoid this, it is recommended to use the MRP 200 ms profile instead. For link-down scenarios, MRP 200 ms profile conducts failover as fast as the 30 ms profile, given that MRCs in the ring are capable of sending MRP *link-down* messages (WeOS units have this capability).

- *Use of MRP with virtual L2 ports (SSL VPN ports):* MRP is specified for use with Ethernet ports (full duplex, 100 Mbit/s or higher). WeOS enables the use of running MRP over SSL L2 VPNs,

Document Release Notes WeOS 5.19.1	
Date February 2, 2024	Document No 224004-g0c254bc846

but requires the VPN to run over a high-performance network to work well. Furthermore, only the MRP '200 profile' can be used with SSL VPNs.

### 3.14 10G SFP Ports

The 10G SFP ports on RedFox-7528 have the following limitations:

- IEEE 1588/PTP is currently not supported on 10G SFP ports.
- 10G SFP ports are only to be used for 10G Fiber SFPs or 1G Fiber SFPs, not copper SFPs or 100 Mbit/s Fiber SFPs.
- Status of MDI/MDIX and polarity shows value 'Invalid' ('N/A' or 'Not Applicable' would be more appropriate).

### 3.15 Search function in User Guide

The User Guide included within the release-zip is Web based. The Search function in the User Guide navigation pane only works if you make the pages available via a Web Server. That is, the Search function does not work when opening the User Guide via your local file system.

At <https://docs.westermo.com/weos/weos-5/> you can browse the WeOS 5 User Guide online, with Search function included.

Document Release Notes WeOS 5.19.1	
Date February 2, 2024	Document No 224004-g0c254bc846

## 4 Known Issues

### 4.1 List of known issues

Issue	Category	Description
#19563	IP Multicast	IGMP querier with mroute range loses cpu port when local igmp join occurs
#19529	WEB	Cannot apply Boot Configuration with firefox and saved password
#19524	WEB	Unable to delete VLAN by WEB when FRNT is enabled (Envoy & Dagger)
#19503	System	Switches not responding to mDNS requests
#19498	IGMP	Duplicate multicast packets over link-aggregates when changing router timeout (Dagger)
#19490	TCN	ETBN should only forward train-wide MULTICAST packets when ETBN is inaugurated
#19489	TCN	ETBN should only forward train-wide UNICAST packets when ETBN is inaugurated
#19484	SNMP	Repeated SNMP writes can lock system after SNMP writes and Profinet system settings
#19410	IGMP	Mismatch between MDB and ATU for mc group 239.193.0.1 when etbn is acting as router, sender and consumer of data
#19387	System	Using CLI config + abort causes "config change"
#19385	System	Static Unicast MAC entries can not be added to the FDB
#19367	Ports	SFP:s 1100-0554 and 1100-0555 does not work on 5512 and 5528
#19326	Ports	Adminstatus does not affect operstatus of port if the port is it's own interface (i.e. outside a vlan)
#19323	FRNT	FRNT Focal point Topology Counter rush with LACP links (Dagger)
#19295	Any	Upgrade of pkg:s will complete with error printouts
#19288	FRNT	After configuring FRNT2 on Coronet/Viper 20A the FRNT leds are flashing red
#19262	Ports	Traffic not handled on Envoy ports using Copper SFPs
#19255	QoS	Priority-mode IP fails when both ingress and egress ports are fiber ports on Envoy platform
#19231	TCN	2-3 inauguration may never reach operational traindir shared
#19196	SNMP	RMON-MIB does not respond
#19181	Ports	Port-Priority-mode IP and Offloading broken with DSCP set field
#19024	Link Aggregation	Using link-aggregates as FRNT ring ports gives long failover times in ring topology changes

Continued on next page

Document Release Notes WeOS 5.19.1	
Date February 2, 2024	Document No 224004-g0c254bc846

Continued from previous page		
Issue	Category	Description
#18967	System	Joins on SSL ports does not lead to the CPU port being added to the ATU
#18910	TCN	TTDP Topology timeout not adapted for Gigabit ETB, causing ETB inaugurations upon ETBN down event
#18886	IP Multicast	Static multicast route with wildcard source fails to forward when group first heard on other interface
#18808	Alarm	Link-alarm with multiple ports makes status-relay indicate OK when some port is up and others down
#18675	Link Aggregation	Long failover time (aggregate member link up/down) in link-aggregate interoperability case (WeOS5 'Dagger' vs WeOS4)
#18643	IEEE1588/PTP	RedFox 5528/5728 fiber ports (Eth1-4) have more jitter in the correction field accuracy than the other fiber ports
#18638	CLI	CLI does not allow "?" when configuring local user accounts password using clear-text
#18614	TCN	TTDP NAT rules incorrectly modifies packets between local CNs
#18593	QoS	Tagged ports with 'priority-mode ip' is broken
#18377	Logging	Syslog events may be missed during syslogd restart
#18362	TCN	Broken/missing ECSPs in train composition handled incorrectly
#18275	VRRP	Not possible to match on VRRP interface in firewall
#18163	OSPF	Routes to 'redistributed connected E1 routes' lost within NSSA areas upon topology change
#18151	Logging	Long-running programs log events to syslog with the wrong time stamp on timezone changes
#18076	MRP	Probing MRP status (30 ms profile) during heavy load may cause reboot (Viper-TBN)
#18069	QoS	ARP packets treated with lowest priority and may be missed/dropped under load
#17995	System	Service discovery not available in safe-config
#17941	IP Multicast	Manual FDB MAC entry skips CPU port and automatically adds all ports with a VLAN with IGMP snooping disabled (Viper-TBN)

## 4.2 #18163: Work-around for OSPF NSSAs convergence issue

When using OSPF Not-So-Stubby Areas (NSSAs), failover when a router goes down may take a lot longer time than expected. There are two possible work-arounds until this bug is fixed:

- Alternative 1: Let each router get an address on its loopback interface, and include them in the OSPF area, e.g., use OSPF setting "network 192.168.1.5/32 area 1" for a router in (NSSA) area

Document Release Notes WeOS 5.19.1	
Date February 2, 2024	Document No 224004-g0c254bc846

1 with address 192.168.1.5/32 assigned to its loopback interface (lo).

- Alternative 2: Use 'regular' OSPF areas instead of NSSA areas.



Document Release Notes WeOS 5.19.1	
Date February 2, 2024	Document No 224004-g0c254bc846

## 5 Quick Start Guide

WeOS 5 devices are intended to be usable out-of-the-box as a switch. All access ports are assigned to the same VLAN (untagged) and the device tries to acquire a management IP address via DHCP. It also acquires a link-local address (in the 169.254.x.x range). These addresses are advertised with mDNS (Linux/Apple), SSDP (Windows), and LLDP.

### 5.1 Default User and Password

**user:** admin

**password:** admin

### 5.2 General

Apple, Linux, and Windows users with mDNS installed, can either use an mDNS client to find the device's IP address, or connect using a web browser:

- <http://weos.local>
- <http://redfox-4d-3b-20.local>

The first example is not available if there are many WeOS devices on the same LAN. The latter, and more reliable address, is a combination of the hostname and the last three octets of the device's MAC address in that LAN. In this example the hostname is `redfox` and the MAC address is `00:07:7c:4d:3b:20`.

Windows users without mDNS have SSDP to discover WeOS devices. In Windows 7 there is the *Network and Sharing Center* where a clickable icon for each discovered WeOS device should appear under *Network Infrastructure*. The PC must, however, be in the same subnet (DHCP or link-local) for this to work. Windows users also have the Westermo WeConfig tool to manage their WeOS devices.

Expert users can also use `nmap`, a port scanner, to scan the network for the device. Be aware though that this might be frowned upon should your device be located on a shared network.



Document Release Notes WeOS 5.19.1	
Date February 2, 2024	Document No 224004-g0c254bc846

```
redfox-4d-3b-20:/config/#> iface vlan2
```

To show or change the interface and VLAN properties the user enters the command: `iface vlan2` and `vlan 2`, respectively, with an optional “show” as prefix. E.g. `show iface vlan2`.

```
redfox-4d-3b-20:/config/iface-vlan2#> help inet
```

The help command is always available. Use it stand-alone or with a context-specific setting to get more detailed help.

To leave a level use the command `end` to save or `abort` (or Control-D) to cancel. To save and exit all levels, and go back to admin-exec, use `leave` (or Control-Z).

```
redfox-4d-3b-20:/config/iface-vlan2#> leave
```

Applying configuration.

Configuration activated. Remember "copy run start" to save to flash (NVRAM).

The CLI, unlike the WebUI and WeConfig, has a concept of a running configuration. This is an activated but volatile (RAM only) file that must be saved to built-in flash (non-volatile storage) before rebooting. Many separate config files can be saved, but only one can be the selected startup-config. For details, see the built-in help text for the admin-exec copy and show commands.

Document Release Notes WeOS 5.19.1	
Date February 2, 2024	Document No 224004-g0c254bc846

## 6 Firmware Upgrade

Firmware upgrade is supported from the CLI, WebUI, and WeConfig tool. The CLI only supports FTP/TFTP upgrade but the WebUI and WeConfig tool can also upgrade via CGI upload – making them the ultimate choice if you have no FTP/TFTP server available or do not care to set one up.

### 6.1 WeOS Image

WeOS devices run from a built-in flash disk and usually comes with three partitions: primary, secondary, and boot. The latter is for the boot loader (see below) and the primary is the main WeOS image partition. Should this ever get corrupted, e.g. due to power-loss during upgrade, the device will boot using an image from the secondary (or backup) partition. This is a very appreciated, but mostly unknown, robustness feature.

```
redfox-4d-3b-20:/#> upgrade primary <SERVER-ADDRESS> WeOS-5.19.1.pkg
```

The system must reboot when upgrading the partition image the system started on. This protects against flash corruption issues seen in earlier releases, caused by simultaneous access to the flash during programming or when starting new processes after an upgrade. Also, WeOS warns when one of the partitions has an image with invalid CRC. Attempting to upgrade the partition with the OK CRC is discouraged, upgrade the partition with the invalid CRC first.

As usual, when upgrading from an earlier release, we always recommend backing up your configuration beforehand.

**Note:** The version string listed in the output from the `show system-information` command in the CLI, or the System Details page in the WebUI, is only updated after reboot.

### 6.2 Boot Loader

The boot loader firmware has its own version numbering scheme and is CPU platform specific. Please note, unless the release notes explicitly recommends it, there is usually no need to upgrade the boot loader.

The boot loader firmware is included in the WeOS-5.19.1.pkg.

- Viper Series (Coronet): Barebox 2017.12.0-11
- RedFox-5700/7500 and Lynx-5500/5600 Series (Dagger): Barebox 2017.12.0-11
- Lynx 3300/3500 Series (Envoy): Barebox 2022.08.0-1

```
redfox-4d-3b-20:/#> upgrade boot <SERVER-ADDRESS> WeOS-5.19.1.pkg
```

Document Release Notes WeOS 5.19.1	
Date February 2, 2024	Document No 224004-g0c254bc846

## 7 Significant differences between WeOS 4 and WeOS 5

Some aspects of the CLI are different between WeOS 4 and WeOS 5. Here are some examples:

- Access port names have changed, e.g. `Eth 1` is now `eth1`. Similarly, on products with M12 ports, `Eth X1` is now `ethX1`.
- Port ranges (lists) have changed, e.g. `Eth 1-8` is now `eth1..eth8`
- Server and Internet port settings are now usually input as `ADDR:PORT`
- IGMP settings have been renamed from `igmp-foo` to `multicast-foo` due to the included MLD snooping support. Hidden compatibility aliases exist to ease the transition
- Stateless NAT (NAT 1-to-1) has moved out from the firewall context
- Enabling management services per interface has moved to each specific service
- Configuration of management services have moved to a separate management sub-context
- New discovery services, in addition to LLDP, are mDNS and SSDP. The latter is for discovery on Windows systems, see also section 5
- The DHCP relay agent CLI syntax has changed considerably
- The `show running-config` command now lists an actual file, in JSON format as mentioned previously. An optional keyword now lists the first level JSON object, and more advanced keywords can also be given in `jq` syntax<sup>1</sup>. For more information, see the CLI online help text for `help running-config`

---

<sup>1</sup>For more information on `jq`, a JSON query tool, see <https://stedolan.github.io/jq/>

This page intentionally left blank.