NAME
ovs-vlan-test -- Check Linux drivers for problems with vlan traffic

SYNOPSIS
ovs-vlan-test [−s | −server] control_ip vlan_ip

DESCRIPTION
The ovs-vlan-test utility has some limitations, for example, it does not use TCP in its tests. Also it does not take into account MTU to detect potential edge cases. To overcome those limitations a new tool was developed – ovs-test. ovs-test is currently supported only on Debian so, if possible, try to use that on instead of ovs-vlan-test.

The ovs-vlan-test program may be used to check for problems sending 802.1Q traffic which may occur when running Open vSwitch. These problems can occur when Open vSwitch is used to send 802.1Q traffic through physical interfaces running certain drivers of certain Linux kernel versions. To run a test, configure Open vSwitch to tag traffic originating from vlan_ip and forward it out the target interface. Then run the ovs-vlan-test in client mode connecting to an ovs-vlan-test server. ovs-vlan-test will display “OK” if it did not detect problems.

Some examples of the types of problems that may be encountered are:

• When NICs use VLAN stripping on receive they must pass a pointer to a vlan_group when reporting the stripped tag to the networking core. If no vlan_group is in use then some drivers just drop the extracted tag. Drivers are supposed to only enable stripping if a vlan_group is registered but not all of them do that.

• On receive, some drivers handle priority tagged packets specially and don’t pass the tag onto the network stack at all, so Open vSwitch never has a chance to see it.

• Some drivers size their receive buffers based on whether a vlan_group is enabled, meaning that a maximum size packet with a VLAN tag will not fit if no vlan_group is configured.

• On transmit, some drivers expect that VLAN acceleration will be used if it is available, which can only be done if a vlan_group is configured. In these cases, the driver may fail to parse the packet and correctly setup checksum offloading or TSO.

Client Mode
An ovs-vlan-test client may be run on a host to check for VLAN connectivity problems. The client must be able to establish HTTP connections with an ovs-vlan-test server located at the specified control_ip address. UDP traffic sourced at vlan_ip should be tagged and directed out the interface whose connectivity is being tested.

Server Mode
To conduct tests, an ovs-vlan-test server must be running on a host known not to have VLAN connectivity problems. The server must have a control_ip on a non-VLAN network which clients can establish connectivity with. It must also have a vlan_ip address on a VLAN network which clients will use to test their VLAN connectivity. Multiple clients may test against a single ovs-vlan-test server concurrently.

OPTIONS
−s, −−server
Run in server mode.

−h, −−help
Prints a brief help message to the console.

−V, −−version
Prints version information to the console.

EXAMPLES
Display the Linux kernel version and driver of eth1:
uname -r
ethtool -i eth1

Set up a bridge which forwards traffic originating from 1.2.3.4 out eth1 with VLAN tag 10:

ovs-vsctl -- add-br vlan-br \
  -- add-port vlan-br eth1 \
  -- add-port vlan-br vlan-br-tag tag=10 \
  -- set Interface vlan-br-tag type=internal
ip addr add 1.2.3.4/8 dev vlan-br-tag
ip link set vlan-br-tag up

Run an ovs-vlan-test server listening for client control traffic on 172.16.0.142:8080 and VLAN traffic on the default port of 1.2.3.3:

ovs-vlan-test -s 172.16.0.142:8080 1.2.3.3

Run an ovs-vlan-test client with a control server located at 172.16.0.142:8080 and a local VLAN IP of 1.2.3.4:

ovs-vlan-test 172.16.0.142:8080 1.2.3.4

SEE ALSO
ovs-vswitchd(8), ovs-ofctl(8), ovs-vsctl(8), ovs-test, ethtool(8), uname(1)

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