NAME

ovn-controller − Open Virtual Network local controller

SYNOPSIS

ovn−controller [*options*] [*ovs-database*]

DESCRIPTION

ovn−controller is the local controller daemon for OVN, the Open Virtual Network. It connects up to the OVN Southbound database (see **ovn−sb**(5)) over the OVSDB protocol, and down to the Open vSwitch database (see **ovs−vswitchd.conf.db**(5)) over the OVSDB protocol and to **ovs−vswitchd**(8) via OpenFlow. Each hypervisor and software gateway in an OVN deployment runs its own independent copy of **ovn−controller**; thus, **ovn−controller**'s downward connections are machine-local and do not run over a physical network.

CONFIGURATION

ovn−controller retrieves most of its configuration information from the local Open vSwitch's ovsdb-server instance. The default location is **db.sock** in the local Open vSwitch's "run" directory. It may be overridden by specifying the *ovs-database* argument in one of the following forms:

- **ssl:***ip***:***port*

  The specified SSL *port* on the host at the given *ip*, which must be expressed as an IP address (not a DNS name) in IPv4 or IPv6 address format. If *ip* is an IPv6 address, then wrap *ip* with square brackets, e.g.: **ssl:[::1]:6640**. The **−−private−key**, **−−certificate** and either of **−−ca−cert** or **−−bootstrap−ca−cert** options are mandatory when this form is used.

- **tcp:***ip***:***port*

  Connect to the given TCP *port* on *ip*, where *ip* can be IPv4 or IPv6 address. If *ip* is an IPv6 address, then wrap *ip* with square brackets, e.g.: **tcp:[::1]:6640**.

- **unix:***file*

  On POSIX, connect to the Unix domain server socket named *file*.

  On Windows, connect to a localhost TCP port whose value is written in *file*.

ovn−controller assumes it gets configuration information from the following keys in the **Open_vSwitch** table of the local OVS instance:

external_ids:system−id
: The chassis name to use in the Chassis table.

external_ids:hostname
: The hostname to use in the Chassis table.

external_ids:ovn−bridge
: The integration bridge to which logical ports are attached. The default is **br−int**. If this bridge does not exist when ovn-controller starts, it will be created automatically with the default configuration suggested in **ovn−architecture**(7).

external_ids:ovn−remote
: The OVN database that this system should connect to for its configuration.

  Currently, **ovn−controller** does not support changing this setting mid-run. If the value needs to change, the daemon must be restarted. (This behavior should be improved.)

external_ids:ovn−remote−probe−interval
: The inactivity probe interval of the connection to the OVN database, in milliseconds. If the value is zero, it disables the connection keepalive feature.

  If the value is nonzero, then it will be forced to a value of at least 1000 ms.

external_ids:ovn−encap−type
The encapsulation type that a chassis should use to connect to this node. Multiple encapsulation types may be specified with a comma-separated list. Each listed encapsulation type will be paired with **ovn−encap−ip**.

Supported tunnel types for connecting hypervisors are **geneve** and **stt**. Gateways may use **geneve**, **vxlan**, or **stt**.

Due to the limited amount of metadata in **vxlan**, the capabilities and performance of connected gateways will be reduced versus other tunnel formats.

external_ids:ovn−encap−ip
The IP address that a chassis should use to connect to this node using encapsulation types specified by **external_ids:ovn−encap−type**.

external_ids:ovn−bridge−mappings
A list of key-value pairs that map a physical network name to a local ovs bridge that provides connectivity to that network. An example value mapping two physical network names to two ovs bridges would be: **physnet1:br−eth0,physnet2:br−eth1**.

OPEN VSWITCH DATABASE USAGE

ovn−controller uses a number of **external_ids** keys in the Open vSwitch database to keep track of ports and interfaces. For proper operation, users should not change or clear these keys:

external_ids:ovn−chassis−id in the **Port** table
The presence of this key identifies a tunnel port within the integration bridge as one created by **ovn−controller** to reach a remote chassis. Its value is the chassis ID of the remote chassis.

external_ids:ovn−localnet−port in the **Port**
table The presence of this key identifies a patch port as one created by **ovn−controller** to connect the integration bridge and another bridge to implement a **localnet** logical port. Its value is the name of the logical port with **type** set to **localnet** that the port implements. See **external_ids:ovn−bridge−mappings**, above, for more information.

Each **localnet** logical port is implemented as a pair of patch ports, one in the integration bridge, one in a different bridge, with the same **external_ids:ovn−localnet−port** value.

external_ids:ovn−l2gateway−port in the **Port**
table The presence of this key identifies a patch port as one created by **ovn−controller** to connect the integration bridge and another bridge to implement a **l2gateway** logical port. Its value is the name of the logical port with **type** set to **l3gateway** that the port implements. See **external_ids:ovn−bridge−mappings**, above, for more information.

Each **l2gateway** logical port is implemented as a pair of patch ports, one in the integration bridge, one in a different bridge, with the same **external_ids:ovn−l2gateway−port** value.

external_ids:ovn−logical−patch−port in the
Port table This key identifies a patch port as one created by **ovn−controller** to implement an OVN logical patch port within the integration bridge. Its value is the name of the OVN logical patch port that it implements.

RUNTIME MANAGEMENT COMMANDS

ovs−appctl can send commands to a running **ovn−controller** process. The currently supported commands are described below.

exit Causes **ovn−controller** to gracefully terminate.

ct−zone−list
Lists each local logical port and its connection tracking zone.