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: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−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 physical network 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−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.