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# Chapter 1 New Routing Feature Configuration

## 1.1 New Display Command for OSPF Neighbor Information

- 1) A new command **display ospf peer statistics** is designed, which has the same display output as that of the old **display ospf peer brief** command.
- 2) The new **display ospf peer brief** command has the following fields in its display output: Router ID, Address (IP address of the neighbor), Pri (priority of the neighbor), DeadTime(s), Interface, and State.

## 1.2 New Display Command for RIP Interfaces

You can use the new command **display rip interface** to display information about RIP interfaces.

## 1.3 Traffic Sharing Across RIP Interfaces

### 1.3.1 Introduction

Equal-cost routes are routes with the same destination but different next hop addresses in a routing table. After traffic sharing across RIP interfaces is enabled, the system averagely distributes the traffic to its RIP interfaces through equal-cost routes.

### 1.3.2 Configuration Procedure

You can perform the following operations to configure traffic sharing across RIP interfaces.

**Table 1-1** Configure traffic sharing across RIP interfaces

Operation	Command	Description
Enter system view	<b>system-view</b>	—
Enter RIP view	<b>rip</b>	—
Enable traffic sharing across RIP interfaces	<b>traffic-share-across-interface</b>	Required By default, traffic sharing across RIP interfaces is disabled.

Operation	Command	Description
Display the current running state and configuration information of the RIP protocol	<b>display rip</b>	You can execute this command in any view.

## Chapter 2 New Routing Feature Commands

### 2.1 Enhanced Display for OSPF Neighbor Information

#### 2.1.1 display ospf peer brief

##### Syntax

**display ospf** [ *process-id* ] **peer brief**

##### View

Any view

##### Parameter

*process-id*: OSPF process ID, in the range of 1 to 65535.

##### Description

Use the **display ospf peer brief** command to display the brief information about the OSPF neighbors in different areas, including Router ID, interface, state, and so on.

##### Example

# Display the brief information about OSPF neighbors in each area.

```
<Quidway> display ospf peer brief
      OSPF Process 1 with Router ID 1.1.1.1
      Neighbor Brief Information

Area 0.0.0.1:
Router ID    Address          Pri  DeadTime(s)  Interface          State
2.2.2.2     192.168.0.2     1    39           Vlan-interface 1   Full/BDR
```

**Table 2-1** Description on the fields of the **display ospf peer brief** command

Field	Description
Router ID	Router ID of the neighbor router
Address	IP address of the interface adjacent to the neighbor router
Pri	Priority of the neighbor router
DeadTime(s)	Dead time (in seconds) of the neighbor router
Interface	Type and number of the local router interface connected to the neighbor router

Field	Description
State	State of the neighbor router: "State/DR" is displayed in this field if the neighbor router is a designated router. "State/BDR" is displayed in this field if the neighbor router is a backup designated router. For the available states, refer to <a href="#">Table 2-2</a> .

## 2.1.2 display ospf peer statistics

### Syntax

**display ospf [ *process-id* ] peer statistics**

### View

Any view

### Parameter

*process-id*: OSPF process ID, in the range of 1 to 65,535.

### Description

Use the **display ospf peer statistics** command to display the statistics about the OSPF neighbors in different areas, that is, the numbers of the neighbors in different states in each area.

### Example

# Display the statistics about the OSPF neighbors in different areas.

```
<Quidway> display ospf peer statistics
          OSPF Process 1 with Router ID 1.1.1.1
          Neighbor Statistics
```

Area ID	Down	Attempt	Init	2-Way	ExStart	Exchange	Loading	Full	Total
0.0.0.1	0	0	0	0	0	0	0	1	1
Total		0		0	0	0	0	0	0
1 1									

**Table 2-2** Description on the fields of the **display ospf peer statistics** command

Field	Description
Area ID	Area ID
Down	This is the initial state when the OSPF establishes a neighbor relationship. This state indicates that the OSPF router does not receive information from the neighbor router in a specific period.
Attempt	This state is valid only in an NBMA environment, such as frame relay, X.25 or ATM. It indicates that the OSPF router has not received any information from a neighbor router for a period, but still needs to send Hello packets to the neighbor router in a relatively low frequency to make contact with the router.
Init	This state indicates the OSPF router has received a Hello packet from the neighbor router, but its IP address is not contained in the Hello packet, that is, the two-way communication connection between the two parties has not yet been established.
2-Way	This state indicates that a two-way communication connection has been established between the OSPF router and the neighbor router. The selection of DR and BDR is completed in this state or in a higher state.
ExStart	In this state, the router determines the initial sequence number of the database description (DD) packets for data exchange, to ensure that the link state information the router obtains is always the latest one.
Exchange	In this state, the OSPF router sends DD packets to the neighbor router to exchange link state information.
Loading	In this state, the OSPF router sends a link state request to the neighbor router according to the update link state information received from the neighbor router and the expired information saved in this router, and waits for a response from the neighbor router.
Full	This state indicates that the synchronization of databases between the two routers which have established neighbor relationship to each other is completed, and the link state databases in the two routers are now consistent with each other.
Total	Total numbers of the neighbors in different states

## 2.2 Enhanced Display for RIP-Related Information

### 2.2.1 display rip interface

#### Syntax

**display rip interface**

#### View

Any view

**Parameter**

None

**Description**

Use the **display rip interface** command to display information about RIP interfaces.

**Example**

# Display information about RIP interfaces.

```
<Quidway> display rip interface
```

```
RIP Interface: public net
```

```
Address  Interface          Ver  MetrIn/Out  Input  Output  Split-horizon
1.0.0.1  Vlan-interface100  2    0/1         on    on      on
```

**Table 2-3** Description on the fields of the **display rip interface** command

Field	Description
Address	IP address of the interface on which the RIP protocol is running (in RIP view, the <b>network</b> command is used to enable RIP on the network segment this address belongs to).
Interface	Name of the interface on which the RIP protocol is running. The Address field gives the IP address of this interface.
Ver	Version of the RIP protocol running on the interface
MetrIn/Out	Attached route metric added when receiving/sending a route
Input	Whether or not the interface is allowed to receive RIP packets (on for allowed, off for inhibited).
Output	Whether or not the interface is allowed to send RIP packets (on for allowed, off for inhibited).
Split-horizon	Whether or not split-horizon is enabled (on for enabled, and off for disabled)

## 2.3 Equal-Cost Route Feature Supported by RIP

### 2.3.1 traffic-share-across-interface

**Syntax**

```
traffic-share-across-interface
```

```
undo traffic-share-across-interface
```

**View**

RIP view

### Parameter

None

### Description

Use the **traffic-share-across-interface** command to enable traffic sharing across RIP interfaces to averagely distribute the traffic to the RIP interfaces of the router through equal-cost routes.

Use the **undo traffic-share-across-interface** command to disable traffic sharing.

By default, traffic sharing across RIP interfaces is disabled.

### Example

# Enable traffic sharing across RIP interfaces.

```
<Quidway> system-view
System View: return to User View with Ctrl+Z.
[Quidway] rip
[Quidway-rip] traffic-share-across-interface
```