ZebOS-XP®
Network Platform

Version 1.4
Extended Performance

Policy Based Routing
Configuration Guide

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Preface

This guide describes how to configure Policy Based Routing (PBR) in ZebOS-XP.

Audience

This guide is intended for network administrators and other engineering professionals who configure PBR.

Conventions

Table P-1 shows the conventions used in this guide.

Table P-1: Conventions

Convention	Description
Italics	Emphasized terms; titles of books
Note:	Special instructions, suggestions, or warnings
`monospaced type`	Code elements such as commands, functions, parameters, files, and directories

Contents

This document contains this chapter:

- Chapter 1, *Policy Based Routing Configuration*

Related Documents

Use this guide with the *Network Services Module Command Reference* for details about the commands used in the configurations.

Note: All ZebOS-XP technical manuals are available to licensed customers at http://www.ipinfusion.com/support/document_list.

Chapter Organization

The chapters in this guide are organized into these major sections:

- An overview that explains a configuration in words
- Topology with a diagram that shows the devices and connections used in the configuration

- Configuration steps in a table for each device where the left-hand side shows the commands you enter and the right-hand side explains the actions that the commands perform
- Validation which shows commands and their output that verify the configuration

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CHAPTER 1 Policy Based Routing Configuration

This chapter contains a sample Policy Based Routing (PBR) configuration.

Overview

Policy Based Routing (PBR) allows the forwarding and routing of data packets based on policies defined by network administrators. By design, it is a way to have a policy override a routing protocol decision based on the destination IP address. PBR includes a mechanism for selectively applying policies based on an access list or other criteria. Actions taken might include routing a packet on a user-defined route or routing the packet using the default route.

PBR applies on ingress interfaces. Define a routing policy by creating a route map. A route map is a combination of match clauses and set commands:

- The match clauses define the criteria conditions to meet using access control lists (ACLs).
- The set commands define how the packets should route once they have met the match criteria.

For each combination of match and set commands in a route map statement, all sequential match clauses must meet simultaneously by the packet for the set clauses to be applied. There may be multiple sets of combinations of match and set commands in a route map statement.

You can also mark a route map statement as permit or deny:

- If the statement is marked as deny, the packets meeting the match criteria are sent back through the normal forwarding path (that is, via destination-based routing).
- If the statement is marked as permit and the packets meet the match criteria, then all set clauses are applied. If the statement is marked as permit and the packets do not meet the match criteria, then those packets are forwarded through the normal routing channel.

The routing policy applies only on incoming interfaces. A routing policy can contain multiple rules defined with different sequence numbers for the same route-map-name. The system evaluates the rules in the order of their sequence number until the first match occurs. If no match occurs, then those packets are forwarded through the normal routing channel.

Router

`#configure terminal`	Enter the `Configure` mode.
`(config)#access-list zebos TEST deny ip 1.1.1.1/24 any`	Create an access list TEST, to deny all ip packets coming from source address 1.1.1.1.
`(config)#route-map FILTER deny 1`	Create a route-map FILTER.
`(config-route-map)#match ip address TEST`	Set the matching IP address to access list TEST.
`(config-route-map)#set ip next-hop 2.2.2.2`	Set the primary next hop as 2.2.2.2
`(config-route-map)#set ip next-hop 2.2.2.3`	Set the secondary next hop as 2.2.2.3
(c`onfig-route-map`**)**`#exit`	Exit the router map mode
`(config)#interface eth1`	Enter the interface configuration mode for eth1.

(config-if)#ip policy route-map FILTER	Configure ip policy FILTER on the interface eth1.
(config-if)#exit	Exit the interface mode.

Validation

```
#>show ip policy
        Interface         Route map
        eth1                FILTER
```

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