Silver Peak

Management Services Configuration Guide

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Contents

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Silver Peak Systems, Inc.
2860 De La Cruz Boulevard
Santa Clara, CA 95050

1.877.210.7325 (toll-free in USA)
+1.408.935.1850

http://www.silver-peak.com/support

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For product and technical support, contact Silver Peak Systems at either of the following:

1.877.210.7325 (toll-free in USA)
+1.408.935.1850
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Management Services Description

Unity ECOS and Unity Orchestrator release version 9.0 adds Management Services for management applications along with Cloud Portal and Orchestrator connectivity. This document covers the behavior for upgrades from older versions and for new installations at Version 9.0. The document covers scenarios where Routing Segmentation is disabled or enabled.

Management services allow users to configure source IP address of a selected interface for each management services listed below, providing deterministic use of source IP address for each service. In the previous releases, source IP address of the interfac`e resulting from route lookup is used for these management services which can vary depending upon route updates. This feature will help customers to configure their network infrastructure with deterministic IP address used by EdgeConnect Management traffic.

- NetFlow
- SNMP
- Syslog
- NTP
- Cloud Portal and Orchestrator connectivity
- SSH server
- SaaS optimization pings
- HTTP/HTTPS WebUI access

Accessing Management Services

This topic introduces the Management Services page and compares it to the legacy Management Routes page provided in previous version. Chapter sections include:

Management Services vs. Management Routes

Version 9.0 provides two pages for configuring Management parameters:

Management Routes page (Access by ***Configuration > Networking > Routing > Management Routing***) configures static routes for management services egress traffic from EdgeConnect appliances. This is the configuration page provided in previous ECOS versions.

Management Services page (Access by ***Configuration > Networking > Routing > Management Services***) specifies a source IP address for routing each management service. This page is introduced in Version 9.0 and is the primary topic of this configuration guide.

Users that do not require a deterministic Management Services source IP address can continue using Management Routes configuration with the default Management services configuration.

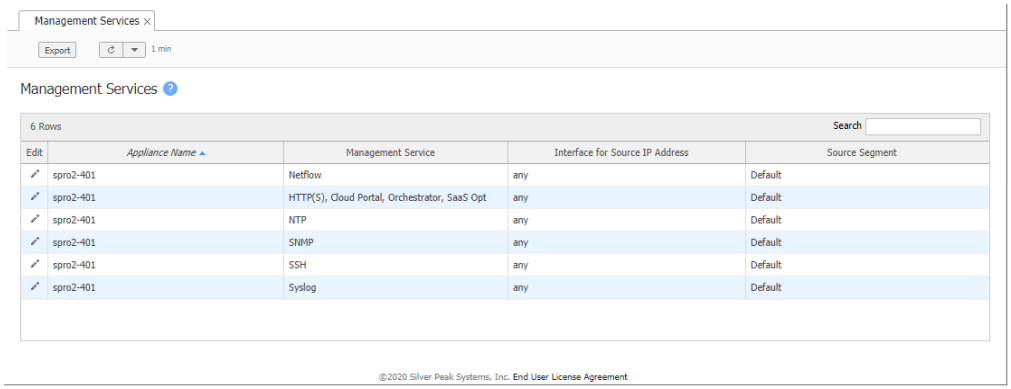
Accessing the Management Services Page

Management Services (Figure 1) is an Orchestrator page that is accessed by navigating ***Configuration > Networking > Routing > Management Services***.

Interface for Source IP Address assigns an interface to a service. The IP address used for egress packets is based on the interface assigned to the specified service. This provides a deterministically defined IP address for the service.

By default, **Interface for Source IP Address** is set to ***any*** for all management services. With this setting, EdgeConnect management services behavior is unchanged from previous releases. Therefore, no other initial configuration is required after upgrading to Version 9.0.

Figure 1. Management Services page



The **Source Segment** column appears when Route Segmentation is enabled. – the **Source Segment** column indicates the segment that is assigned to the interface in the **Deployment** page. When ***any*** is assigned to a service, Orchestrator designates an interface and source IP address based on route lookup for the service.

Routing Management Traffic

Routing of the management services traffic and source IP address used in the egress packets depend upon user configuration as described in these sections:

Interface for Source IP Address — Any

The following describes routing management traffic behavior for the different Segmentation states.

Segmentation disabled

When **Interface for Source IP Address** is set to ***any***, user has no control over the source IP address used for management services egress packets.

Depending upon route lookup, the corresponding source IP address configured in the **Management Routes** table is used as the packet's source IP address. If the Source IP address is not configured (or set to 0.0.0.0) in the **Management Routes** table for the selected route, the egress interface's IP address is used as the source IP address.

Previous versions supported the ***ip mgmt-ip <ip address>*** CLI command, which specified a static IP address for managements services. This CLI command is not available in Version 9.0.

Segmentation enabled

This behavior is same when segmentation is enabled. If segmentation is enabled, "Any" configuration option can only be used for the default segment.

Interface for Source IP Address — Loopback or Data Path

The Routing Segmentation enable status affects routing management traffic behavior when **Interface for Source IP Address** is set to a loopback or data path interface.

Segmentation disabled

When **Interface for source IP address** is set to a loopback interface or any data path interface, then route look up is performed in the data path route table only when the MGMT0 interface is down. When MGMT0 is up, a system added default route with a lower metric value of 250 is preferred in route look up and traffic egresses MGMT0 interface.

When the management table has a user-configured static route with metric value less than 250 and the egress interface is set a MGMT0, then the user-configured route is selected due to lower metric value and the MGMT0 interface is used. In all other cases, route look up is performed in the data path route table.

Segmentation enabled

Default Segment

The **Management Routes** table is associated with the default segment. When a Management Service source segment is set to ***default***, the route used for service traffic is determined as follows:

- The egress interface is the data path of the default segment that was in the default segment's table when 1) MGMT0 is down; or 2) the data path has a metric value less than the metric value of the MGMT0 interface.
- The egress interface is MGMT0 if it is up and it has a metric value greater than the metric value of the data path of the default segment that was in the default segment's route table .

User Defined Segments

When **Interface for source IP address** is set to a loopback interface or any data path interface (lo100, lan0, lan0:100), the egress interface is determined through a route look up in the associated segment's data path route table.

Because the **Management routes** table is associated with the ***default*** segment, it is never used for traffic of a user-defined segment.

Cloud Portal and Orchestrator Connectivity

Cloud Portal and Orchestrator Connectivity is describe by the following sections:

Cloud Portal Connectivity

Public IP address discovery of NAT interfaces

Version 9.0 does not change the method by which the Cloud Portal discovers EdgeConnect public IP addresses. When segmentation is enabled, the Cloud Portal performs IP address discovery through all interfaces regardless of their segment association.

Cloud Portal DNS resolution

EdgeConnect appliances attempts resolve the Cloud Portal DNS address (cloudportal.silver-peak.com) from all the interfaces regardless of the Routing Segmentation enable status. This behavior is similar to previous versions.

Cloud portal reachability and WebSocket connection

Segmentation disabled

Version 9.0 does not change the method by which EdgeConnect appliances perform cloud portal reachability test and establishes a WebSocket connection. The IP address configured in **Interface for Source IP address** is disregarded for Cloud Portal reachability and WebSocket connections.

Segmentation enabled

When segmentation is enabled, cloud portal reachability test and WebSocket connection are established only through the segment associated with the interface specified in **Interface for Source IP Address**. The IP address configured in **Interface for Source IP address** is disregared for Cloud Portal reachability and WebSocket connections.

To establish Cloud Portal WebSocket connectivity from all the interfaces in a segment, it is possible to establish connectivity from the interface specified in **Interface for Source IP Address**.

Packet forwarding for Cloud Portal

Version 9.0 changes the method by which packets destined to Cloud Portal from an EdgeConnect appliance. Because the Cloud Portal reachability test provides the interface through which the Cloud Portal is reachable, the WebSocket connection is established over that interface by bypassing the route lookup.

Orchestrator reachability and WebSocket connectivity

Segmentation disabled

Version 9.0 does not change the manner in which EdgeConnect appliances perform orchestrator reachability test and established WebSocket connection. Unlike Cloud Portal WebSocket connectivity, Orchestrator WebSocket connectivity is established using the source IP address specified by **Interface for Source IP Address**, providing deterministic source IP address for Orchestrator connectivity. Packet forwarding is performed as described in the Routing Management Traffic.

Segmentation enabled

When segmentation is enabled, orchestrator reachability test and WebSocket connection are established only through the segment associated with the interface configured in “Interface for Source IP Address”. The IP address configured in “Interface for Source IP address”, is used as the source IP address for the orchestrator reachability and WebSocket connections.

Application Management

DCHP server

Users can configure DHCP address range per segment because each interface is associated with the segment. Overlapping IP subnet/masks across two segments is not supported.

- When Segment A's segment interface is configured with 192.168.10.0/24 and the same or overlapping range is used to configure interface in Segment B, clients from both segments receive IP addresses allocated from a single range.
- When two ranges are configured for segments 192.168.10.1-99 and 192.168.10.200-250, the range configured last is used for both interfaces even if they are in different segments.

DHCP Relay

When Routing Segmentation is enabled, DHCP relay is supported only in the default segment. Future releases will support DHCP relay for each segment.

Management Services template

Version 9.0 adds the a Management Services template to the Default Template group. For all management services, ***any*** is the default setting for **Interface for the source IP Address**. Users should plan for potential changes in behavior before applying the Management Services template if there are changes to the **Management Routes** page.

Because SSH management is configurable in the management services template, the existing CLI template excludes ***ssh server listen interface lo***. By default, **SSH service** is set to ***any*** – this allows users to SSH into an EdgeConnect appliance through the IP address of any interface.

SSH, NetFlow, SNMP, NTP, and Syslog

All other management services, including SSH, NetFlow, SNMP, NTP, and Syslog, follow the previously mentioned behavior. This is no change in behavior after upgrade because the default **nterface for the Source IP Address** setting is ***any***.

Segmentation disabled

When segmentation is disabled, these services perform routing and use the source IP address described in Routing Management Traffic.

Segmentation enabled

When segmentation is enabled, these services are available only in the segment associated with the user configured **Interface for the source IP Address**. Source IP address and traffic routing are described in Routing Management Traffic.

Accessing services from multiple segments

Services configured to run in a segment specified by **Interface for source IP Address** are only available in the specified segment. Users can configure appropriate inter-segment rules to make these services accessible from the other segments.

CLI Session

CLI session usage requires the following management services are configured with the same segment:

- HTTP(s), Cloud Portal, Orchestrator, SaaS Opt
- SSH