

# How to take action on emails queued for delivery

## Introduction

This document describes the actions that can be taken for troubleshooting emails that are *queued for delivery* aka held on an Email Security Appliance (ESA) and pending to be delivered.

## Prerequisites

- CLI access to your ESA For Cloud Email Security (CES) customers, more info on CLI access can be found [here](#).
- GUI access to your ESA

## What does it mean?

When troubleshooting issues concerning email delivery, you may see in the Message Tracking or mail logs that the last state of a message shows *queued for delivery*. This means that the message has been processed by the ESA, but that for some reason the ESA is unable to complete delivery of the message to the next-hop MTA. This could be for a variety of reasons, but commonly because the ESA is unable to reach the destination host and/or the messages are being throttled or rejected by the next-hop MTA.

## Review and Troubleshoot

The steps below will go over the process for taking a closer look at messages queued for delivery and troubleshooting SMTP connectivity.

### Step 1 - Verify the Number of Messages Pending Delivery

From the CLI, you can utilize the **tophosts** command sorted by **Active Recipients** to review items sitting in the delivery queue. Active Recipients will signify the number of messages held waiting to be delivered.

```
esa.lab.local> tophosts active_rcpts
```

```
Status as of: Thu Aug 13 14:29:42 2020 EDT  
Hosts marked with '*' were down as of the last delivery attempt.
```

```
Active Conn. Deliv. Soft Hard  
# Recipient Host Recip. Out Recip. Bounced Bounced
```

```
1 the.encryption.queue 0 0 0 0  
2 the.euq.queue 5 0 0 0 0  
3 the.euq.release.queue 0 0 0 0 0
```

From the GUI, you can navigate to **Monitor > Delivery Status**.

Outgoing Destinations Status <span>↑</span>						
Destination Domain	Latest Host Status	Active Recipients ▼	Connections Out	Delivered Recipients	Soft Bounced	Hard Bounced
<a href="#">cisco-ros.com</a>	Down	13	0	0	0	0
<a href="#">ironport.com</a>	Unknown	0	0	850	0	0
<a href="#">the.cpq.host</a>	Unknown	0	0	0	0	0
<a href="#">the.encryption.queue</a>	Unknown	0	0	0	0	0
<a href="#">the.euq.queue</a>	Unknown	0	0	0	0	0
<a href="#">the.euq.release.queue</a>	Unknown	0	0	0	0	0

## Step 2 - Verify the Host Status of a Destination Domain

From the CLI, you can utilize the **hoststatus** command combined with the domain in question to review the **Host up/down** state. More information on the output can be found: [here](#).

```
esa.lab.local> hoststatus gmail.com
```

```
Host mail status for: 'gmail.com'
Status as of: Thu Aug 13 14:37:17 2020 EDT
Host up/down: up
```

Counters:

```
Queue
Soft Bounced Events 0
Completion
Completed Recipients 336
Hard Bounced Recipients 0
DNS Hard Bounces 0
5XX Hard Bounces 0
Filter Hard Bounces 0
Expired Hard Bounces 0
Other Hard Bounces 0
Delivered Recipients 336
Deleted Recipients 0
```

Gauges:

```
Queue
Active Recipients 0
Unattempted Recipients 0
Attempted Recipients 0
Connections
Current Outbound Connections 0
Pending Outbound Connections 0
```

From the GUI, this can also be seen under **Monitor > Delivery Status**.

Outgoing Destinations Status <span>↑</span>						
Destination Domain	Latest Host Status	Active Recipients ▼	Connections Out	Delivered Recipients	Soft Bounced	Hard Bounced
<a href="#">cisco-ros.com</a>	Down	13	0	0	0	0
<a href="#">ironport.com</a>	Unknown	0	0	850	0	0
<a href="#">the.cpq.host</a>	Unknown	0	0	0	0	0
<a href="#">the.encryption.queue</a>	Unknown	0	0	0	0	0
<a href="#">the.euq.queue</a>	Unknown	0	0	0	0	0
<a href="#">the.euq.release.queue</a>	Unknown	0	0	0	0	0

Some examples of the **Host up/down** status and what it may mean (not all-inclusive):

**up** - Reachable and actively accepting messages

**down** - Positively down (e.g. connection refused or no route to host) or the SMTP conversation is timing out

**unknown** -Unable to connect (e.g. delivery routed through an incorrect interface or IP address of the interface is not properly NAT/routed through the firewall)

### Step 3 - Testing SMTP Connectivity

If the host is unreachable, we can first check for the DNS MX records using **dig** and then test connectivity using **telnet**.

```
esa.lab.local> dig mx gmail.com
```

```
;; QUESTION SECTION:  
;gmail.com. IN MX
```

```
;; ANSWER SECTION:  
gmail.com. 1784 IN MX 40 alt4.gmail-smtp-in.l.google.com.  
gmail.com. 1784 IN MX 30 alt3.gmail-smtp-in.l.google.com.  
gmail.com. 1784 IN MX 10 alt1.gmail-smtp-in.l.google.com.  
gmail.com. 1784 IN MX 5 gmail-smtp-in.l.google.com.  
gmail.com. 1784 IN MX 20 alt2.gmail-smtp-in.l.google.com.
```

```
esa.lab.local> telnet alt1.gmail-smtp-in.l.google.com 25
```

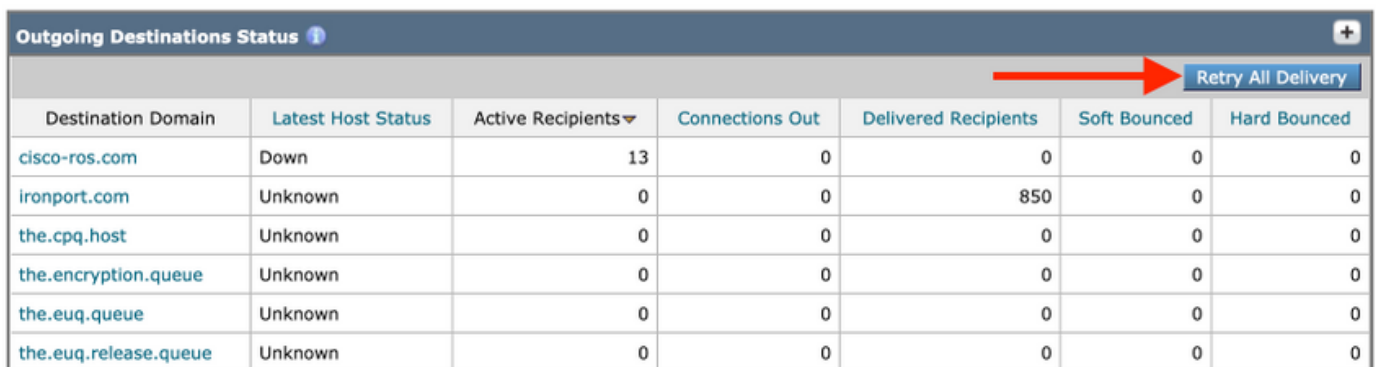
```
Trying 64.233.186.26...
```

```
Connected to cb-in-f26.1e100.net.
```

```
Escape character is '^['.
```

```
220 mx.google.com ESMTP d21si4412123p11.407 - gsmtip
```

If the telnet returns Connected and a 220 banner then you can retry delivery using the **delivernow all** command, or from the GUI you can navigate to **Monitor > Delivery Status** and click **Retry All Delivery**.



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the.cpq.host	Unknown	0	0	0	0	0
the.encryption.queue	Unknown	0	0	0	0	0
the.euq.queue	Unknown	0	0	0	0	0
the.euq.release.queue	Unknown	0	0	0	0	0

If the connectivity tests return a rejection then additional troubleshooting may be required. You will want to review the mail logs and/or Message Tracking to see if reasons for possible rejections are shown.

## Additional Troubleshooting Methods

- SMTPPING can be used for sending a test message. For more info, click [here](#).
- Packet captures will allow you to review the SMTP conversation, along with confirming if any errors are being seen (e.g. TLS). For more info, click [here](#). CES customers will need to contact Cisco TAC for assistance with running any captures.
- Domain Debug Logs will also show the entirety of the SMTP conversation and are extremely useful if needing to see how messages are being delivered from the ESA. For more info, click [here](#).

## Related Information

- [Accessing the Command Line Interface \(CLI\) of Your Cloud Email Security \(CES\) Solution](#)
- [Cisco Email Security Appliance - End-User Guides](#)