Configure Hyperflex Auto Support

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Introduction

This document describes the automatic support and Smart Call Home for Cisco Hyperflex systems.

You can configure the HX storage cluster to send automated email notifications regarding documented events. The data collected in the notifications can be used to help troubleshoot issues in your HX storage cluster.

Prerequisites

Requirements

Cisco recommends that you have knowledge of these topics:

- HXDP Cluster
- SMTP Server
- HX Connect

Components Used

The information in this document is based on these software and hardware versions:

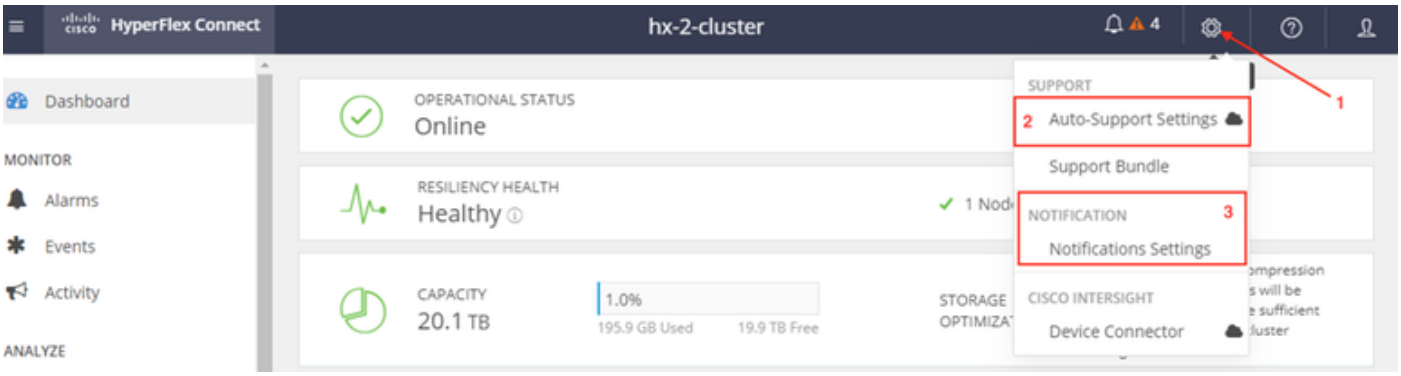
- HX Cluster version 3.0(1c)
- SMTP Email Server DNS

The information in this document was created from the devices in a specific lab environment. All of the devices used in this document started with a cleared (default) configuration. If your network is live, ensure that you understand the potential impact of any command.

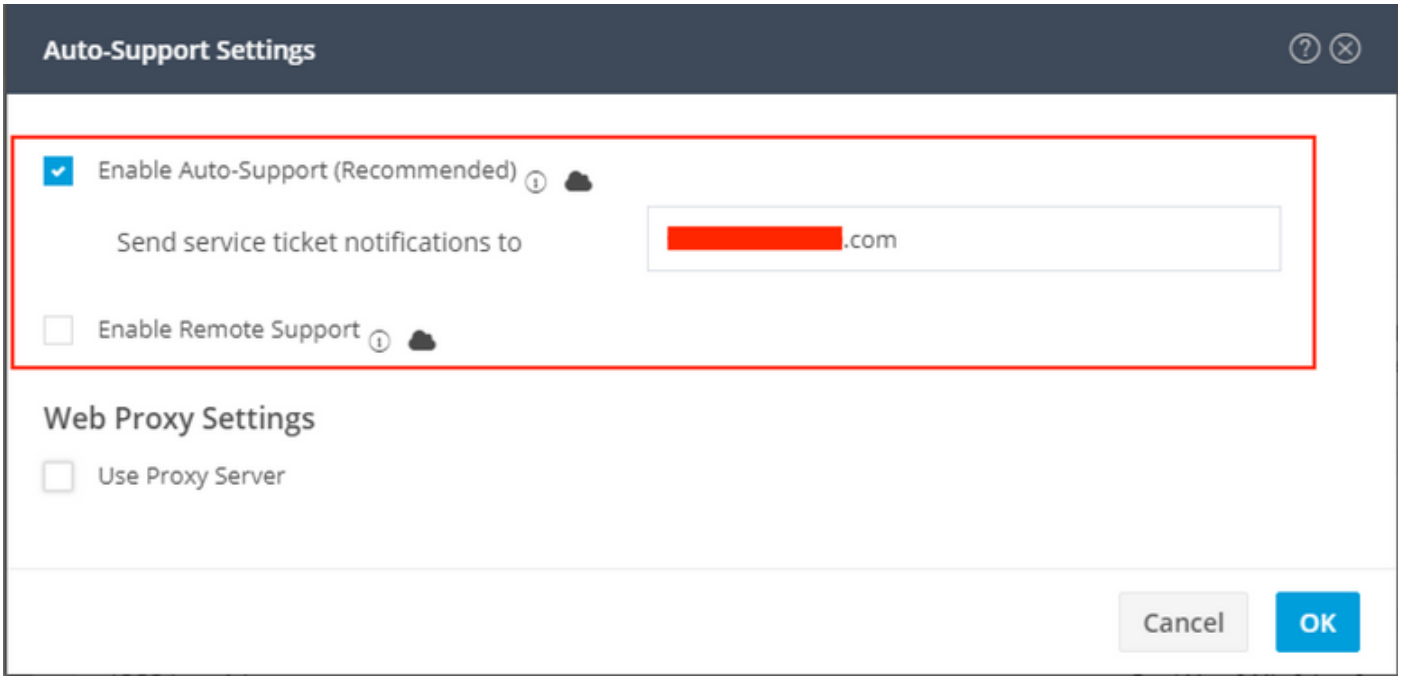
Configuration

Configure via HX Connect UI

Step 1. Login to **HX connect**. Click on Edit settings (gear icon) and choose **Auto Support Settings**, as shown in the image.

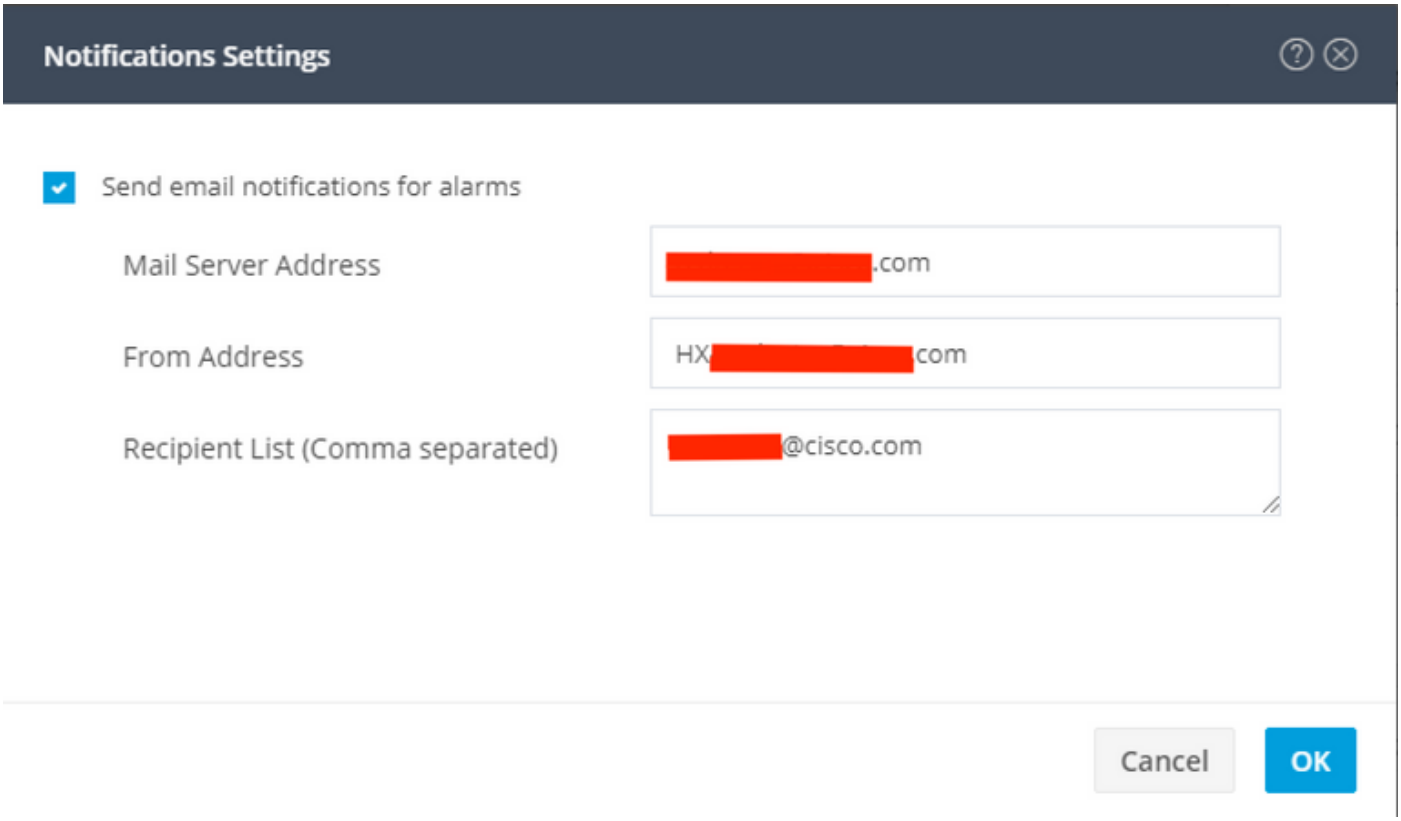


Step 2. Click on **Auto Support Setting** and configure the parameters.



> **Note**: If you Enable Remote Support - It enables access to your HX storage cluster by Support to collect information about cluster operations to accelerate troubleshooting on reported anomalies.

Step 3. In the banner, click Edit settings (gear icon) and then check the Notifications Settings.



Configure via CLI

Step 1. Enable ASUP notification.

 # stcli services asup enable

Step 2. Configure the SMTP mail server.

 # stcli services smtp set --smtp mailhost.eng.mycompany.com --fromaddress smtpnotice@mycompany.com

Step 3. Add recipient email address.

 # stcli services asup recipients add --recipients user1@mycompany.com user2@mycompany.com

```
root@SpringpathController7HNFK1BYQ4:~#
root@SpringpathController7HNFK1BYQ4:~# stcli services asup enable
root@SpringpathController7HNFK1BYQ4:~#
root@SpringpathController7HNFK1BYQ4:~# stcli services smtp set --smtp [redacted]co.com --fromaddress HX-[redacted]co.com
root@SpringpathController7HNFK1BYQ4:~#
root@SpringpathController7HNFK1BYQ4:~# stcli services asup recipients add --recipients [redacted]cisco.com [redacted]cisco.com
root@SpringpathController7HNFK1BYQ4:~#
root@SpringpathController7HNFK1BYQ4:~# stcli cluster version
Cluster version: 3.0(1c)
Node hx-2-esxi-03 version: 3.0(1c)
Node hx-2-esxi-04 version: 3.0(1c)
Node hx-2-esxi-01 version: 3.0(1c)
Node hx-2-esxi-02 version: 3.0(1c)
root@SpringpathController7HNFK1BYQ4:~#
```

Verify

Step 1. Login to SCVM Cluster IP and run this command from CLI.

```
root@SpringpathController7HNFK1BYQ4:~#
root@SpringpathController7HNFK1BYQ4:~# stcli services asup show
recipientList:
    [redacted].com
enabled: True
root@SpringpathController7HNFK1BYQ4:~# stcli services smtp show
smtpServer: [redacted].com
fromAddress: HX-[redacted].com
root@SpringpathController7HNFK1BYQ4:~#
```

Step 2. Run the command **sendasup -t** from SCVM, confirm that you do not see any "failure message" for the ASUP email.

```
root@SpringpathController7HNFK1BYQ4:~#
root@SpringpathController7HNFK1BYQ4:~# sendasup -t
****** asup created, now consolidate and email: Args = -t
sendasup email_asup: arg from parent script:
Cluster-Name:  hx-2-cluster
Cluster-Version:  3.0.1c-29681
Email - PrepareSubject command option : -t
Process command option : t
Subject with event type: HX Cluster: hx-2-cluster | test
ASUP  email_asup: non-Ping scenario
non-ping scenario - event without attachment  target: default
SendMailWork----Arg-1 : /var/support/asup/email/cluster_body_1202d0099f0fb5a2:6a418293d93d8293..txt Arg-2 : [redacted]@cisco
.com [redacted]@cisco.com autosupport@springpathinc.com Arg-3 :
Sending email for PING scenario: HX Cluster: hx-2-cluster | test | Version: 3.0.1c-29681 | ID: 1202d0099f0fb5a2:6a418293d9
3d8293 Content-Type=text/plain
Delete email tmp files
root@SpringpathController7HNFK1BYQ4:~#
```

Step 3. Check and confirm you receive the email with ASUP test email which contains information about cluster state.

HX Cluster: hx-2-cluster | test | Version: 3.0.1c-29681 | ID: 1202d0099f0fb5a2:6a418293d93d8293

H

HX-2-Cluster[redacted]

Thursday, October 4, 2018 at 4:19 PM

To: Atul Khanna [redacted]; autosupport@springpathinc.com; Avinash Shukla [redacted]

```
Content-Type=text/plain
User-Agent: s-nail v14.8.6

address: [redacted]
name: hx-2-cluster
state: online
uptime: 30 days 5 hours 48 minutes 16 seconds
activeNodes: 4 of 4
compressionSavings: 0.0%
deduplicationSavings: 0.0%
freeCapacity: 19.9T
healingInfo:
    inProgress: False
resiliencyDetails:
        current ensemble size:4
        # of caching failures before cluster shuts down:3
        minimum cache copies remaining:3
        minimum data copies available for some user data:3
        minimum metadata copies available for cluster metadata:3
        # of unavailable nodes:0
        # of nodes failure tolerable for cluster to be available:1
        health state reason:storage cluster is healthy.
        # of node failures before cluster shuts down:3
        # of node failures before cluster goes into readonly:3
        # of persistent devices failures tolerable for cluster to be available:2
        # of node failures before cluster goes to enospace warn trying to move the existing data:na
        # of persistent devices failures before cluster shuts down:3
        # of persistent devices failures before cluster goes into readonly:3
        # of caching failures before cluster goes into readonly:na
        # of caching devices failures tolerable for cluster to be available:2
resiliencyInfo:
    messages:
        Storage cluster is healthy.
    state: 1
    nodeFailuresTolerable: 1
    cachingDeviceFailuresTolerable: 2
    persistentDeviceFailuresTolerable: 2
    zoneResInfoList: None
spaceStatus: normal
totalCapacity: 20.1T
totalSavings: 0.0%
usedCapacity: 195.9G
clusterAccessPolicy: lenient
dataReplicationCompliance: compliant
dataReplicationFactor: 3
```

Troubleshoot

Step 1. Check the configuration in the **asup.cfg** file. Sample file.

```
root@SpringpathController7HNFK1BYQ4:/#
root@SpringpathController7HNFK1BYQ4:/# cd /opt/springpath/storfs-asup/
root@SpringpathController7HNFK1BYQ4:/opt/springpath/storfs-asup# cat asup.cfg
#
#   asup.cfg
#
STORFS_ASUP_VERSION=0.1
STORFS_ASUP=/opt/springpath/storfs-asup
STORFS_ASUP_COMMANDFILE=${STORFS_ASUP}/asup.commands
ASUP_RECIPIENTS=autosupport@springpathinc.com
root@SpringpathController7HNFK1BYQ4:/opt/springpath/storfs-asup#
```

Step 2. If you do not see the test email is received or if you see a failure when the test is performed, perform a tcpdump simultaneously to see why it might be failing,

Example tcpdump - SMTP port number is 25, so run **#tcpdump -v "port 25"**

```
root@SpringpathController7HNFK1BYQ4:~#
root@SpringpathController7HNFK1BYQ4:~# tcpdump -v "port 25"
tcpdump: listening on eth0, link-type EN10MB (Ethernet), capture size 262144 bytes
23:39:43.919480 IP (tos 0x0, ttl 64, id 14932, offset 0, flags [DF], proto TCP (6), length 60)
```

Sample Email Output from Working SMTP tcp connection.

```
root@SpringpathController:~# tcpdump -v "port 25"

tcpdump: listening on eth0, link-type EN10MB (Ethernet), capture size 262144 bytes
23:19:29.675676 IP (tos 0x0, ttl 64, id 32615, offset 0, flags [DF], proto TCP (6), length 60)
SpringpathController.43728 > smtp: Flags [S], cksum 0x0eb4 (correct -> 0x30d2), seq 1145499023,
win 29200, options [mss 1460,sackOK,TS val 653300456 ecr 0,nop,wscale 7], length 0
23:19:29.718179 IP (tos 0x0, ttl 50, id 0, offset 0, flags [DF], proto TCP (6), length 60) smtp
> SpringpathController.43728: Flags [S.], cksum 0x7b29 (correct), seq 3464669186, ack
1145499024, win 28960, options [mss 1460,sackOK,TS val 3313859196 ecr 653300456,nop,wscale 7],
length 0 23:19:29.718196 IP (tos 0x0, ttl 64, id 32616, offset 0, flags [DF], proto TCP (6),
length 52) SpringpathController.43728 > smtp: Flags [.], cksum 0x0eac (correct -> 0x1a26), ack
1, win 229, options [nop,nop,TS val 653300467 ecr 3313859196], length 0 23:19:29.766871 IP (tos
0x0, ttl 50, id 53925, offset 0, flags [DF], proto TCP (6), length 142) smtp >
SpringpathController.43728: Flags [P.], cksum 0xeaa1 (correct), seq 1:91, ack 1, win 227,
options [nop,nop,TS val 3313859245 ecr 653300467], length 90: SMTP, length: 90 220 cisco.com
ESMTP Sendmail 8.15.2/8.15.2; Thu, 4 Oct 2018 23:19:29 GMT 23:19:29.766963 IP (tos 0x0, ttl 64,
id 32617, offset 0, flags [DF], proto TCP (6), length 52) SpringpathController.43728 > smtp:
Flags [.], cksum 0x0eac (correct -> 0x198f), ack 91, win 229, options [nop,nop,TS val 653300479
ecr 3313859245], length 0 23:19:29.767007 IP (tos 0x0, ttl 64, id 32618, offset 0, flags [DF],
proto TCP (6), length 68) SpringpathController.43728 > smtp: Flags [P.], cksum 0x0ebc (correct -
> 0xadb5), seq 1:17, ack 91, win 229, options [nop,nop,TS val 653300479 ecr 3313859245], length
16: SMTP, length: 16 EHLO localhost 23:19:29.809718 IP (tos 0x0, ttl 50, id 53926, offset 0,
flags [DF], proto TCP (6), length 52) smtp > SpringpathController.43728: Flags [.], cksum 0x1957
(correct), ack 17, win 227, options [nop,nop,TS val 3313859287 ecr 653300479], length 0
23:19:29.809843 IP (tos 0x0, ttl 50, id 53927, offset 0, flags [DF], proto TCP (6), length 278)
smtp > SpringpathController.43728: Flags [P.], cksum 0xf21f (correct), seq 91:317, ack 17, win
227, options [nop,nop,TS val 3313859287 ecr 653300479], length 226: SMTP, length: 226 250-
smtp.cisco.com Hello [172.16.67.141], pleased to meet you 250-ENHANCEDSTATUSCODES 250-PIPELINING
250-EXPN 250-VERB 250-8BITMIME 250-SIZE 33554432 250-DSN 250-ETRN 250-STARTTLS 250-DELIVERBY 250
HELP 23:19:29.809907 IP (tos 0x0, ttl 64, id 32619, offset 0, flags [DF], proto TCP (6), length
88) SpringpathController.43728 > smtp: Flags [P.], cksum 0x0ed0 (correct -> 0x37fb), seq 17:53,
ack 317, win 237, options [nop,nop,TS val 653300490 ecr 3313859287], length 36: SMTP, length: 36
MAIL FROM:<HX-Cluster@cisco.com> 23:19:29.891867 IP (tos 0x0, ttl 50, id 53928, offset 0, flags
[DF], proto TCP (6), length 52) smtp > SpringpathController.43728: Flags [.], cksum 0x17f3
(correct), ack 53, win 227, options [nop,nop,TS val 3313859370 ecr 653300490], length 0
23:19:29.891885 IP (tos 0x0, ttl 64, id 32620, offset 0, flags [DF], proto TCP (6), length 159)
SpringpathController.43728 > smtp: Flags [P.], cksum 0x0f17 (correct -> 0x6d30), seq 53:160, ack
317, win 237, options [nop,nop,TS val 653300510 ecr 3313859370], length 107: SMTP, length: 107
RCPT TO:<email1@cisco.com> RCPT TO:<autosupport@springpathinc.com> RCPT TO:<email2@cisco.com>
DATA 23:19:29.926710 IP (tos 0x0, ttl 50, id 53929, offset 0, flags [DF], proto TCP (6), length
101) smtp > SpringpathController.43728: Flags [P.], cksum 0x8bed (correct), seq 317:366, ack 53,
win 227, options [nop,nop,TS val 3313859404 ecr 653300490], length 49: SMTP, length: 49 250
2.1.0 <HX-Cluster@cisco.com>... Sender ok 23:19:29.934244 IP (tos 0x0, ttl 50, id 53930, offset
0, flags [DF], proto TCP (6), length 52) smtp > SpringpathController.43728: Flags [.], cksum
0x1719 (correct), ack 160, win 227, options [nop,nop,TS val 3313859412 ecr 653300510], length 0
23:19:29.965252 IP (tos 0x0, ttl 64, id 32621, offset 0, flags [DF], proto TCP (6), length 52)
SpringpathController.43728 > smtp: Flags [.], cksum 0x0eac (correct -> 0x1704), ack 366, win
237, options [nop,nop,TS val 653300529 ecr 3313859404], length 0 23:19:30.007490 IP (tos 0x0,
ttl 50, id 53931, offset 0, flags [DF], proto TCP (6), length 257) smtp >
SpringpathController.43728: Flags [P.], cksum 0x85af (correct), seq 366:571, ack 160, win 227,
options [nop,nop,TS val 3313859485 ecr 653300529], length 205: SMTP, length: 205 250 2.1.5
<email1@cisco.com>... Recipient ok 250 2.1.5 <autosupport@springpathinc.com>... Recipient ok 250
2.1.5 <email2@cisco.com>... Recipient ok 354 Enter mail, end with "." on a line by itself
23:19:30.007516 IP (tos 0x0, ttl 64, id 32622, offset 0, flags [DF], proto TCP (6), length 52)
SpringpathController.43728 > smtp: Flags [.], cksum 0x0eac (incorrect -> 0x15d4), ack 571, win
245, options [nop,nop,TS val 653300539 ecr 3313859485], length 0 23:19:30.007541 IP (tos 0x0,
ttl 64, id 32623, offset 0, flags [DF], proto TCP (6), length 82) SpringpathController.43728 >
smtp: Flags [P.], cksum 0x0eca (incorrect -> 0x8563), seq 160:190, ack 571, win 245, options
[nop,nop,TS val 653300539 ecr 3313859485], length 30: SMTP, length: 30 From: HX-
Cluster@cisco.com 23:19:30.007591 IP (tos 0x0, ttl 64, id 32624, offset 0, flags [DF], proto TCP
(6), length 1500) SpringpathController.43728 > smtp: Flags [.], cksum 0x1454 (incorrect ->
0xc6bf), seq 190:1638, ack 571, win 245, options [nop,nop,TS val 653300539 ecr 3313859485],
```

length 1448: SMTP, length: 1448 Date: Thu, 04 Oct 2018 23:19:29 +0000 To: user1@cisco.com, autosupport@springpathinc.com, user2@cisco.com Subject: HX Cluster: hx-cluster | test | Version: 3.0.1c-29681 | ID: 1202d0099f0fb5a2:6a418293d93d8293 Content-Type=text/plain User-Agent: s-nail v14.8.6 address: X.X.X.X name: hx-cluster state: online uptime: 30 days 5 hours 48 minutes 16 seconds activeNodes: 4 of 4 compressionSavings: 0.0% deduplicationSavings: 0.0% freeCapacity: 19.9T .. <EMAIL Output Truncate > 23:19:30.050129 IP (tos 0x0, ttl 50, id 53933, offset 0, flags [DF], proto TCP (6), length 52) smtp > SpringpathController.43728: Flags [.], cksum 0x0fdf (correct), ack 1638, win 249, options [nop,nop,TS val 3313859528 ecr 653300539], length 0 23:19:30.092223 IP (tos 0x0, ttl 50, id 53934, offset 0, flags [DF], proto TCP (6), length 52) *smtp* > SpringpathController.43728: Flags [.], cksum 0x0dfe (correct), ack 2043, win 272, options [nop,nop,TS val 3313859570 ecr 653300550], length 0 23:19:30.101680 IP (tos 0x0, ttl 50, id 53935, offset 0, flags [DF], proto TCP (6), length 108) *smtp* > SpringpathController.43728: Flags [P.], cksum 0x836b (correct), seq 571:627, ack 2043, win 272, options [nop,nop,TS val 3313859579 ecr 653300550], length 56: SMTP, length: 56 250 2.0.0 w94NJTIv013119 Message accepted for delivery 23:19:30.101719 IP (tos 0x0, ttl 64, id 32626, offset 0, flags [DF], proto TCP (6), length 58) SpringpathController7HNFK1BYQ4.43728 > *smtp*: Flags [P.], cksum 0x0eb2 (incorrect -> 0x6609), seq 2043:2049, ack 627, win 245, options [nop,nop,TS val 653300563 ecr 3313859579], length 6: SMTP, length: 6 QUIT 23:19:30.144067 IP (tos 0x0, ttl 50, id 53936, offset 0, flags [DF], proto TCP (6), length 108) *smtp* > SpringpathController.43728: Flags [P.], cksum 0xcba6 (correct), seq 627:683, ack 2049, win 272, options [nop,nop,TS val 3313859622 ecr 653300563], length 56: SMTP, length: 56 221 2.0.0 rcdn-core2-2-r6.cisco.com closing connection