

Microsoft Exchange内部部署的单收件箱同步问题

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简介

本文档提供有关Cisco Unity Connection(CUC)和Microsoft Exchange本地部署之间出现的同步问题的信息。

先决条件

要求

思科建议您了解CUC。

使用的组件

本文档不限于特定的软件和硬件版本。

本文档中的信息都是基于特定实验室环境中的设备编写的。本文档中使用的所有设备最初均采用原始(默认)配置。如果您使用的是真实网络,请确保您已经了解所有命令的潜在影响。

问题

同步问题有三种类型:

- 无同步
- 从两端延迟同步 (CUC到Exchange Server和反之)
- 从Exchange Server到CUC的延迟同步

故障排除

本节提供有关如何排除这三个问题的信息。前两个问题合并到一个部分，因为故障排除方法相同。

CUC和Exchange之间延迟或无同步

CUC和Exchange之间没有同步或延迟同步可能有多种原因。在此场景中，通过CLI或通过实时监控工具(RTMT)的日志收集检查CUC和Exchange Server之间的通信故障。

RTMT

选择跟踪和日志中心>收集文件。选择“连接邮箱同步日志”并继续。

根

通过CLI在CUC(/var/log/active/cuc)上：

```
[root@ucbu-aricent-vm163 log]# ls -ltr | grep MbxSync
-rw-rw-r-- 1 cumbxsync      cuservice      37223 Jun  5 09:18 diag_CuMbxSync_00000086.uc
-rw-rw-r-- 1 cumbxsync      cuservice      37223 Jun  5 09:18 diag_CuMbxSync_00000087.uc
-rw-rw-r-- 1 cumbxsync      cuservice      37223 Jun  5 09:19 diag_CuMbxSync_00000088.uc
-rw-rw-r-- 1 cumbxsync      cuservice      37223 Jun  5 09:19 diag_CuMbxSync_00000089.uc
-rw-rw-r-- 1 cumbxsync      cuservice      36919 Jun  5 09:20 diag_CuMbxSync_00000090.uc
```

要查看文件，请输入cat <filename>或vi <filename>，其中<filename>为diag_CuMbxSync_XXXXXXXXX.uc。

管理CLI

日志也可以通过管理员CLI查看，但是这相当困难。

要列出文件，请输入file list activelog /cuc/diag_CuMbxSync* detail reverse。

要查看文件，请输入文件查看活动/cuc/diag_CuMbxSync_XXXXXXXXX.uc,其中XXXXXXXXX是文件编号。

要将文件传输到安全FTP(SFTP)服务器，请输入file get activelog /cuc/diag_CuMbxSync*。

检查最新的CuMbxSync日志，查找任何HTTP故障或警告。由于默认情况下错误或警告会写入跟踪，因此此时无需启用跟踪。

HTTP故障可能会停止（间歇或完全）从CUC到Exchange服务器的消息传送操作同步，反之亦然。如果日志中出现HTTP故障，则下一步是排除故障并解决这些问题。

Unity Connection单[收件箱故障排除技术说明文档](#)提供了CuMbxSync日志中出现的各种错误的一些信息。

如果CuMbxSync日志中没有错误/故障，则启用CsEws和CuMbxSync微跟踪 — 所有级别。选择Cisco Unity Connection Serviceability > Trace > Micro Trace。点击用户的Unified Messaging Account页面上的重置选项，并再次收集日志。请联系思科技术支持中心(TAC)获取进一步帮助。

从Exchange Server到CUC的延迟同步

Exchange与端口7080上的CUC服务器通信。本部分提供排除故障的步骤。

1. 确保端口7080已打开，CUC在此端口上侦听。 **管理 CLI**

```
admin:show open ports regexp 7080

Executing.. please wait.
jetty      14655          jetty 117u IPv6      117863      0t0  TCP *:7080 (LISTEN)
admin:
admin:
```

根

```
[root@ucbu-aricent-vm163 ~]#
[root@ucbu-aricent-vm163 ~]# netstat -ano|grep 7080
tcp        0      0  :::7080                :::*           LISTEN
[root@ucbu-aricent-vm163 ~]#
[root@ucbu-aricent-vm163 ~]#
[root@ucbu-aricent-vm163 ~]# lsof -i -P | grep :7080
jetty      19481          jetty 120u IPv6      123391      TCP *:7080 (LISTEN)
[root@ucbu-aricent-vm163 ~]#
```

2. 在Exchange服务器和CUC服务器上收集网络捕获，以确认Exchange服务器发送Jetty通知，而CUC接收这些Jetty通知。在CUC CLI中，输入 `utils network capture file SIBTrace count 100000 size ALL`。在Exchange上，下载并运行 [Wireshark](#)。在CUC捕获中，您应该在端口7080（用于接收通知的端口）上看到以下数据包模式：

```
:
```

Time	Source	Destination	Protocol	Length	Info
1422	2014-06-29 08:25:44.208924	173.37.183.83	10.93.132.92	HTTP/1.1	1143 POST /NotificationService/Services/NotificationService?id=0a37681c-bc0...
1426	2014-06-29 08:25:44.305976	20.93.132.92	173.37.183.83	HTTP/1.1	54 HTTP/1.1 200 OK
1536	2014-06-29 08:25:44.813027	173.37.183.83	10.93.132.92	HTTP/1.1	1143 POST /NotificationService/Services/NotificationService?id=e6d8718-1a9...
1539	2014-06-29 08:25:44.821625	20.93.132.92	173.37.183.83	HTTP/1.1	54 HTTP/1.1 200 OK
1560	2014-06-29 08:25:44.829751	173.37.183.83	10.93.132.92	HTTP/1.1	1143 POST /NotificationService/Services/NotificationService?id=1bcab5d-8a7...
1563	2014-06-29 08:25:44.831264	20.93.132.92	173.37.183.83	HTTP/1.1	54 HTTP/1.1 200 OK
1575	2014-06-29 08:25:44.985286	173.37.183.83	10.93.132.92	HTTP/1.1	1143 POST /NotificationService/Services/NotificationService?id=f0c1d61a-5a3f...
1578	2014-06-29 08:25:44.999111	20.93.132.92	173.37.183.83	HTTP/1.1	54 HTTP/1.1 200 OK
1593	2014-06-29 08:25:45.767927	173.37.183.83	10.93.132.92	HTTP/1.1	1143 POST /NotificationService/Services/NotificationService?id=e3bbe03-0ca7...
1596	2014-06-29 08:25:45.783788	20.93.132.92	173.37.183.83	HTTP/1.1	54 HTTP/1.1 200 OK
1638	2014-06-29 08:25:46.607312	173.37.183.83	10.93.132.92	HTTP/1.1	1143 POST /NotificationService/Services/NotificationService?id=11b5eef5-043c...
1641	2014-06-29 08:25:46.616088	20.93.132.92	173.37.183.83	HTTP/1.1	54 HTTP/1.1 200 OK
1644	2014-06-29 08:25:46.638317	173.37.183.83	10.93.132.92	HTTP/1.1	1143 POST /NotificationService/Services/NotificationService?id=c2286da-654c...
1647	2014-06-29 08:25:46.640719	20.93.132.92	173.37.183.83	HTTP/1.1	54 HTTP/1.1 200 OK
1637	2014-06-29 08:25:46.750081	173.37.183.83	10.93.132.92	HTTP/1.1	1143 POST /NotificationService/Services/NotificationService?id=88c58ed5-d417...
1660	2014-06-29 08:25:46.769839	20.93.132.92	173.37.183.83	HTTP/1.1	54 HTTP/1.1 200 OK
1670	2014-06-29 08:25:47.543860	173.37.183.83	10.93.132.92	HTTP/1.1	1143 POST /NotificationService/Services/NotificationService?id=bd3fcb0d-0d3c...

确认（借助屏幕截图中突出显示的IP地址）通知已从Exchange服务器发送到CUC，而不是发送到某些代理服务器。如果您在端口7080上没有看到相同的模式（或在端口7080上没有看到任何流量），请与Exchange服务器团队联系。从Exchange到CUC的通知可以有两种类型：保持连接通知消息操作通知保持连接消息从Exchange发送到CUC。以下是保持连接通知消息的示例

```
:
```

Time	Source	Destination	Protocol	Length	Info
23	2014-06-29 08:10:55.247528	173.37.183.83	10.93.132.92	TCP	54 41984 > wpowerfd [ACK] Seq=90 [Win=0 Len=0 MSS=1460 WS=16 SACK_PERM...
24	2014-06-29 08:10:55.247541	10.93.132.92	173.37.183.83	TCP	56 wpowerfd > 41984 [Win, ACK] Seq=1422 Acl=1 wfn=1460 Len=0 MSS=1460 SACK...
24	2014-06-29 08:10:55.310282	173.37.183.83	10.93.132.92	TCP	56 41984 > wpowerfd [ACK] Seq=1 Acl=1 wfn=131584 Len=0
25	2014-06-29 08:10:55.311495	173.37.183.83	10.93.132.92	TCP	385 [TCP segment of a reassembled PDU]
26	2014-06-29 08:10:55.311521	10.93.132.92	173.37.183.83	TCP	54 wpowerfd > 41984 [ACK] Seq=1 Acl=132 wfn=15784 Len=0
30	2014-06-29 08:10:55.374463	173.37.183.83	10.93.132.92	HTTP/1.1	1143 POST /NotificationService/Services/NotificationService?id=248c923e2d1...
31	2014-06-29 08:10:55.374478	10.93.132.92	173.37.183.83	TCP	54 wpowerfd > 41984 [ACK] Seq=1 Acl=1422 wfn=17920 Len=0
32	2014-06-29 08:10:55.379307	10.93.132.92	173.37.183.83	TCP	54 [TCP segment of a reassembled PDU]
33	2014-06-29 08:10:55.379520	10.93.132.92	173.37.183.83	HTTP/1.1	54 HTTP/1.1 200 OK
34	2014-06-29 08:10:55.442377	173.37.183.83	10.93.132.92	TCP	60 41984 > wpowerfd [ACK] Seq=1422 Acl=491 wfn=131072 Len=0
35	2014-06-29 08:10:55.442632	173.37.183.83	10.93.132.92	TCP	60 41984 > wpowerfd [Win, ACK] Seq=1422 Acl=491 wfn=131072 Len=0
36	2014-06-29 08:10:55.442654	10.93.132.92	173.37.183.83	TCP	54 wpowerfd > 41984 [ACK] Seq=401 Acl=1422 wfn=17920 Len=0

```

POST /NotificationService/services/NotificationService?id=2348c723-2466-4fco-bda0-b9419fb0215e&pid=25672 HTTP/1.1
Content-Type: text/xml; charset=utf-8
Accept: text/xml
SOAPAction: http://schemas.microsoft.com/exchange/services/2006/messages/sendnotification
Host: 10.93.132.92:7090
Content-Length: 1089
Connection: close

<?xml version="1.0" encoding="utf-8"?><soap11:Envelope xmlns:soap11="http://schemas.xmlsoap.org/soap/
envelope/"><soap11:Header><RequestServerVersion xmlns="http://schemas.microsoft.com/exchange/services/2006/messages"
xmlns:t="http://schemas.microsoft.com/exchange/services/2006/types" /></
soap11:Header><soap11:Body><SendNotification xmlns:t="http://schemas.microsoft.com/exchange/services/2006/types" xmlns:m="http://
schemas.microsoft.com/exchange/services/2006/messages"><ResponseMessages><SendNotificationResponseMessage
ResponseCode="Success"><ResponseCode>None</
m:ResponseCode><SubscriptionId>PQB43G4UMKXQWOS1jAXN10v51h20QAAAAEWIZK0f9s0qqIT9vKMLKqny0sNKKKYDEE //
t:SubscriptionId><PreviousWatermark>AQAAAAH1Tasq1Jt/q9pniQFFGFAl'sAAAAAAAE-</t:PreviousWatermark><MoreEvents>None</
t:MoreEvents><StatusEvent><Watermark>AQAAAAH1Tasq1Jt/q9pniQFFGFAl'sAAAAAAAE-</t:Watermark><StatusEvent><Subscription></
m:SendNotificationResponseMessage></ResponseMessages></SendNotification></soap11:Body></soap11:Envelope>HTTP/1.1 200 OK
Date: Sun, 29 Jun 2014 15:10:35 GMT
Content-Type: text/xml; charset=UTF-8
Connection: close
Server: Jetty(8.1.14.v20131031)

<?xml version="1.0" encoding="UTF-8"?><soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/
envelope/"><soapenv:Body><ns2:SendNotificationResult xmlns:ns2="http://schemas.microsoft.com/exchange/services/2006/
messages"><ns2:SubscriptionStatus>OK</ns2:SubscriptionStatus></ns2:SendNotificationResult></soapenv:Body></soapenv:Envelope>

```

Exchange服务器每五分钟（默认情况下）为每个订用用户发送一次此通知。此通知由Exchange发送到Exchange Web Services(EWS)客户端（本例中为CUC），以使订用在CUC中保持活动状态。Jetty在CUC服务器接收来自Exchange服务器的通知，该服务器解析通知并更新tbl_ExSubscription表中的数据。tbl_ExSubscription中的条目示例

```

unitydyndb> select first 10 * from tbl_exsubscription;
subscriptionid          timestamputc            subscriberexternalserviceobjectid
-----
0a37d81e-bc62-47b3-a3d9-30b3c7384211 2014-06-29 16:00:45.775000 0b163c0f-74b5-4982-99c1-144cd23df0a4
4bca6b5d-6a79-41b7-ac1c-5cf3be3229a8 2014-06-29 16:00:46.351000 1fdb64d-3448-44a0-9833-74201579569f
e6df8710-1a9c-4df5-bfa9-3ad6f1f69fd1 2014-06-29 16:00:46.351000 2068ca60-110d-46c4-a202-8d52321df906
f9c1d61a-5a3f-477e-8cea-66ac8881c0f9 2014-06-29 16:00:46.475000 27acb13b-9f47-4cbe-aa06-00966e1adcf0
e3bebe03-0ca7-4cec-956c-6d1d1f1fea0e6 2014-06-29 16:00:47.256000 2cb8f61e-62b2-46cb-8fe4-97192131ce79
11b5def5-c45d-43b0-845b-12df8638f96c 2014-06-29 16:00:48.130000 2drdfdfc-a94d-42a8-b0fc-c32fe3ce232e
c2280dea-654d-49c1-a68c-467bf486db56 2014-06-29 16:00:48.131000 304f6f0e-d2b3-43ad-bed4-0d658c0292c6
88c58ed5-d417-44f4-811c-aeb959e0374b 2014-06-29 16:00:48.223000 32ad581d-650b-4106-b758-4fa2825c5ef0
bd3fcb0d-0d3d-42ff-a95e-a1006a6c0f046 2014-06-29 16:00:49.019000 4c8b025d-81d2-4f62-a075-42f7d063b66f
a8cc85da-e03b-4718-b07a-6486a1ef8f59 2014-06-29 16:02:11.486000 4c9d3b84-5824-499d-83dc-e3258484af8f

unitydyndb>

```

同样的信息可通过管理CLI查看。输入run cuc dbquery unitydyndb select first 10 * from tbl_exsubscription命令。tbl_ExSubscription存储有关通过EWS向Exchange注册的每个邮箱订阅的信息。timestamputc（在上一屏幕截图中突出显示）是此表中的列之一。它包含以UTC时间表示的日期时间，表示CUC上次从Exchange服务器接收此订用通知的时间。CuMbxSync进程有一个线程，每两分钟监控一次过期订阅，并对任何过期条目执行重新订阅。在示例日志中，线程将一组订用条目视为过期。这不是理想情况（如果一切正常，并且Exchange及时发送保活通知）。此字段用于检测CuMbxSync进程的过时订用。用于过滤过时订用的条件是timestamputc < (CurrentTime - 15分钟)。即使Exchange端的用户邮箱没有更改，Exchange Server默认仍会以五分钟间隔发送每个用户（Exchange服务器上的用户）的通知。来自Exchange的保持连接通知可在“连接码”日志中查看。这些日志可以从RTMT(选择跟踪和日志中心>收集文件>连接码并继续)或通过根访问(/usr/local/jetty/logs)。

```

173.37.183.83 - - [29/Jun/2014:11:30:50] "0000" "POST /NotificationService/services/NotificationService?id=2348c723-2466-4fco-bda0-b9419fb0215e&pid=25672 HTTP/1.1" 200
343
173.37.183.83 - - [29/Jun/2014:11:35:54] "0000" "POST /NotificationService/services/NotificationService?id=2348c723-2466-4fco-bda0-b9419fb0215e&pid=25672 HTTP/1.1" 200
348
173.37.183.83 - - [29/Jun/2014:11:40:54] "0000" "POST /NotificationService/services/NotificationService?id=2348c723-2466-4fco-bda0-b9419fb0215e&pid=25672 HTTP/1.1" 200
343
173.37.183.83 - - [29/Jun/2014:11:45:54] "0000" "POST /NotificationService/services/NotificationService?id=2348c723-2466-4fco-bda0-b9419fb0215e&pid=25672 HTTP/1.1" 200
343
173.37.183.83 - - [29/Jun/2014:11:50:54] "0000" "POST /NotificationService/services/NotificationService?id=2348c723-2466-4fco-bda0-b9419fb0215e&pid=25672 HTTP/1.1" 200
343
173.37.183.83 - - [29/Jun/2014:11:55:55] "0000" "POST /NotificationService/services/NotificationService?id=2348c723-2466-4fco-bda0-b9419fb0215e&pid=25672 HTTP/1.1" 200
343
173.37.183.83 - - [29/Jun/2014:12:00:55] "0000" "POST /NotificationService/services/NotificationService?id=2348c723-2466-4fco-bda0-b9419fb0215e&pid=25672 HTTP/1.1" 200
343

```

此日志显示CUC发送的响应，该响应与Exchange Server发送的保持连接通知对应。如果保持连接通知未从Exchange到达CUC，则订用将在每16分钟（大约）后重新订用，只有到那时才会进行邮箱同步。这种行为的潜在原因可能是以下原因之一：Exchange Server上的代理配置CUC上的网络地址转换(NAT)配置CUC和Exchange Server之间的防火墙配置等让网络团队和Exchange团队参与，以便了解此行为的实际原因。如果CUC按时收到来自Exchange服务器的通知，且CUC邮箱中未反映更新，请联系TAC以寻求问题故障排除的帮助。