

# 消息等待指示器故障排除

## 目錄

### [簡介](#)

### [背景資訊](#)

### [觸發Cisco Unity Connection開啟和關閉MWI的事件](#)

### [用於使用SQL查詢驗證MWI標誌值的MWI開啟/關閉方案的CUCM跟蹤片段](#)

### [案例 1:精簡型通話控制通訊協定\(SCCP\)電話分機1007，撥打1999上的MWI](#)

### [案例 2:SCCP電話分機1007呼叫MWI Off號碼1998](#)

### [通過Skinny呼叫控制協定\(SCCP\)與Unity連線整合的CUCM的MWI開/關方案的跟蹤片段](#)

## 簡介

本文檔介紹消息等待指示器(MWI)開/關的工作測試方案，並說明MWI儲存過程功能以及兩種設定方案中所看到的更改。在MWI通知消息到達Cisco Unified Communications Manager(CUCM)之後，將包含Structured Query Language(SQL)結果以驗證更改是否應用於Informix資料庫(IDS)。

## 背景資訊

### 觸發Cisco Unity Connection開啟和關閉MWI的事件

- 當使用者的消息到達Cisco Unity Connection消息儲存庫時，Cisco Unity Connection會通知電話系統為該使用者開啟電話上的MWI。
- MWI在使用者監聽消息後仍保持開啟。在儲存或刪除郵件之前，它將保持開啟狀態。消息儲存或刪除後，Cisco Unity Connection會通知電話系統關閉電話上的MWI。
- 當MWI同步時，Cisco Unity Connection將查詢消息庫以確定所有電話上的MWI狀態，並重置適用的MWI。

## 用於使用SQL查詢驗證MWI標誌值的MWI開啟/關閉方案的CUCM跟蹤片段

### 案例 1:精簡型通話控制通訊協定(SCCP)電話分機1007，撥打1999的MWI

CUCM跟蹤中被叫號碼1999的數字分析：

```
06150176.006 |11:53:11.122 |AppInfo |Digit analysis: match(pi="2", fqc="1007",
cn="1007",plv="5", pss="", TodFilteredPss="", dd="1999",dac="0")
06150176.007 |11:53:11.122 |AppInfo |Digit analysis: analysis results
06150176.008 |11:53:11.122 |AppInfo ||PretransformCallingPartyNumber=1007
|CallingPartyNumber=1007
|DialingPartition=
|DialingPattern=1999
|FullyQualifiedCalledPartyNumber=1999
|DialingPatternRegularExpression=(1999)
```

呼叫SQL過程以將列記錄標誌值更新為2，這意味著會顯示MWI ON指示符

```
06150194.001 |11:53:11.123 |AppInfo |DB: SQL1[execute procedure dblSetMWIEx('1007', '', 2, 0,
0, 0, 0, 0, 0, 0, 0, 0, 0, 0)]
```

CUCM節點CLI上的SQL查詢檢查標誌值(tkLampBlinkRate\_MessageWaiting)

```
admin: run sql select n.dnorpattern, d.tkLampBlinkRate_MessageWaiting from numplan as
n,numplandynamic as d where n.dnorpattern = '1007' and n.pkid = d.fknumplan
dnorpattern tkLampBlinkRate_MessageWaiting
=====
1007          2
```

## 案例 2:SCCP電話分機1007呼叫MWI Off號碼1998

CUCM跟蹤中被叫號碼1998的數字分析

```
06150336.006 |11:53:16.427 |AppInfo |Digit analysis: match(pi="2", fqcN="1007",
cn="1007",plv="5", pss="", TodFilteredPss="", dd="1998",dac="0")
06150336.007 |11:53:16.427 |AppInfo |Digit analysis: analysis results
06150336.008 |11:53:16.427 |AppInfo ||PretransformCallingPartyNumber=1007
|CallingPartyNumber=1007
|DialingPartition=
|DialingPattern=1998
|FullyQualifiedCalledPartyNumber=1998
```

呼叫SQL過程以將列記錄標誌值更新為1，這意味著MWI Off指示器

```
06150355.001 |11:53:16.428 |AppInfo |DB: SQL1[execute procedure dblSetMWIEx('1007', '', 1, 0,
0, 0, 0, 0, 0, 0, 0, 0, 0, 0)]
```

CUCM節點CLI上的SQL查詢檢查標誌值(tkLampBlinkRate\_MessageWaiting)

```
admin: run sql select n.dnorpattern, d.tkLampBlinkRate_MessageWaiting from numplan as
n,numplandynamic as d where n.dnorpattern = '1007' and n.pkid = d.fknumplan
dnorpattern tkLampBlinkRate_MessageWaiting
=====
1007          1
```

用於MWI擴展的儲存過程SQL

```
CREATE FUNCTION dblSetMWIEx ( DN LIKE NumPlan.DnOrPattern,
                             partition LIKE RoutePartition.pkid,
                             lamp LIKE NumPlanDynamic.tkLampBlinkRate_MessageWaiting,
```

"1007" will be the input to the DN field ,"2" or "1" will be acting as a lamp input to the function "dblSetMWIEx"

由於傳遞給函式的分割槽值為NULL，則滿足此IF條件並且列出的SQL查詢將pkid值從NumPlanDynamic表提取到引數中：NPDpkid在與numplan表執行內部連線之後

```

IF (partition = '') THEN
    SELECT NumPlanDynamic.pkid into NPDpkid from NumPlanDynamic INNER JOIN NumPlan ON
    NumPlanDynamic.fknumplan = NumPlan.pkid
    WHERE (NumPlan.dnOrPattern = '1007' AND NumPlan.fkRoutePartition IS NULL);

```

## CUCM節點CLI中的SQL查詢結果

```

admin:run sql select NumPlanDynamic.pkid from NumPlanDynamic INNER JOIN NumPlan ON
NumPlanDynamic.fknumplan = NumPlan.pkid WHERE (NumPlan.dnOrPattern = '1007' AND
NumPlan.fkRoutePartition IS NULL)
pkid
=====
6b221dbe-4c53-4184-9cb9-d8a4e3a7f500

```

此pkid值將傳遞到函式中定義的NPDpkid值。

在函式dbISetMWIEx中執行的更新查詢，用於更新SQL過程中定義的燈欄位值：

```

Update NumPlanDynamic set NumPlanDynamic.tkLampBlinkRate_MessageWaiting = lamp WHERE pkid =
NPDpkid;

```

更新查詢更新tkLampBlinkRate\_MessageWaiting列。

## 通過Skinny呼叫控制協定(SCCP)與Unity連線整合的CUCM的MWI開/關方案的跟蹤片段

### 1. 場景上的MWI

來自Unity的MWI通知消息，mwiwaiting標誌設定為1

```

19684211.001 |19:45:22.377 |AppInfo |StationInit: (0030551) StationMwiNotificationMessage
mwiTarget=1007 mwiCtrl=1999 msgsWaiting=1 totalVm(-1/-1) priVm(-1/-1) totalFax(-1/-1) priFax(-
1/-1)

```

```

19684212.000 |19:45:22.377 |SdlSig |StationMwiNotification
|restart0 |StationD(1,100,58,30551)
|StationInit(1,100,57,1) |1,100,13,30598.8^10.106.90.141^CiscoUM2-VI2 |[R:N-
H:0,N:0,L:0,V:0,Z:0,D:0] mwiTargetDn=1007 mwiControlDn=1999

```

#### **msgsWaiting=1**

```

19684213.000 |19:45:22.377 |SdlSig |SsInfoReq
|wait |Cc(1,100,213,1)
|StationD(1,100,58,30551) |1,100,13,30598.8^10.106.90.141^CiscoUM2-VI2 |[R:N-
H:0,N:0,L:0,V:0,Z:0,D:0] Type=0 Key=0 Node=1 Party=0 DevId=(1,58,30551) CSS=
dn=ti=1nd=1007pi=0si1 FeatId=122 FeatVal=2 WhichLamps=0 LampPersis=0 Signal=0 Cause=0
clientCodeReq=F authCodeReq=F mwiOnOffDn=1999 FDataType=0opId=0ssType=0
SsKey=0invokeId=0resultExp=Fbpda=F
19684214.000 |19:45:22.377 |SdlSig |SsInfoReq
|wait |MessageWaitingManager(1,100,126,1)
|Cc(1,100,213,1) |1,100,13,30598.8^10.106.90.141^CiscoUM2-VI2 |[R:N-

```

```

H:0,N:0,L:0,V:0,Z:0,D:0] Type=0 Key=0 Node=1 Party=0 DevId=(1,58,30551) CSS=
dn=ti=1nd=1007pi=0si1 FeatId=122 FeatVal=2 WhichLamps=0 LampPersis=0 Signal=0 Cause=0
clientCodeReq=F authCodeReq=F mwiOnOffDn=1999 FDataType=0opId=0ssType=0
SsKey=0invokeId=0resultExp=Fbpda=F
19684214.001 |19:45:22.377 |AppInfo |MessageWaitingManager::ssInfoReq mwiOnOffDn=1999
passedCSS= mwiDnCss=
19684214.002 |19:45:22.377 |Created |
|
|MessageWaiting(1,100,127,106960741)
|MessageWaitingManager(1,100,126,1) |
|NumOfCurrentInstances: 6489
19684214.003 |19:45:22.377 |AppInfo |MessageWaitingManager - hashChildProcess - entries in the
messageWaiting table = 0x1959

19684215.000 |19:45:22.377 |SdlSig |SsInfoReq
|wait |MessageWaiting(1,100,127,106960741)
|MessageWaitingManager(1,100,126,1) |1,100,13,30598.8^10.106.90.141^CiscoUM2-VI2 |[R:N-
H:0,N:0,L:0,V:0,Z:0,D:0] Type=0 Key=0 Node=1 Party=22308893 DevId=(1,58,30551) CSS=
dn=ti=1nd=1007pi=0si1 FeatId=122 FeatVal=2 WhichLamps=0 LampPersis=0 Signal=0 Cause=0
clientCodeReq=F authCodeReq=F mwiOnOffDn=1999 FDataType=0opId=0ssType=0
SsKey=0invokeId=0resultExp=Fbpda=F
19684215.001 |19:45:22.378 |AppInfo |MessageWaiting::sendDaReq dialingPattern=1007
dialingPartition= voiceMailbox=1007 orig digitString=1007, cmDeviceType 0
19684215.002 |19:45:22.378 |Stopping |
|
|MessageWaiting(1,100,127,106960741)
|MessageWaiting(1,100,127,106960741) |
|NumOfCurrentInstances: 6489
19684216.000 |19:45:22.378 |SdlSig |DbVoiceMailUpdtReq
|initialized |Db(1,100,202,1)
|MessageWaiting(1,100,127,106960741) |1,100,13,30598.8^10.106.90.141^CiscoUM2-VI2 |[T:N-
H:0,N:0,L:0,V:0,Z:0,D:0] 02000000 00000000 00000000 00000000 00000000 00000000 00000000 00000000
00000000 00000000 00000000 00000000 4862b9a5 00000000


```

## 執行更新SQL過程以將燈欄位更新為2

```

19684216.001 |19:45:22.378 |AppInfo |DB: SQL1[execute procedure dblSetMWIEx('1007', '', 2, 0,
0, 0, 0, 0, 0, 0, 0, 0, 0, 0)]
19684216.002 |19:45:22.380 |AppInfo |DB: SQL2[execute procedure dblSetMWIEx('1007', '', 2, 0,
0, 0, 0, 0, 0, 0, 0, 0, 0, 0)]

19684217.000 |19:45:22.384 |SdlSig |SsInfoRes
|restart0 |StationD(1,100,58,30551)
|MessageWaiting(1,100,127,106960741) |1,100,13,30598.8^10.106.90.141^CiscoUM2-VI2 |[R:N-
H:0,N:1,L:0,V:0,Z:0,D:0] SsType=0 SsKey=106960741 SsNode=1 SsParty=0 DevId=(0,0,0) CSS=
dn=ti=1nd=1007pi=0si1 FeatId=122 FeatVal=2 WhichLamps=0 LampPersis=0 SsSignal=0 SsCause=16
19684217.001 |19:45:22.384 |AppInfo |StationD: (0030551) TX StationMwiResponse:
mwiTarget=1007 result=0.
19684218.000 |19:45:22.384 |SdlSig |MessageWaitingComplete
|wait |MessageWaitingManager(1,100,126,1)
|MessageWaiting(1,100,127,106960741) |1,100,13,30598.8^10.106.90.141^CiscoUM2-VI2 |[R:N-
H:0,N:0,L:0,V:0,Z:0,D:0]
19684218.001 |19:45:22.385 |AppInfo |MessageWaitingManager - deleteEntryFromMwiTable - entries
in the messageWaiting table = 0x1958


```

## 2. MWI關閉場景

來自Unity的MWI通知消息，mwiwaiting標誌設定為0

```

19775953.001 |19:45:42.812 |AppInfo |StationInit: (0030549) StationMwiNotificationMessage
mwiTarget=1007 mwiCtrl=1998 msgsWaiting=0 totalVm(-1/-1) priVm(-1/-1) totalFax(-1/-1) priFax(-
1/-1)
19775954.000 |19:45:42.812 |SdlSig |StationMwiNotification
|restart0 |StationD(1,100,58,30549)
|StationInit(1,100,57,1) |1,100,13,30597.10^10.106.90.141^CiscoUM2-VI3 |[R:N-
H:0,N:0,L:0,V:0,Z:0,D:0] mwiTargetDn=1007 mwiControlDn=1998 msgsWaiting=0
19775955.000 |19:45:42.812 |SdlSig |SsInfoReq
|wait |Cc(1,100,213,1)
|StationD(1,100,58,30549) |1,100,13,30597.10^10.106.90.141^CiscoUM2-VI3 |[R:N-
H:0,N:0,L:0,V:0,Z:0,D:0] Type=0 Key=0 Node=1 Party=0 DevId=(1,58,30549) CSS=
dn=ti=Ind=1007pi=0si1 FeatId=122 FeatVal=1 WhichLamps=0 LampPersis=0 Signal=0 Cause=0
clientCodeReq=F authCodeReq=F mwiOnOffDn=1998 FDataType=0opId=0ssType=0
SsKey=0invokeId=0resultExp=Fbpda=F
19775956.000 |19:45:42.812 |SdlSig |SsInfoReq
|wait |MessageWaitingManager(1,100,126,1)
|Cc(1,100,213,1) |1,100,13,30597.10^10.106.90.141^CiscoUM2-VI3 |[R:N-
H:0,N:0,L:0,V:0,Z:0,D:0] Type=0 Key=0 Node=1 Party=0 DevId=(1,58,30549) CSS=
dn=ti=Ind=1007pi=0si1 FeatId=122 FeatVal=1 WhichLamps=0 LampPersis=0 Signal=0 Cause=0
clientCodeReq=F authCodeReq=F mwiOnOffDn=1998 FDataType=0opId=0ssType=0
SsKey=0invokeId=0resultExp=Fbpda=F
19775956.001 |19:45:42.812 |AppInfo |MessageWaitingManager::ssInfoReq mwiOnOffDn=1998
passedCSS= mwiDnCss=
19775956.002 |19:45:42.812 |Created |
| |MessageWaiting(1,100,127,106964522)
|MessageWaitingManager(1,100,126,1) |
|NumOfCurrentInstances: 6266
19775956.003 |19:45:42.812 |AppInfo |MessageWaitingManager - hashChildProcess - entries in the
messageWaiting table = 0x187A
19775957.000 |19:45:42.812 |SdlSig |SsInfoReq
|wait |MessageWaiting(1,100,127,106964522)
|MessageWaitingManager(1,100,126,1) |1,100,13,30597.10^10.106.90.141^CiscoUM2-VI3 |[R:N-
H:0,N:0,L:0,V:0,Z:0,D:0] Type=0 Key=0 Node=1 Party=22312676 DevId=(1,58,30549) CSS=
dn=ti=Ind=1007pi=0si1 FeatId=122 FeatVal=1 WhichLamps=0 LampPersis=0 Signal=0 Cause=0
clientCodeReq=F authCodeReq=F mwiOnOffDn=1998 FDataType=0opId=0ssType=0
SsKey=0invokeId=0resultExp=Fbpda=F
19775957.001 |19:45:42.812 |AppInfo |MessageWaiting::sendDaReq dialingPattern=1007
dialingPartition= voiceMailbox=1007 orig digitString=1007, cmDeviceType 0
19775957.002 |19:45:42.812 |Stopping |
| |MessageWaiting(1,100,127,106964522)
|MessageWaiting(1,100,127,106964522) |
|NumOfCurrentInstances: 6266
19775958.000 |19:45:42.812 |SdlSig |DbVoiceMailUpdtReq
|initialized |Db(1,100,202,1)
|MessageWaiting(1,100,127,106964522) |1,100,13,30597.10^10.106.90.141^CiscoUM2-VI3 |[T:N-
H:0,N:0,L:0,V:0,Z:0,D:0] 01000000 00000000 00000000 00000000 00000000 00000000 00000000
00000000 00000000 00aff8ac 00000000 48c057a9 00000000

```

## 執行更新SQL過程以將燈欄位更新為1

```

19775958.001 |19:45:42.812 |AppInfo |DB: SQL1[execute procedure dblSetMWIEx('1007', '', 1, 0,
0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)]
19775958.002 |19:45:42.820 |AppInfo |DB: SQL2[execute procedure dblSetMWIEx('1007', '', 1, 0,
0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)]
19775959.000 |19:45:42.823 |SdlSig |SsInfoRes
|restart0 |StationD(1,100,58,30549)

```

```
|MessageWaiting(1,100,127,106964522) |1,100,13,30597.10^10.106.90.141^CiscoUM2-VI3 |[R:N-
H:0,N:1,L:0,V:0,Z:0,D:0] SsType=0 SsKey=106964522 SsNode=1 SsParty=0 DevId=(0,0,0) CSS=
dn=ti=1nd=1007pi=0si1 FeatId=122 FeatVal=1 WhichLamps=0 LampPersis=0 SsSignal=0 SsCause=16
19775959.001 |19:45:42.823 |AppInfo |StationD: (0030549) TX StationMwiResponse:
mwiTarget=1007 result=0.
19775960.000 |19:45:42.823 |SdlSig |MessageWaitingComplete
|wait |MessageWaitingManager(1,100,126,1)
|MessageWaiting(1,100,127,106964522) |1,100,13,30597.10^10.106.90.141^CiscoUM2-VI3 |[R:N-
H:0,N:0,L:0,V:0,Z:0,D:0]
19775960.001 |19:45:42.824 |AppInfo |MessageWaitingManager - deleteEntryFromMwiTable - entries
in the messageWaiting table = 0x1879
```