

# 有關CTI管理器呼叫流程 ( 適用於Jabber案頭電話控制請求 ) 的技術說明

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## 簡介

本檔案將說明成功的適用於Jabber案頭使用者端的電腦電話整合(CTI)管理員驗證的詳細通話流程

## 必要條件

### 需求

思科建議您瞭解以下主題：

- 輕量型目錄存取通訊協定(LDAP)
- 電腦電話整合(CTI)

### 採用元件

本檔案中的資訊是根據以下軟體版本：

- Windows版Cisco Jabber 11.5
- 思科統一通訊管理器(CUCM)10.5(2)及更高版本

本文中的資訊是根據特定實驗室環境內的裝置所建立。文中使用到的所有裝置皆從已清除 ( 預設 ) 的組態來啟動。如果您的網路運作中，請確保您瞭解任何指令可能造成的影響。

## Jabber案頭電話控制的CTI訊息

確保CTI Manager服務日誌設定為調試級別，重現問題，然後通過命令列或即時監控工具(RTMT)收集日誌。按照下面的步驟驗證CTI身份驗證

步驟1. CTI管理器服務接收來自Jabber客戶端的Provider Open請求。

```
00895255.002 |08:59:16.944 |AppInfo |[CTI-APP] [CTIHandler::processIncomingMessage] CTI  
ProviderOpenRequest ( seq#=2 provider=UCProvider login=wwhite heartbeat=60 timer=10 priority=0
```

```
lightWeightProviderOpen=0 AuthType=0 RequestOldFetch=0 EncryptedSSODataSize=0)
00895256.000 |08:59:16.944 |SdlSig |CtiProviderOpenReq |init_complete_await_provopen
|CTIHandler(1,200,22,7) |CTIHandler(1,200,22,7) |1,200,13,8.3^*^* | [R:N-H:0,N:0,L:0,V:0,Z:0,D:0]
Async Response=2 ProviderName=UCProvider ClientVersion=UCProvider LoginId=wwhite ApplName=Shibui
ServerHeartbeat=60 CMAssignedAppId=1234 PluginName=Cisco JTAPI LightWeightProviderOpen=0 Auth
Style=0 RequestOldFetch=0
00895256.001 |08:59:16.944 |AppInfo |SSOTOKEN =
00895256.002 |08:59:16.944 |AppInfo |CQBEBUILDER::BuildQbeMessage(): objectID=2
00895256.003 |08:59:16.944 |AppInfo |CTIHandler::OutputQbeMessage: TcpHand=[1:200:13:8]
QbePref={0x0xf74b346c,0x70} pQbeMsg=0x0xf74b3474 qbeMsgSize=0x70 tmpLen=0x78 msgSize_=0x78
```

步驟2.將提供商開放響應傳送到Jabber客戶端。

```
00895256.004 |08:59:16.944 |AppInfo |[CTI-APP] [CTIHandler::OutputCtiMessage ] CTI
ProviderOpenResponse (seq#=2) provider id=16777223 FIPMode = 0
```

步驟3.開始終端使用者身份驗證過程。

```
00895260.000 |08:59:17.057 |SdlSig |CtiProceedWithAppLogin |init_complete_await_auth
|CTIHandler(1,200,22,7) |CtiManager(1,200,21,1) |1,200,13,8.3^*^* | [R:L-H:0,N:0,L:0,V:0,Z:0,D:0]
00895261.000 |08:59:17.058 |SdlSig |CtiLoginCheckReq |ready |Directory(1,200,23,1)
|CTIHandler(1,200,22,7) |1,200,13,8.3^*^* | [T:N-H:0,N:0,L:0,V:0,Z:0,D:0] Login=wwhite Seq#=2
Auth Style=0 3rd Party Certificate=0 mOcsUrl= mIssuerName= EncryptedSingleSignOnData Size=0
00895261.001 |08:59:17.058 |AppInfo |CtiLoginCheckReq:authenticateByUserName
```

步驟4.進行金鑰解密，在身份驗證嘗試之前必須成功。

```
00895261.002 |08:59:17.058 |AppInfo |CCMASymmetricEncryption::DecryptText Enter
00895261.003 |08:59:17.067 |AppInfo |CCMASymmetricEncryption::DecryptText Exit
00895261.004 |08:59:17.067 |AppInfo |Decrypted Key Status success - [52]
00895261.005 |08:59:17.067 |AppInfo |Nonce =cc64fd13-d4e1-43bc-808f-f051f7c945d0
00895261.006 |08:59:17.067 |AppInfo |Nonce validation success
00895261.007 |08:59:17.067 |AppInfo |CCMSymmetricEncryption::DecryptText:enter
00895261.008 |08:59:17.067 |AppInfo |CCMEncryption::DecryptText (Exit) (Success)
00895261.009 |08:59:17.067 |AppInfo |Decrypted Password Status success - [8]
```

步驟5.擷取使用者名稱，並將其與密碼一起用於驗證。

```
00895261.010 |08:59:17.067 |AppInfo |AuthenticationImpl::login:enter
00895261.011 |08:59:17.067 |AppInfo |AuthenticationImpl::retrieveCredential:enter
00895261.012 |08:59:17.067 |AppInfo |userid is wwhite
00895261.013 |08:59:17.067 |AppInfo |AuthenticationImpl::login - no encryptedpassword
Credential, look for password
00895261.014 |08:59:17.067 |AppInfo |AuthenticationImpl::login (Auth with password. Calling
authenticateUserWithPassword)
00895261.015 |08:59:17.067 |AppInfo |authenticationDB:authenticateUserWithPassword():enter
00895261.016 |08:59:17.067 |AppInfo |Credential Length is: 8
```

步驟6. CTI管理器檢查使用者的憑據策略。

```
00895261.021 |08:59:17.113 |AppInfo |userType is: 1
00895261.022 |08:59:17.113 |AppInfo |timeOfLockout is: 0
00895261.023 |08:59:17.113 |AppInfo |timeHackedLockout is: 0
00895261.024 |08:59:17.113 |AppInfo |hackCount is: 0
00895261.025 |08:59:17.113 |AppInfo |daysToExpiry is: 0
00895261.026 |08:59:17.113 |AppInfo |doesNotExpire is: 0
00895261.027 |08:59:17.113 |AppInfo |useExpiryWarning is: 0
00895261.028 |08:59:17.113 |AppInfo |isInactive is: 0
```

```
00895261.029 |08:59:17.113 |AppInfo |userMustChange is: 0
00895261.030 |08:59:17.113 |AppInfo |endUserStatus is: 1
00895261.031 |08:59:17.113 |AppInfo |imsInfo is: 1
00895261.032 |08:59:17.113 |AppInfo |lastSuccessfulLoginTime is: 1455049675
00895261.033 |08:59:17.148 |AppInfo |XXXXXX Check 1
```

步驟7.繼續終端使用者的CTI身份驗證。

```
00895261.034 |08:59:17.149 |AppInfo |authenticationDB::login (Authenticating using LDAP)
00895261.035 |08:59:17.149 |AppInfo |
|authenticationLDAP.cpp::authenticateUserWithPassword():enter
00895261.036 |08:59:17.149 |AppInfo |LDAP userid is 'wwhite'
00895261.037 |08:59:17.149 |AppInfo |
|authenticationUtils::escapeLDAPSpecialCharsForFilter():enter
00895261.038 |08:59:17.149 |AppInfo |
After Escaping for LDAP special Characters for Filter = wwhite
```

步驟8. CTI管理器服務現在嘗試在身份驗證嘗試之前連線到LDAP。

```
00895261.040 |08:59:17.149 |AppInfo |LDAP not initialized...connecting...
00895261.041 |08:59:17.149 |AppInfo |authenticationLDAP::connect():enter
00895261.042 |08:59:17.149 |AppInfo |authenticationLDAP::Authenticate():enter
00895261.043 |08:59:17.149 |AppInfo |Authenticating with SSL not enabled
(ldap://10.10.10.10:3268)
```

步驟9.使用LDAP身份驗證配置中配置的服務帳戶成功嘗試連線。

```
00895261.044 |08:59:17.149 |AppInfo |LDAP initialize non-SSL Return Code (0)
```

步驟10.管理員身份驗證成功。

```
00895261.051 |08:59:17.158 |AppInfo |LDAP authentication bind SUCCESS for
Administrator@joshlab.net
00895261.052 |08:59:17.158 |AppInfo |Connection # (0): successful
00895261.053 |08:59:17.158 |AppInfo |Details ::
00895261.054 |08:59:17.158 |AppInfo |10.10.10.10 3268
00895261.055 |08:59:17.158 |AppInfo |-----
-----
00895261.056 |08:59:17.158 |AppInfo |Available Servers (1)
00895261.057 |08:59:17.158 |AppInfo |authenticationLDAP::Authenticate():exit(0)
00895261.058 |08:59:17.158 |AppInfo |Authentication of LDAP administrator successful.
```

步驟11. CTI Manager服務檢索LDAP資訊並使用終端使用者帳戶進行身份驗證。

```
00895261.072 |08:59:17.164 |AppInfo |Retrieve the specified user entry:
(&(&(objectclass=user)(!(objectclass=Computer))(!(UserAccountControl:1.2.840.113556.1.4.803:=2))
)(sAMAccountName=wwhite))
00895261.073 |08:59:17.164 |AppInfo |LDAP Search for User base: 'OU=Breaking
Bad,DC=joshlab,DC=net'
00895261.074 |08:59:17.165 |AppInfo |LDAP Search complete. Code: 0
00895261.075 |08:59:17.165 |AppInfo |Get DN of entry.
00895261.076 |08:59:17.165 |AppInfo |Got DN: CN=Walter White,OU=Breaking Bad,DC=joshlab,DC=net
00895261.077 |08:59:17.165 |AppInfo |Attempt to authenticate DN: CN=Walter White,OU=Breaking
Bad,DC=joshlab,DC=net
00895261.078 |08:59:17.165 |AppInfo |authenticationLDAP::Authenticate():enter
00895261.079 |08:59:17.165 |AppInfo |Authenticating with SSL not enabled
(ldap://10.10.10.10:3268)
```

步驟12.終端使用者的LDAP身份驗證成功。

```
00895261.087 |08:59:17.171 |AppInfo |LDAP authentication bind SUCCESS for CN=Walter
White,OU=Breaking Bad,DC=joshlab,DC=net
00895261.088 |08:59:17.171 |AppInfo |Connection # (0): sucessful
00895261.089 |08:59:17.171 |AppInfo |Details ::
00895261.090 |08:59:17.171 |AppInfo |10.10.10.10 3268
00895261.091 |08:59:17.171 |AppInfo |-----
-----
00895261.092 |08:59:17.171 |AppInfo |Available Servers (1)
00895261.093 |08:59:17.171 |AppInfo |authenticationLDAP::Authenticate():exit(0)
00895261.094 |08:59:17.171 |AppInfo |authenticationLDAP::authenticateUserWithPassword():Exit(0)
00895261.095 |08:59:17.171 |AppInfo |Successfully authenticated user: wwhite
```

步驟13. CTI管理器檢查資料庫，以確保終端使用者擁有允許訪問電話的正確許可權。

```
00895262.000 |08:59:17.171 |SdlSig |CtiLoginCheckRes |authenticating |CTIHandler(1,200,22,7)
|Directory(1,200,23,1) |1,200,13,8.3^*^* | [R:N-H:0,N:0,L:0,V:0,Z:0,D:0] Seq#=2 result=Success
LoginUserID= Expire days=4294967295
00895263.000 |08:59:17.172 |SdlSig |CtiUserSettingsReq |ready |CTIDbAccess(1,200,26,1)
|CTIHandler(1,200,22,7) |1,200,13,8.3^*^* |[T:H-H:0,N:0,L:0,V:0,Z:0,D:0] mUserId=wwhite
00895263.001 |08:59:17.172 |AppInfo |DbAccess::ReadCtiUserSettingsReq
```

步驟14. 確認CTI使用者許可權。

```
00895264.000 |08:59:17.172 |SdlSig |CtiUserSettingsRes |verifying |CTIHandler(1,200,22,7)
|CTIDbAccess(1,200,26,1) |1,200,13,8.3^*^* | [R:N-H:0,N:0,L:0,V:0,Z:0,D:0] SuperProvider =
Disabled CallParkRetrievalAllowed = Disabled ModifyCallingNumber = Disabled CTI Enabled =
Enabled CallMonitor=Disabled CallRecord=Disabled Userid = wwhite result=0
00895264.001 |08:59:17.172 |AppInfo |[CTI-INFO] [CTIHandler::verifying_CtiUserSettingsRes]
mCtiUserSettings.mbSecurityEnabled=0
00895264.002 |08:59:17.172 |AppInfo |[CTI-INFO] [CTIHandler::verifying_CtiUserSettingsRes]
mListenPort=2748
00895264.003 |08:59:17.172 |AppInfo |[CTI-INFO] [CTIHandler::verifying_CtiUserSettingsRes] sent
providerSubscriptionRegNotify for user wwhite
```

步驟15. 然後，CTI為Jabber將要控制的電話傳送DeviceOpenRequest。

```
00895326.002 |08:59:17.335 |AppInfo |[CTI-APP] [CTIHandler::processIncomingMessage] CTI
DeviceOpenRequest ( seq#=4 device name=SEP001794625DE5 softkeys AppID=1234)
00895327.000 |08:59:17.335 |SdlSig |CtiDeviceOpenDeviceReq |ready |CTIHandler(1,200,22,7)
|CTIHandler(1,200,22,7) |1,200,13,8.5^14.48.68.203^SEP001794625DE5 |[R:N-
H:0,N:0,L:0,V:0,Z:0,D:0] AsyncResponse=4 DH=0|0 Name=SEP001794625DE5 Type=0 RisClass=0
TerminateMedia=5 RequestType=0 RtpDestination1|1 ApplnIpAddrMode=3 Filter
Bitmap=000100000000000000000000100000001001 AppLoginUserId=wwhite AppIPAddr= ipAddrType=0
ipv4=10.10.10.100 ApplicationIDListCount = 1 ApplicationIds are 1234, mSoftKeyApplicationID =
1234 ProviderIDListCount = 1 ProviderIds are 16777223, IsCTIConnectionTLS = F
```

步驟16. CTI Manager允許連線並傳送DeviceOpenRequest Response。

```
00895329.000 |08:59:17.339 |SdlSig |CtiDeviceOpenDeviceRes |ready |CTIHandler(1,200,22,7)
|CTIDeviceLineMgr(1,200,25,1) |1,200,13,8.5^10.10.100^SEP001794625DE5 |[R:N-
H:0,N:3,L:0,V:0,Z:0,D:0] mAsyncResponse = 4 DH=1|38 Name=SEP001794625DE5 Type=7
StationPid=(0,0,0,0) mOpenResult=0x0 mEncodingType=3 mRequestType=0 mDSSDeviceState = 0
00895329.001 |08:59:17.339 |AppInfo |CQBEBuilders::BuildQbeMessage(): objectID=27
00895329.002 |08:59:17.340 |AppInfo |CTIHandler::OutputQbeMessage: TcpHand=[1:200:13:8]
QbePref={0x0xf74b346c,0x98} pQbeMsg=0x0xf74b3474 qbeMsgSize=0x98 tmpLen=0xa0 msgSize_=0xa0
00895329.003 |08:59:17.340 |AppInfo |[CTI-APP] [CTIHandler::OutputCtiMessage ] CTI
DeviceOpenResponse ( seq#=4 result=0 DH=1|38 deviceName=SEP001794625DE5 deviceType=7 deviceId=38
registrationAllowed=0 deviceLocale=1 protocol=1 deviceRestricted=0 altScript= Rollover=0 BIB=0
DNDOption=0 IpAddrMode=0 supportsFeat=0 Visiting=0)
00895330.000 |08:59:17.340 |AppInfo |-->RisCTIManagerAccess::DeviceOpenActivityy(...)
```

```
00895331.000 |08:59:17.340 |AppInfo |DeviceOpenActivity() : activity: 1, connID: 7, deviceName:
SEP001794625DE5, appID: wwwhite-10.10.10.100-58667, rtpaddr: , assocIpAddr: , mediaControl: 0,
deviceType: 7, reason: 0
00895332.000 |08:59:17.340 |AppInfo |<--RisCTIManagerAccess::DeviceOpenActivityy(...)
```

步驟17.最後是**DeviceInService**消息，該消息標籤已成功完成案頭電話控制請求。

```
00895336.003 |08:59:17.343 |AppInfo |[CTI-APP] [CTIHandler::OutputCtiMessage ] CTI
DeviceInServiceEvent ( DH=1|38 ) Encoding Type=3 Device locale=1 Alt Script= DNDStatus=0
DNDOption=0)
00895337.000 |08:59:17.344 |SdlSig |SdlDataInd |ready |CtiManager(1,200,21,1)
|SdlTCPConnection(1,200,13,8) |1,200,13,8.6^*** |*TraceFlagOverrode
00895337.001 |08:59:17.344 |AppInfo |CtiManager::ready_SdlDataInd(): ConnHandle=[1:200:13:8] TCP
message length=0x108
00895338.000 |08:59:17.344 |SdlSig |CtiQbeGenericMessage |ready |CTIHandler(1,200,22,7)
|CtiManager(1,200,21,1) |1,200,13,8.6^*** |*TraceFlagOverrode
00895338.001 |08:59:17.344 |AppInfo |CQBEParse::ParseQbeMessage: PDU#=37
```

此時，Jabber客戶端能夠通過CTI成功控制案頭電話。常見問題可在LDAP身份驗證和CTI日誌的終端使用者許可權進程中看到。

## 相關資訊

- [Jabber配置指南](#)
- [技術支援與文件 - Cisco Systems](#)