Troubleshoot Cisco Jabber Directory Search Problems

Contents

[Introduction](#)
[Prerequisites](#)
[Requirements](#)
[Components Used](#)
[Problem](#)
[Jabber Log Analysis](#)
[Packet Capture Analysis](#)
[Solution](#)
[Related Information](#)

Introduction

This document describes how to troubleshoot Cisco Jabber directory search problem when Secure Socket Layer (SSL) is configured.

Contributed by Khushbu Shaikh, Cisco TAC Engineers. Edited by Sumit Patel and Jasmeet Sandhu

Prerequisites

Requirements

Cisco recommends that you have knowledge of these topics:

- Jabber for Windows
- Wireshark

Components Used

This document is not restricted to specific software and hardware versions.

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.

Problem

Jabber directory search does not work when SSL is configured.

Jabber Log Analysis

Jabber logs show this error:

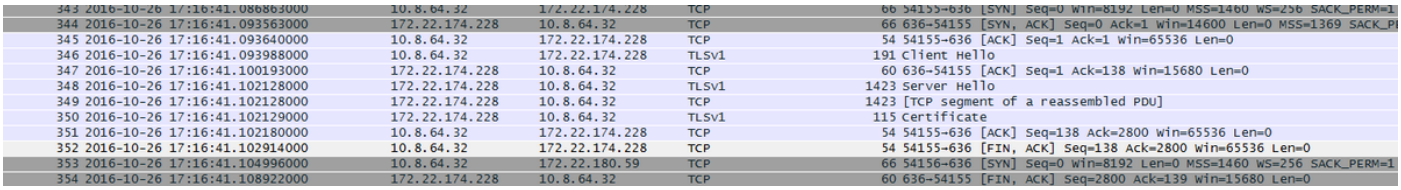
```
Directory searcher LDAP://gbllidmauthp01.sealedair.corp:389/ou=Internal,ou=Users,o=SAC not found, adding server gbllidmauthp01.sealedair.corp to blacklist.

2016-10-21 08:35:47,004 DEBUG [0x000034ec] [rdsource\ADPersonRecordSourceLog.cpp(50)] [csf.person.adsource] [WriteLogMessage] - ConnectionManager::GetDirectoryGroupSearcher - Using custom credentials to connect [LDAP://gbllidmauthp02.sealedair.corp:389] with tokens [1]


2016-10-21 08:35:47,138 DEBUG [0x000034ec] [rdsource\ADPersonRecordSourceLog.cpp(50)] [csf.person.adsource] [WriteLogMessage] - ConnectionManager::GetDirectoryGroupSearcher - failed to get a searcher - COMException [0x80072027]
```

Packet Capture Analysis

In this packet capture, it can be seen that the Transmission Control Protcol (TCP) connection to the Active Directory (AD) server is successful but the SSL handshake between the client and the Lightweight Directory Access Protocol (LDAP) server fails. This causes Jabber to send a FIN message instead of the encrypted session key for the communication.



343	2016-10-26 17:16:41.086863000	10.8.64.32	172.22.174.228	TCP	66 54155→636 [SYN] Seq=0 Win=8192 Len=0 MSS=1460 WS=256 SACK_PERM=1
344	2016-10-26 17:16:41.093563000	172.22.174.228	10.8.64.32	TCP	66 636→54155 [SYN, ACK] Seq=0 Ack=1 Win=14600 Len=0 MSS=1369 SACK_P
345	2016-10-26 17:16:41.093640000	10.8.64.32	172.22.174.228	TCP	54 54155→636 [ACK] Seq=1 Ack=1 Win=65536 Len=0
346	2016-10-26 17:16:41.093988000	10.8.64.32	172.22.174.228	TLSv1	191 Client Hello
347	2016-10-26 17:16:41.100193000	172.22.174.228	10.8.64.32	TCP	60 636→54155 [ACK] Seq=1 Ack=138 Win=15680 Len=0
348	2016-10-26 17:16:41.102128000	172.22.174.228	10.8.64.32	TLSv1	1423 Server Hello
349	2016-10-26 17:16:41.102128000	172.22.174.228	10.8.64.32	TCP	1423 [TCP segment of a reassembled PDU]
350	2016-10-26 17:16:41.102129000	172.22.174.228	10.8.64.32	TLSv1	115 Certificate
351	2016-10-26 17:16:41.102180000	10.8.64.32	172.22.174.228	TCP	54 54155→636 [ACK] Seq=138 Ack=2800 Win=65536 Len=0
352	2016-10-26 17:16:41.102914000	10.8.64.32	172.22.174.228	TCP	54 54155→636 [FIN, ACK] Seq=138 Ack=2800 Win=65536 Len=0
353	2016-10-26 17:16:41.104996000	10.8.64.32	172.22.180.59	TCP	66 54156→636 [SYN] Seq=0 Win=8192 Len=0 MSS=1460 WS=256 SACK_PERM=1
354	2016-10-26 17:16:41.108922000	172.22.174.228	10.8.64.32	TCP	60 636→54155 [FIN, ACK] Seq=2800 Ack=139 Win=15680 Len=0

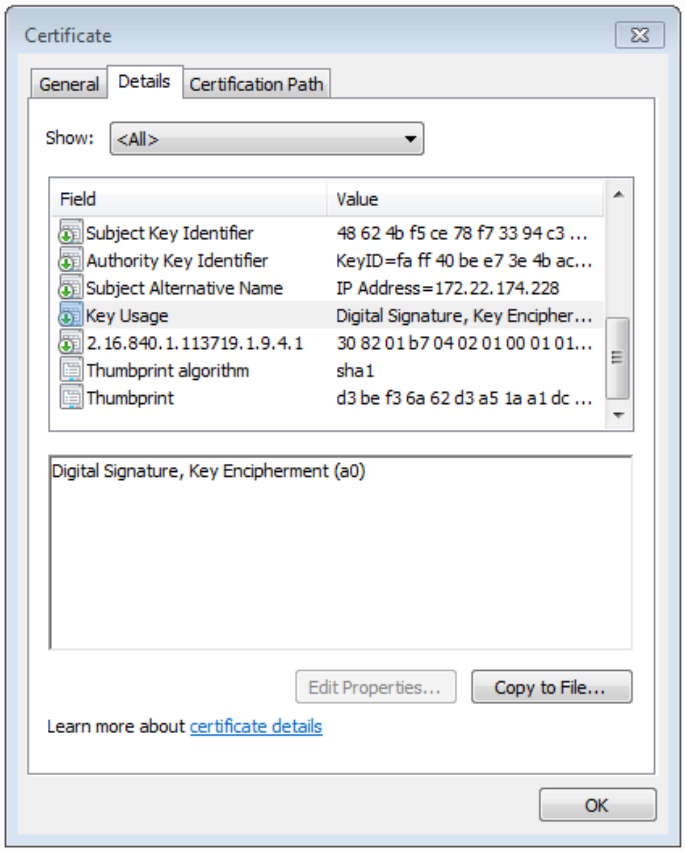
The issue still persists even though the signed AD certificate is uploaded to the client PC's trust store.

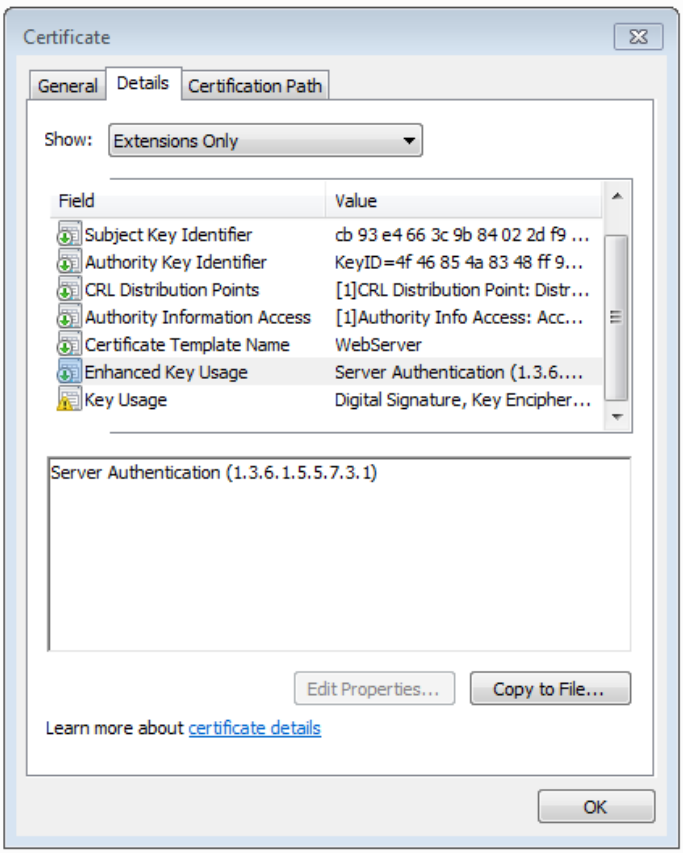
Further analyzes of the packet capture reveals that Server Authentication is gone in Enhanced Key Usage section of the AD server certificate.

```
Certificate: 308205463082042ea0030201020224021c11ffa5290aa0e3... (id-at-commonName=gbllidmauthp01.sealedair.corp,id-at-organi:
  signedCertificate
    version: v3 (2)
    serialNumber: 0x021c11ffa5290aa0e3110e51ee38b93ad70008edb0ec5c9b...
    signature (sha1WithRSAEncryption)
    issuer: rdnSequence (0)
      rdnSequence: 2 items (id-at-organizationName=SAC_AUTH_PROD,id-at-organizationalUnitName=Organizational CA)
    validity
    subject: rdnSequence (0)
      rdnSequence: 2 items (id-at-commonName=gbllidmauthp01.sealedair.corp,id-at-organizationName=SAC_AUTH_PROD)
    subjectPublicKeyInfo
    extensions: 5 items
      Extension (id-ce-subjectKeyIdentifier)
      Extension (id-ce-authorityKeyIdentifier)
      Extension (id-ce-subjectAltName)
      Extension (id-ce-keyUsage)
        Extension Id: 2.5.29.15 (id-ce-keyUsage)
        Padding: 5
        KeyUsage: a0 (digitalSignature, keyEncipherment)
      Extension (pa-sa)
        Extension Id: 2.16.840.1.113719.1.9.4.1 (pa-sa)
        SecurityAttributes
          versionNumber: 0100
          nSI: True
          securityTM: Novell Security Attribute(tm)
          uriReference: http://developer.novell.com/repository/attributes/certattrs_v10.htm
          gLBExtensions
  algorithmIdentifier (sha1WithRSAEncryption)
  Padding: 0
```

Solution

A scenario was recreated with a certificate that has the Server Authentication in Enhanced Key Usage which resolved the issue. See the images of the certificates for comparison.





The Server Authentication identifier in the certificate is a prerequisite for a successful SSL handshake.

Related Information

https://www.petri.com/enable-secure-ldap-windows-server-2008-2012-dc