排除CommPilot错误"SSL_ERROR_NO_CIPHER_OVERLAP"

目录

简介

本文档介绍如何对BroadWorks进行配置和故障排除以避免“SSL_ERROR_NO_CIPHER_OVERLAP”错误。

先决条件

要求

思科建议您了解BroadWorks平台。

背景信息

BroadWorks配置

对于Broadworks版本22及更高版本，协议和密码可通过CLI通过不同配置级别看到的情景进行配置。

```
'Interface/Port specific - low level'
CLI/Interface/Http/HttpServer/SSLSettings/Protocols
CLI/Interface/Http/HttpServer/SSLSettings/Ciphers
```

```
'All interfaces - mid level'
CLI/Interface/Http/SSLCommonSettings/Protocols
CLI/Interface/Http/SSLCommonSettings/Ciphers

'Generic system level - high level'
CLI/System/SSLCommonSettings/JSSE/Protocols
CLI/System/SSLCommonSettings/JSSE/Ciphers
```

名为SSLCommonSettings的上下文是指SSL层次结构中不太具体的项，而名为SSLSettings的上下文是指SSL层次结构中比较具体的项。

功能实验室示例

配置

绑定到特定接口和端口且未定义密码的低级配置：

```
CLI/Interface/Http/HttpServer/SSLSettings/Protocols> get 172.16.30.146 443
Protocol Name
===============
TLSv1.1
TLSv1.2
TLSv1

CLI/Interface/Http/HttpServer/SSLSettings/Ciphers> get 172.16.30.146 443
Cipher Name
=============

0 entry found.
```

确认

使用 curl 指令：

```
$ curl -v -k https://172.16.30.146
* About to connect() to 172.16.30.146 port 443 (#0)
* Trying 172.16.30.146...
* Connected to 172.16.30.146 (172.16.30.146) port 443 (#0)
* Initializing NSS with certpath: sql:/etc/pki/nssdb
* skipping SSL peer certificate verification
* SSL connection using TLS_RSA_WITH_AES_256_CBC_SHA256 <-----
* Server certificate:
* subject:
E=broadworks_tac@cisco.com,CN=*.calo.cisco.com,OU=BroadworksTAC,O=TestIssuer,ST=Veracruz,C=MX
* start date: Apr 04 20:39:56 2022 GMT
* expire date: Apr 04 20:39:56 2023 GMT
* common name: *.calo.cisco.com
* issuer: CN=Root CA test,OU=BroadworksTAC,O=TestIssuer,L=Tecolutla,ST=Veracruz,C=MX
>GET / HTTP/1.1
>User-Agent: curl/7.29.0
>Host: 172.16.30.146
>Accept: */*
>
<HTTP/1.1 302 Found
```

在这里，它已成功通过TLSv1.2与密码TLS_RSA_WITH_AES_256_CBC_SHA256连接。

连接审核

要验证接受的协议和密码，请执行以下操作：

```
$ nmap -sV --script ssl-enum-ciphers -p 443 172.16.30.146

Starting Nmap 6.40 ( http://nmap.org ) at 2022-05-09 04:26 EDT
Nmap scan report for r23xsp01.calo.cisco.com (172.16.30.146)
Host is up (0.00013s latency).
PORT STATE SERVICE VERSION
443/tcp open ssl/https?
| ssl-enum-ciphers:
| TLSv1.0:
| ciphers:
| TLS_ECDHE_RSA_WITH_AES_128_CBC_SHA - strong
| TLS_ECDHE_RSA_WITH_AES_256_CBC_SHA - strong
| TLS_ECDHE_RSA_WITH_RC4_128_SHA - strong
| TLS_RSA_WITH_AES_128_CBC_SHA - strong
| TLS_RSA_WITH_AES_256_CBC_SHA - strong
| TLS_RSA_WITH_RC4_128_SHA - strong
| compressors:
| NULL
| TLSv1.1:
| ciphers:
| TLS_ECDHE_RSA_WITH_AES_128_CBC_SHA - strong
| TLS_ECDHE_RSA_WITH_AES_256_CBC_SHA - strong
| TLS_ECDHE_RSA_WITH_RC4_128_SHA - strong
| TLS_RSA_WITH_AES_128_CBC_SHA - strong
| TLS_RSA_WITH_AES_256_CBC_SHA - strong
| TLS_RSA_WITH_RC4_128_SHA - strong
| compressors:
| NULL
| TLSv1.2:
| ciphers:
| TLS_ECDHE_RSA_WITH_AES_128_CBC_SHA - strong
| TLS_ECDHE_RSA_WITH_AES_128_CBC_SHA256 - strong
| TLS_ECDHE_RSA_WITH_AES_256_CBC_SHA - strong
| TLS_ECDHE_RSA_WITH_AES_256_CBC_SHA384 - strong
| TLS_ECDHE_RSA_WITH_RC4_128_SHA - strong
| TLS_RSA_WITH_AES_128_CBC_SHA - strong
| TLS_RSA_WITH_AES_128_CBC_SHA256 - strong
| TLS_RSA_WITH_AES_256_CBC_SHA - strong
| TLS_RSA_WITH_AES_256_CBC_SHA256 - strong
| TLS_RSA_WITH_RC4_128_SHA - strong
| compressors:
| NULL
|_ least strength: strong
```

有错误的实验示例

问题

观察到错误 — 通过浏览器显示“SSL_ERROR_NO_CIPHER_OVERLAP”。

```
# curl -v https://172.16.30.146
* About to connect() to 172.16.30.146 port 443 (#0)
* Trying 172.16.30.146...
* Connected to 172.16.30.146 (172.16.30.146) port 443 (#0)
```

```
* Initializing NSS with certpath: sql:/etc/pki/nssdb * CAfile: /etc/pki/tls/certs/ca-bundle.crt
CApath: none
* NSS error -12286 (SSL_ERROR_NO_CYPHER_OVERLAP)
* Cannot communicate securely with peer: no common encryption algorithm(s).
* Closing connection 0 curl: (35) Cannot communicate securely with peer: no common encryption
algorithm(s).
```

配置

使用TLSv1.0密码TLS_ECDH_RSA_WITH_AES_128_GCM_SHA256设置的TLSv1.2协议绑定到特定接口和端口的低级配置：

```
CLI/Interface/Http/HttpServer/SSLSettings/Protocols> get 172.16.30.146 443
Protocol Name
===============
TLSv1.2

CLI/Interface/Http/SSLCommonSettings/Ciphers> get
Cipher Name
=====================================
TLS_ECDH_RSA_WITH_AES_128_GCM_SHA256
```

确认

使用 curl 指令：

```
$ curl -v -k https://172.16.30.146
* About to connect() to 172.16.30.146 port 443 (#0)
* Trying 172.16.30.146...
* Connected to 172.16.30.146 (172.16.30.146) port 443 (#0)
* Initializing NSS with certpath: sql:/etc/pki/nssdb
* NSS error -12286 (SSL_ERROR_NO_CYPHER_OVERLAP)
* Cannot communicate securely with peer: no common encryption algorithm(s).
* Closing connection 0
curl: (35) Cannot communicate securely with peer: no common encryption algorithm(s).
```

连接审核

要验证接受的协议和密码，请执行以下操作：

```
$ nmap -sV --script ssl-enum-ciphers -p 443 172.16.30.146

Starting Nmap 6.40 ( http://nmap.org ) at 2022-05-09 05:31 EDT
Nmap scan report for r23xsp01.calo.cisco.com (172.16.30.146)
Host is up (0.000049s latency).
PORT STATE SERVICE VERSION
443/tcp open https?
| ssl-enum-ciphers:
|_ TLSv1.2: No supported ciphers found
```

从该工具的结果可以发现，TLSv1.2协议可用，但不支持密码。

分辨率

删除TLSv1.1密码 **CLI/Interface/Http/SSLCommonSettings/Ciphers** ，然后再次打开所有TLSv1.2密码（或添加TLSv1.2密码）。

```
CLI/Interface/Http/HttpServer/SSLSettings/Protocols> get 172.16.30.146 443
Protocol Name
===============
TLSv1.2

CLI/Interface/Http/HttpServer/SSLSettings/Ciphers> get 172.16.30.146 443
Cipher Name
=============
0 entry found.

CLI/Interface/Http/SSLCommonSettings/Ciphers> get
Cipher Name
=============
0 entry found.
```

分辨率验证

```
$ curl -v -k https://172.16.30.146
* About to connect() to 172.16.30.146 port 443 (#0)
* Trying 172.16.30.146...
* Connected to 172.16.30.146 (172.16.30.146) port 443 (#0)
* Initializing NSS with certpath: sql:/etc/pki/nssdb
* skipping SSL peer certificate verification
* SSL connection using TLS_ECDHE_RSA_WITH_AES_128_GCM_SHA256 <-----
* Server certificate:
* subject:
E=broadworks_tac@cisco.com,CN=*.calo.cisco.com,OU=BroadworksTAC,O=TestIssuer,ST=Veracruz,C=MX
* start date: Apr 04 20:39:56 2022 GMT
* expire date: Apr 04 20:39:56 2023 GMT
* common name: *.calo.cisco.com
* issuer: CN=Root CA test,OU=BroadworksTAC,O=TestIssuer,L=Tecolutla,ST=Veracruz,C=MX
>GET / HTTP/1.1
>User-Agent: curl/7.29.0
>Host: 172.16.30.146
>Accept: */*
>
<HTTP/1.1 302 Found

$ nmap -sV --script ssl-enum-ciphers -p 443 172.16.30.146

Starting Nmap 6.40 ( http://nmap.org ) at 2022-05-09 05:44 EDT
Nmap scan report for r23xsp01.calo.cisco.com (172.16.30.146)
Host is up (0.000063s latency).
PORT STATE SERVICE VERSION
443/tcp open https?
| ssl-enum-ciphers:
| TLSv1.2:
| ciphers:
| TLS_DHE_RSA_WITH_AES_128_CBC_SHA256 - strong
| TLS_DHE_RSA_WITH_AES_128_GCM_SHA256 - strong
| TLS_ECDHE_RSA_WITH_AES_128_CBC_SHA256 - strong
| TLS_ECDHE_RSA_WITH_AES_128_GCM_SHA256 - strong
```

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