MCU Experiences Poor Web Performance

Document ID: 118752

Contributed by Katrina Currie, Cisco Engineering, and Adam Wamsley,
Cisco TAC Engineer.
Feb 13, 2015

Contents

Introduction

This document describes the possible causes of poor web performance with the Cisco TelePresence Multipoint Control Unit (MCU) due to the web interface usage and the maximum number of web logins and also describes some possible solutions.

Prerequisites

Requirements

Cisco recommends that you have knowledge of these topics:

- Cisco TelePresence MCU
- Hypertext Transfer Protocol (HTTP)
- Hypertext Transfer Protocol Secure (HTTPS)

Components Used

The information in this document is based on these software and hardware versions:

- Cisco TelePresence MCU 4500 Series
- Cisco TelePresence MCU 5300 Series
- Cisco TelePresence MCU 8510

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, make sure that you understand the potential impact of any command.

Related Products

This document can also be used with these software and hardware versions:

- Cisco TelePresence MCU 4200 Series
- Cisco TelePresence MCU 8420

Background Information

The MCU has eight threads with which it can process HTTP requests. These connections deal not only with the web interface users, but with other requests over HTTP as well, such as the Application Program Interface (API). Therefore, the number of web users or requests that are sent by each web user, along with the number of API devices or API requests, affect the number of threads that are used**.**

Transmission Control Protocol (TCP) connections can be in the *keep−alives* state. The MCU supports three simultaneous HTTP keep−alives connections, which take up three of the eight worker threads. If the MCU does not receive any data for 32 seconds (among other conditions), it closes the connection. Keep−alives are distinct from the overall web user login. For more information about keep−alives see the Persistent Connections section of the ***Hypertext Transfer Protocol −− HTTP/1.1*** memo.

Note: Section 8.1.2 of the aforementioned memo states that the default behavior for HTTP/1.1 is to use keep−alives, but the header must still be present in order to use them in MCU Versions 4.4 and earlier.

When a user loads a web page, HTTP requests are sent to the MCU; however, the MCU can have more than eight users logged into the web interface at any time (see the next table). The simultaneous HTTP requests that are sent by the logged in users are limited by the number of threads. Even though the MCU only has eight threads with which it can process the requests, it queues another 20 requests before any are rejected.

MCU Model	***Maximum Number of Web Sessions***
4501	34
5320	50
5310	30
8510	130

Problem

Poor web performance of the MCU is experienced, and these issues are observed:

- The MCU web interface loads slowly and applications or devices that interact with the MCU API lose connection.
- Users report that they are no longer able to reach the MCU web interface. Conferences are still active and the MCU still responds to pings. After a hard reboot, the MCU is accessible again.

These messages appear in the event log (***Logs*** **>** ***Event Log***):

```
112336.297 HTTP : Info : closed http connection − overloaded
112348.390 HTTP : Info : closed http connection − overloaded
112353.392 HTTP : Info : closed http connection − overloaded
112429.516 HTTP : Info : closed http connection − overloaded
112510.617 HTTP : Info : closed http connection − overloaded
112551.739 HTTP : Info : closed http connection − overloaded
112632.838 HTTP : Info : closed http connection − overloaded
```

```
2014/10/22 11:58:12.205 HTTP Info 192.1.100.64:53551 connected for 10361s –
 listening (102); 192.1.100.64:53475 connected for 10391s – listening (102);
 192.1.100.64:53474 connected for 10391s – listening (102); 7116

2014/10/22 11:58:12.205 HTTP Info 192.1.100.64:52451 connected for 10703s –
 listening (102); 192.1.100.64:53554 connected for 10361s –listening (102);
 192.1.100.64:52450 connected for 10703s – listening (102); 7117

2014/10/22 11:58:12.205 HTTP Info 192.1.100.64:53515 connected for 10376s –
 listening (102); 192.1.100.64:52491 connected for 10690s –listening (102); 7118

2014/10/22 11:58:17.206 HTTP Info closed http connection – overloaded"
```

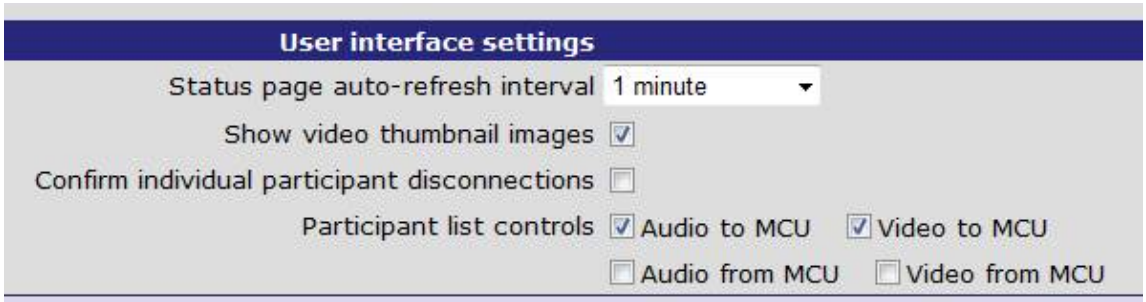
Solution

The MCU handles a heavier load when used by a large number of video participants, so less web use is required to adversely affect its performance.

Under normal usage, four web interface sessions, where the users send approximately one request per second, should not cause the MCU any problems. In order to be absolutely sure that no problems occur, Cisco recommends only ***one web user and one API device*** (Cisco TelePresence Mangement Suite (TMS) is recommended).

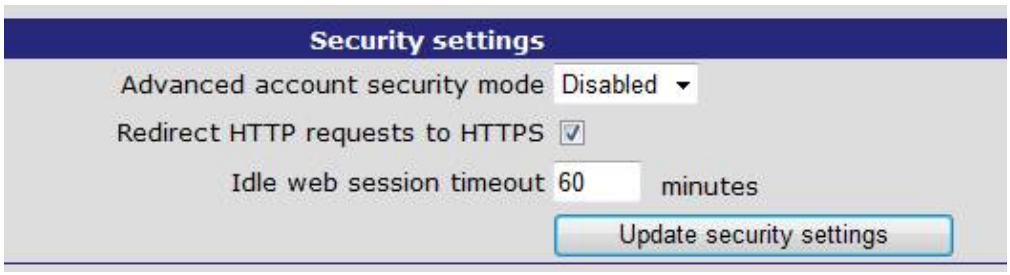
Note: Cisco recommends that custom API clients use revision numbers and keep−alives, and that only one request is sent at a time for best performance.

When ***auto−refresh*** (***Settings*** > ***User interface***) is enabled, it increases the number of web HTTP requests. Cisco strongly suggests that this feature be disabled for best performance.



In order to ensure that users do not remain logged in for a long period of time, navigate to ***Settings*** > ***Security*** and change the ***Idle web session timeout*** value. This value can be set between 1 minute and 60 minutes. When the set time expires, the user is required to log in again.

Note: If the ***auto−refresh*** feature is enabled, the web session is kept open indefinitely.



Cisco strongly recommends that users monitor the MCU via TMS, which polls the MCU when used. If users check TMS instead of the MCU web interface, a large number of web logins can be avoided.

If the aforementioned recommendations do not remediate the poor web performance issue, ensure that the MCU runs software Version 4.4 or 4.5. These versions output log messages with information about the devices that use up the HTTP threads. Investigate the reasons that these devices make so many connections to the MCU and do not close the connections promptly.

Further Considerations

Here are some further considerations to keep in mind when attempts are made to remediate this issue:

- How do the users access the web interface?
- How many API clients interact with the MCU?
- Which browser and browser version is being used?

Known Issue

Cisco bug ID CSCtz35468 (MCU Software Memory Exhaustion Vulnerability) is a known issue with the use of the Internet Explorer 9 browser.

Related Information

- ***Cisco TelePresence MCU MSE Series***
- ***Technical Support & Documentation − Cisco Systems***

Updated: Feb 13, 2015 Document ID: 118752