STP SPLIT AND MERGE

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Terminology

STP	Server Time Protocol
CPC	Central Processor Complex
CTN	Coordinated Timing Network
PTS	Preferred Time Server
CTS	Current Time Server
BTS	Backup Time Server
ARB	Arbiter
ETS	External Time Source

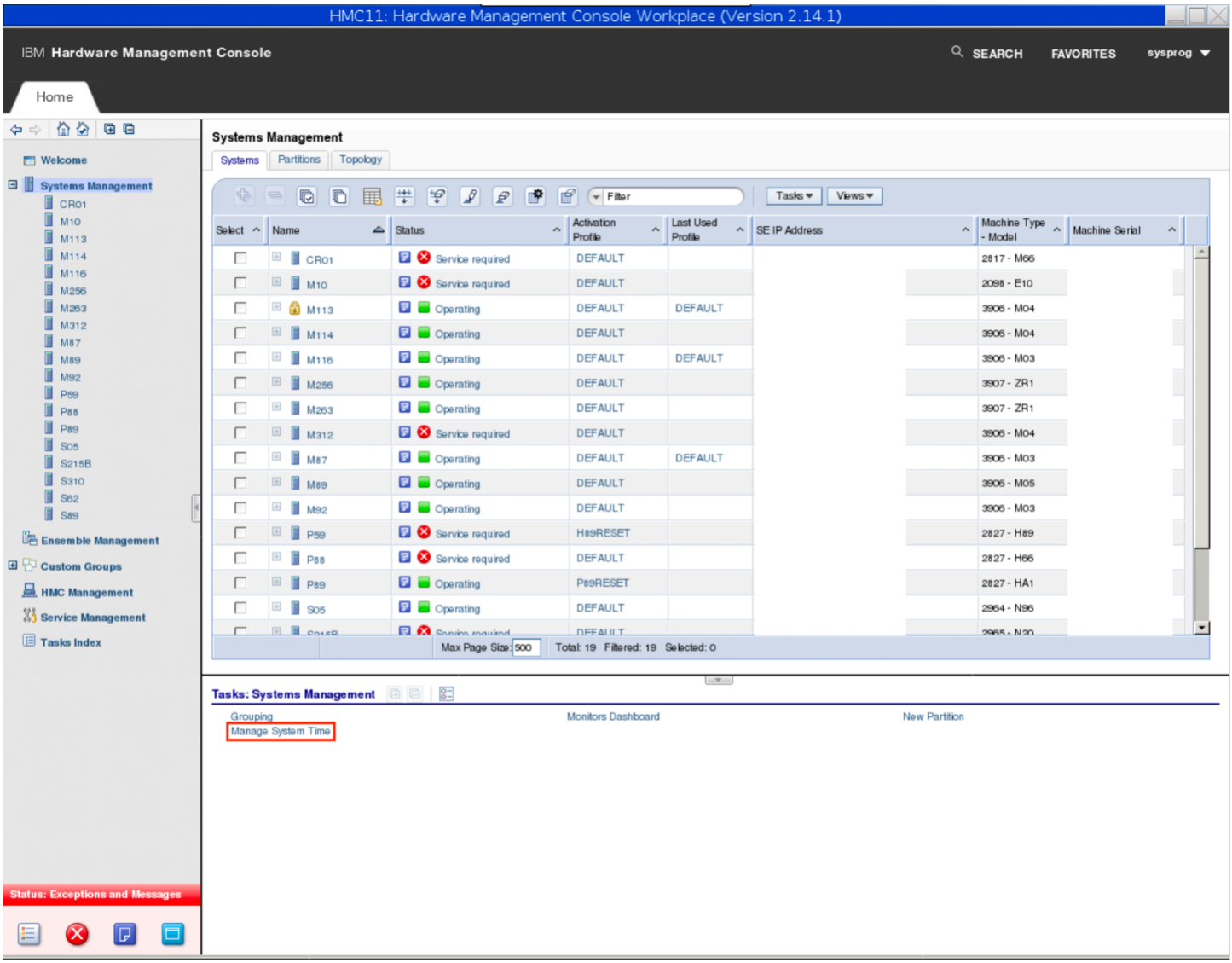
Introduction

The STP Split function allows you to dynamically split CPCs from one CTN into a new CTN. The STP Merge function allows you to dynamically merge CPCs from two CTNs into one CTN. These functions are available on IBM z14 GA2 and newer CPCs only and is non-disruptive to running z/OS LPARs. To start with either function you need an HMC that has all involved CPCs defined to it. For this white paper I will be demonstrating splitting two CPCs into a new CTN and then merging those split CPCs back into the original CTN. I will also demonstrate what happens when you try to split CPCs to a new CTN that has LPARs operating in the original CTN, across where you are performing the split.

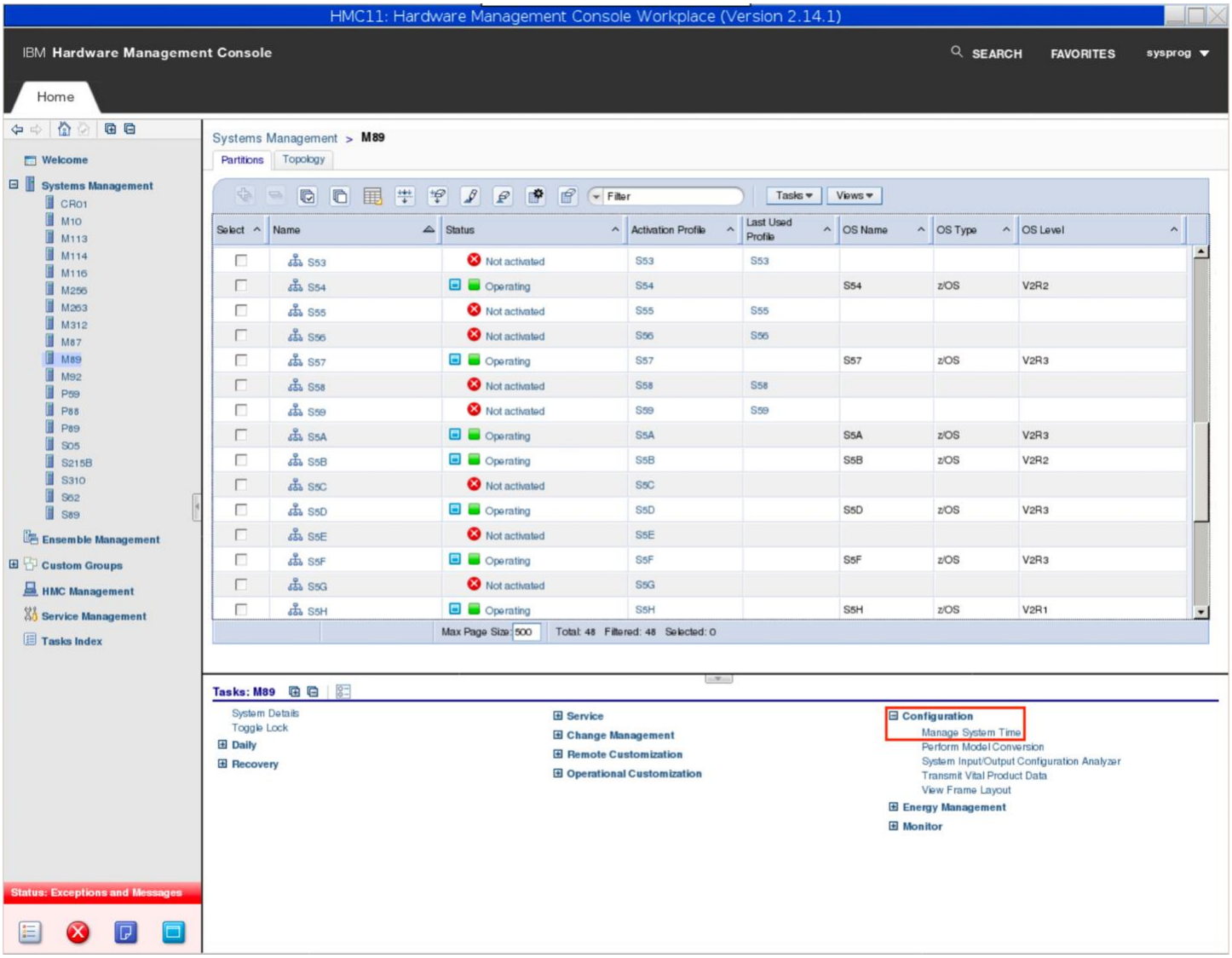
Our environment consists of two z14 GA2 CPCs (M89 and M87) and two ZR1 CPCs (M256 and M263). All CPCs have coupling links to all other CPCs. We have two sysplexes defined on these CPCs, SVPLEX5 and SVPLEX7. We have z/OS LPARs running z/OS 2.1, 2.2 and 2.3 running in each sysplex. SVPLEX5 is running on M89 and M256 and SVPLEX7 is running on M87, with coupling facilities located on the standalone coupling facility, M263.

STP Split

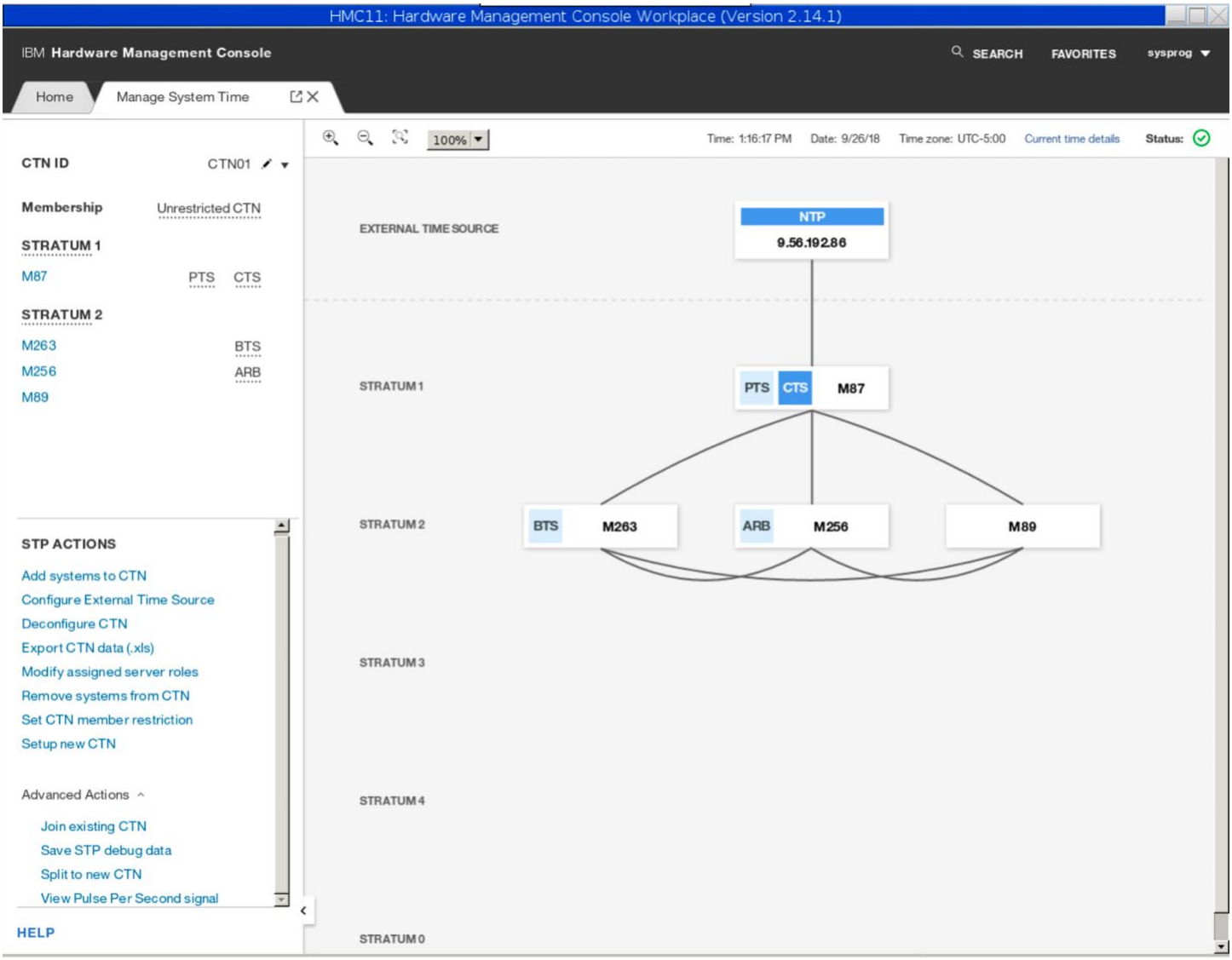
To start I opened the Manage System Time panel on the HMC. There are two ways to get to the panel, one was is by selecting Manage System Time task from the System Management panel.



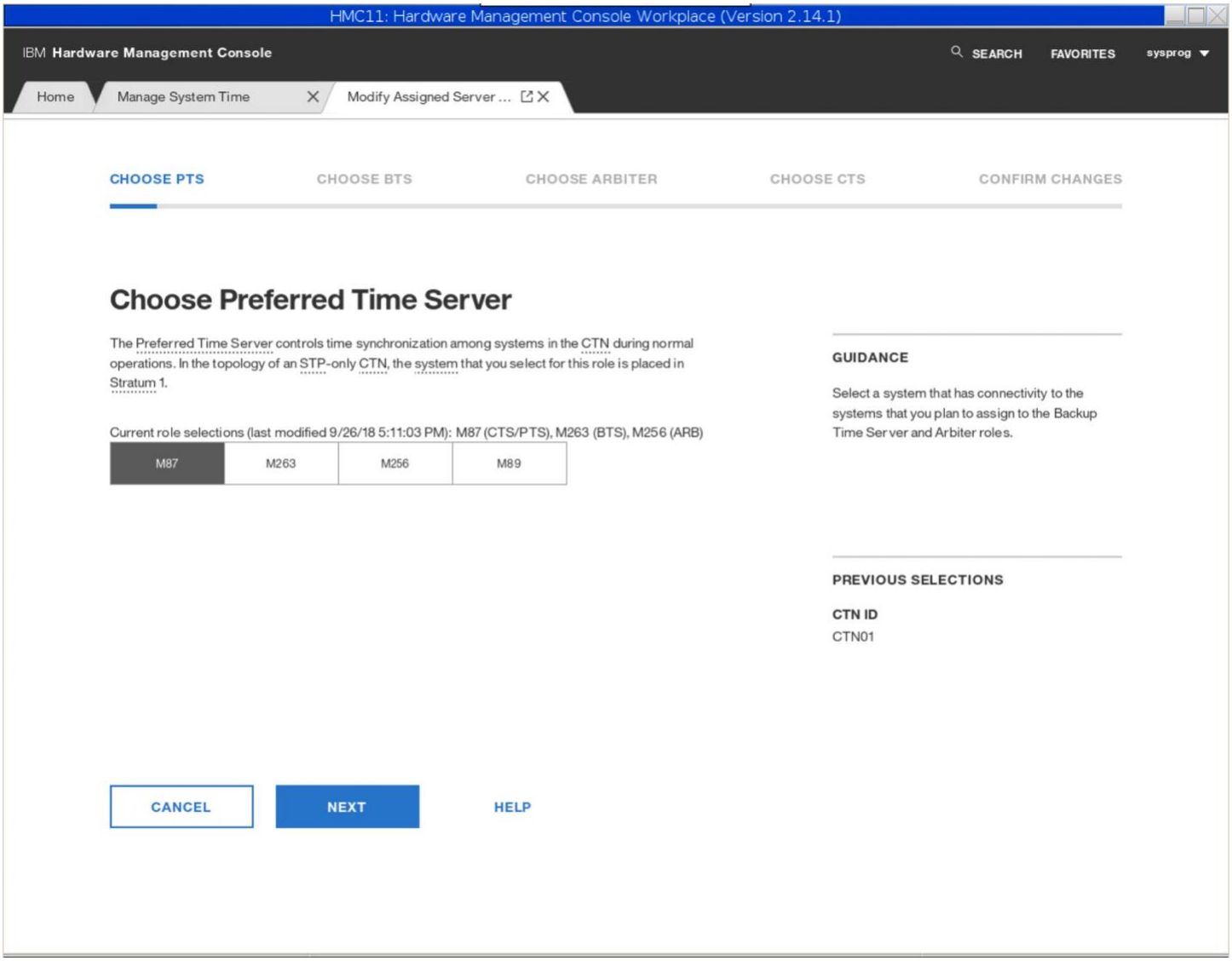
The other way to get to the Manage System Time panel is by selecting the CPC that is part of the CTN you want to work on and then under the configuration tasks, select Manage System Time.



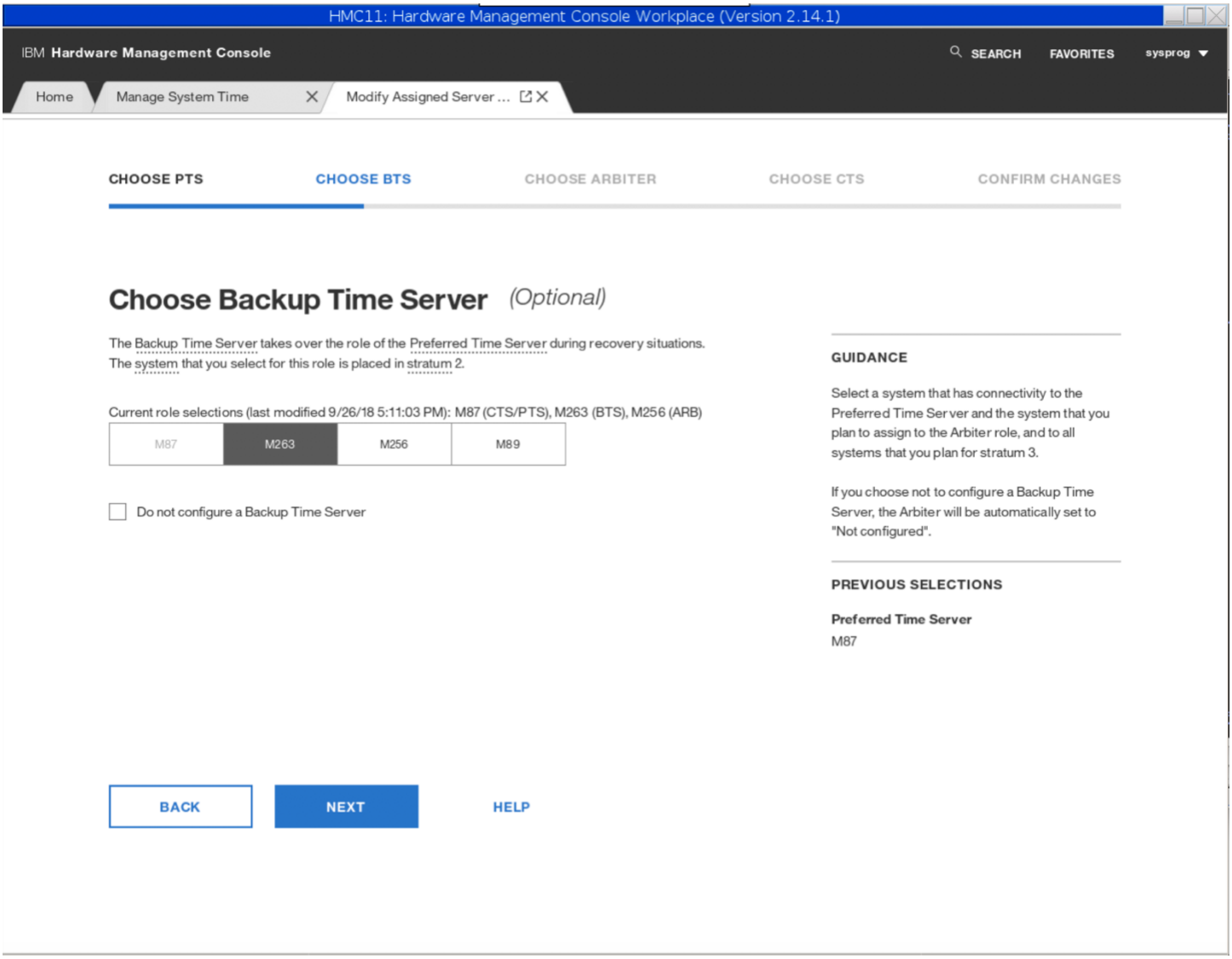
The original starting configuration of CTN01 looks like the following:



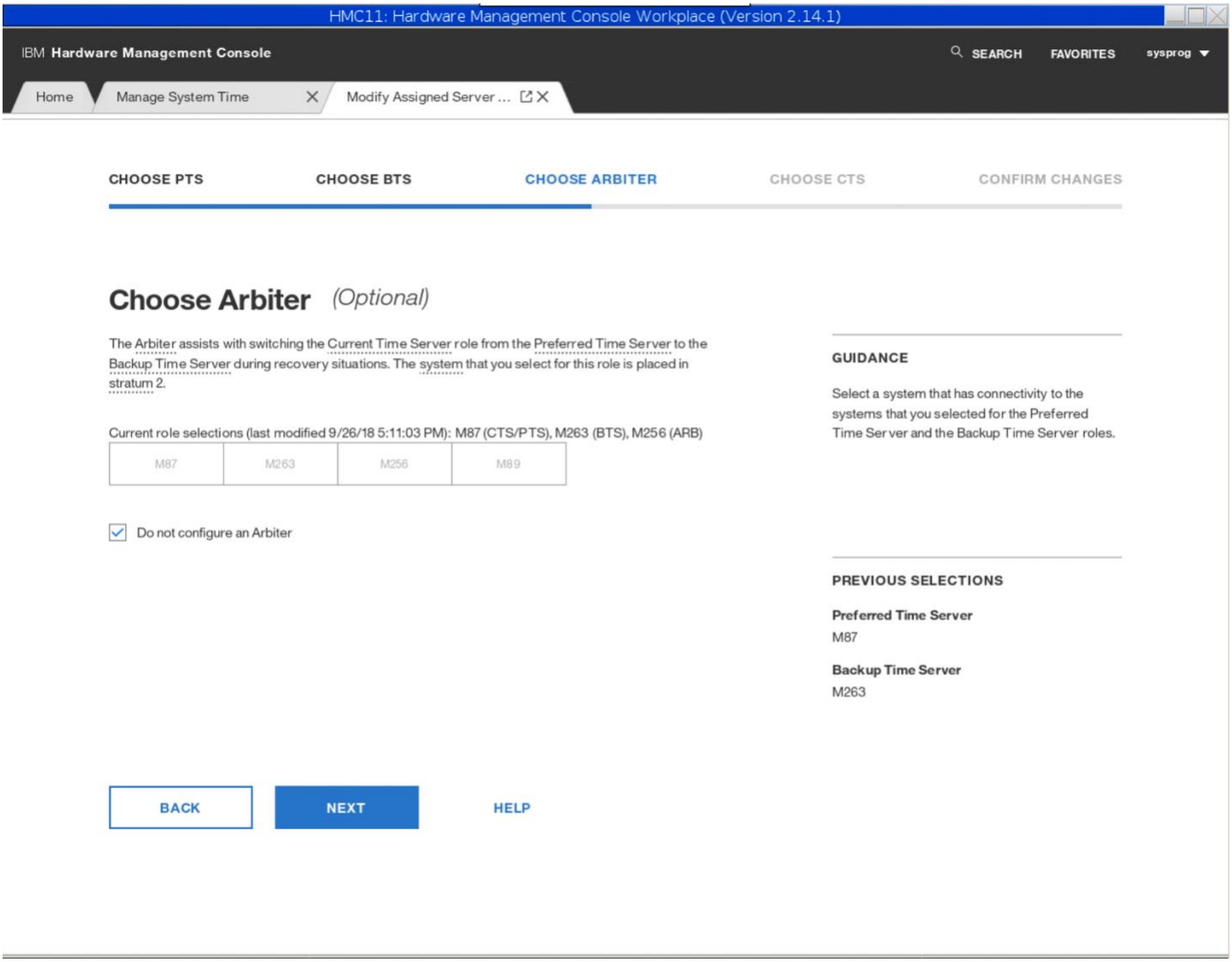
As you can see CPC M87 is the Preferred Time Server and the Current Time Server, M263 is the Backup Time Server, and M256 is the Arbiter. I am going to split M89 and M256 into their own CTN, which I will call CTN02. To begin I need to Modify Assigned Server Roles and take the role of arbiter away from M256 because all the CPCs that will be splitting to a new CTN cannot have an assigned role in the original CTN. I will leave M87 as the PTS/CTS and M263 as the BTS. I start by clicking on Modify Assigned Server Roles under STP Actions on the left of the Manage System Time panel. The first step of the Modify Assigned Server Roles action is to choose the Preferred Time Server. I selected M87 as it was the PTS already and click on next.



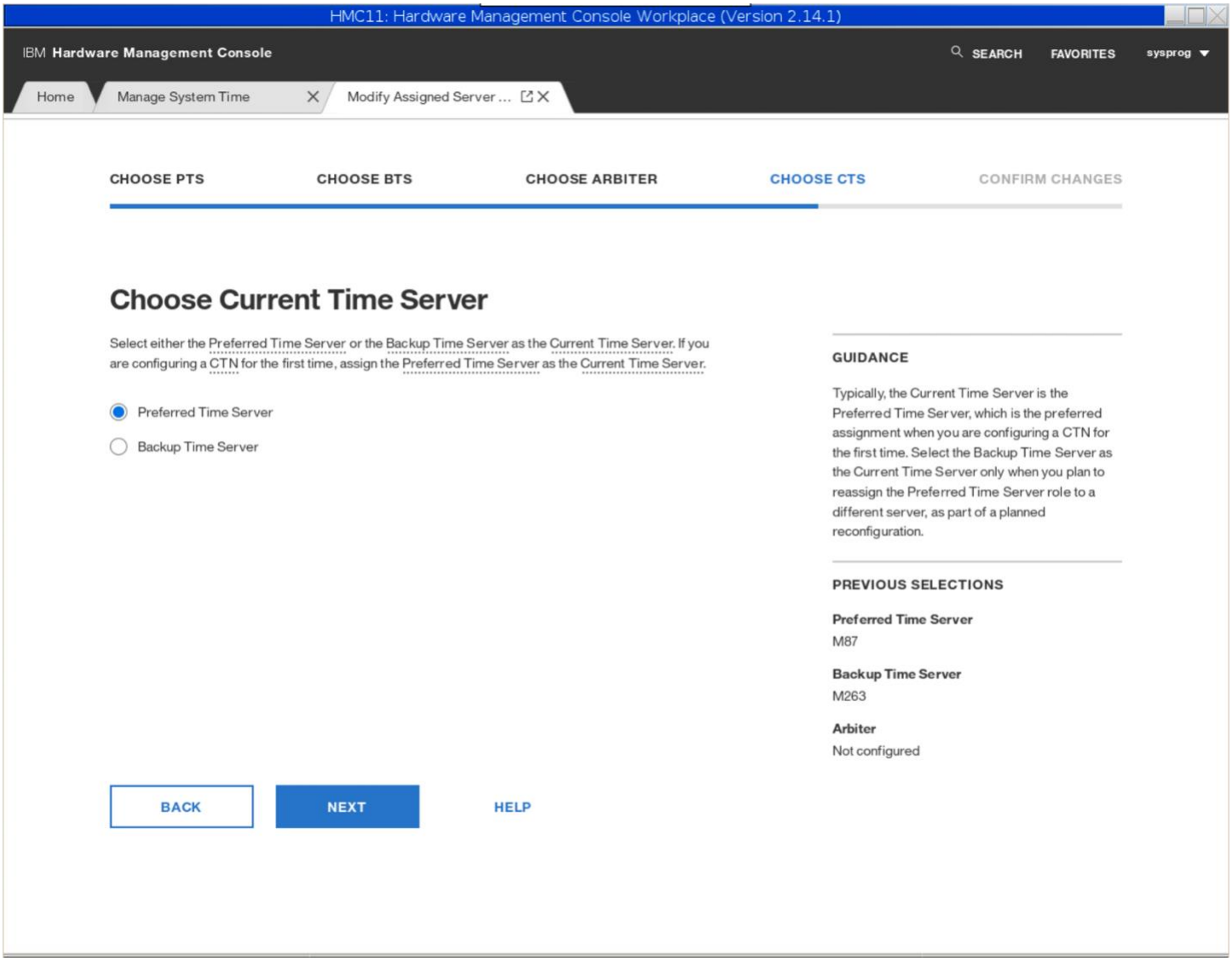
I next choose the Backup Time Server, I select M263 as it was the BTS already and I click on next.



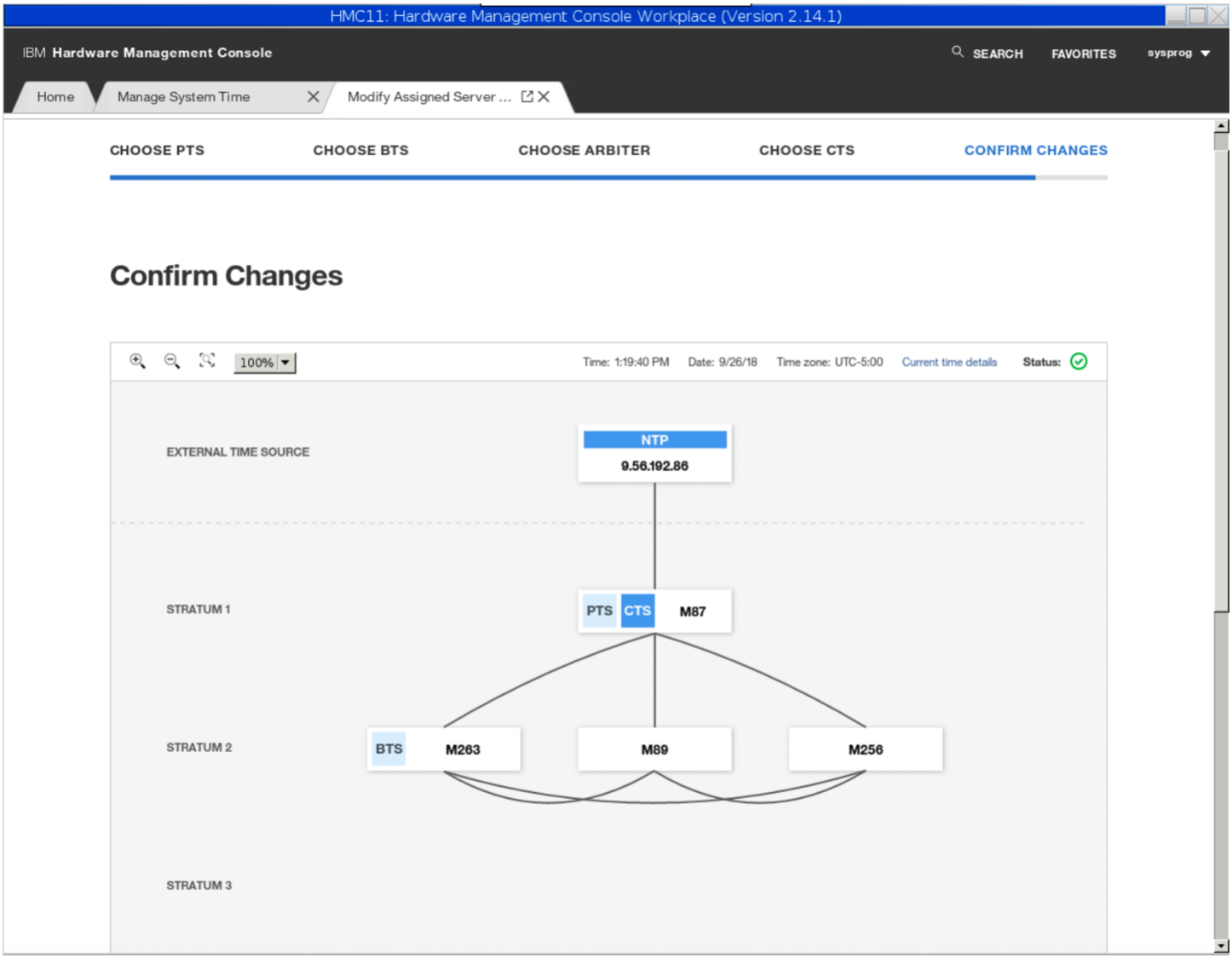
Since we are removing the Arbiter role from M256, I check the box that says “Do not configure an Arbiter” and I click on next.



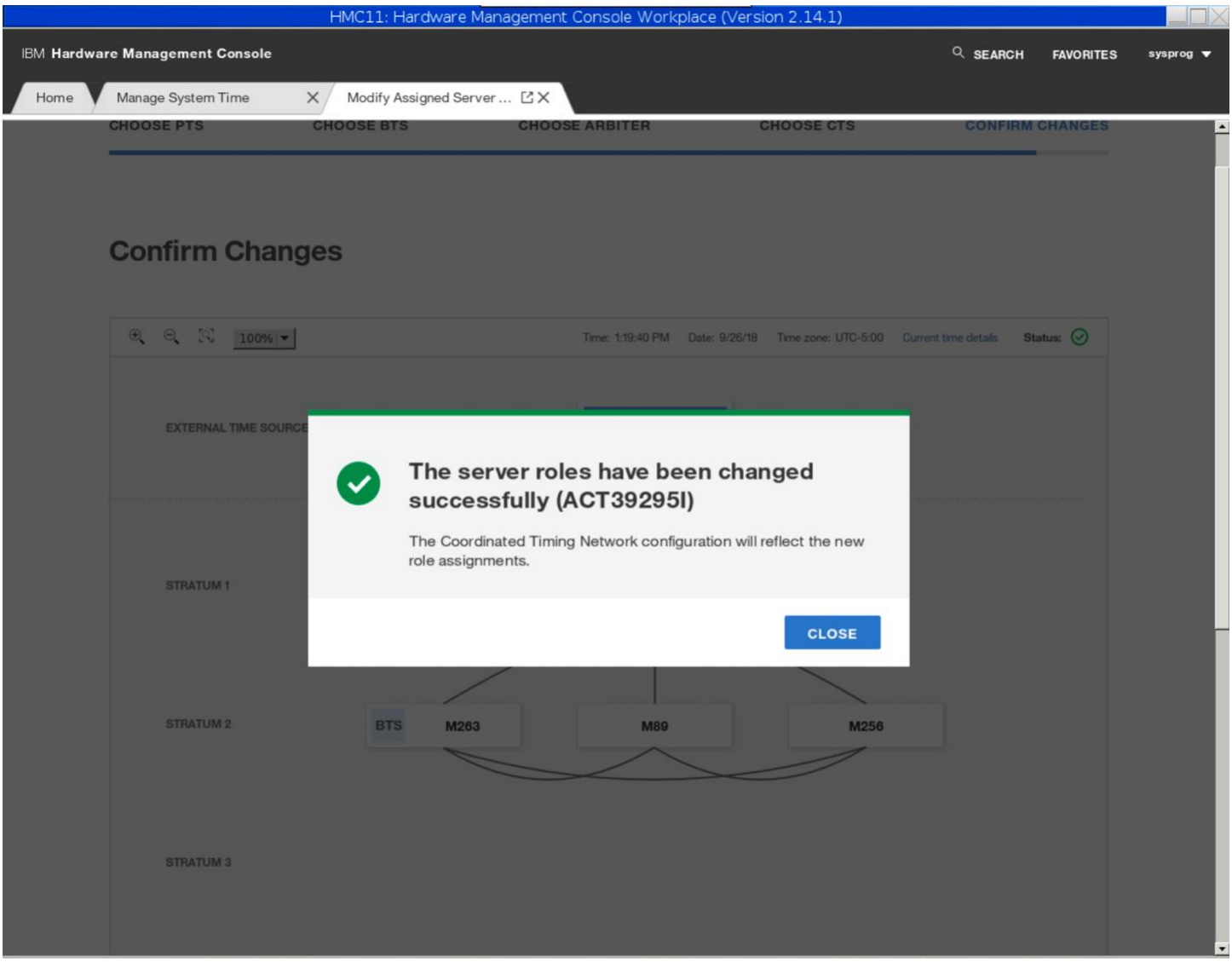
I next choose the Current Time Server, selecting the PTS as the CTS and clicking on next.



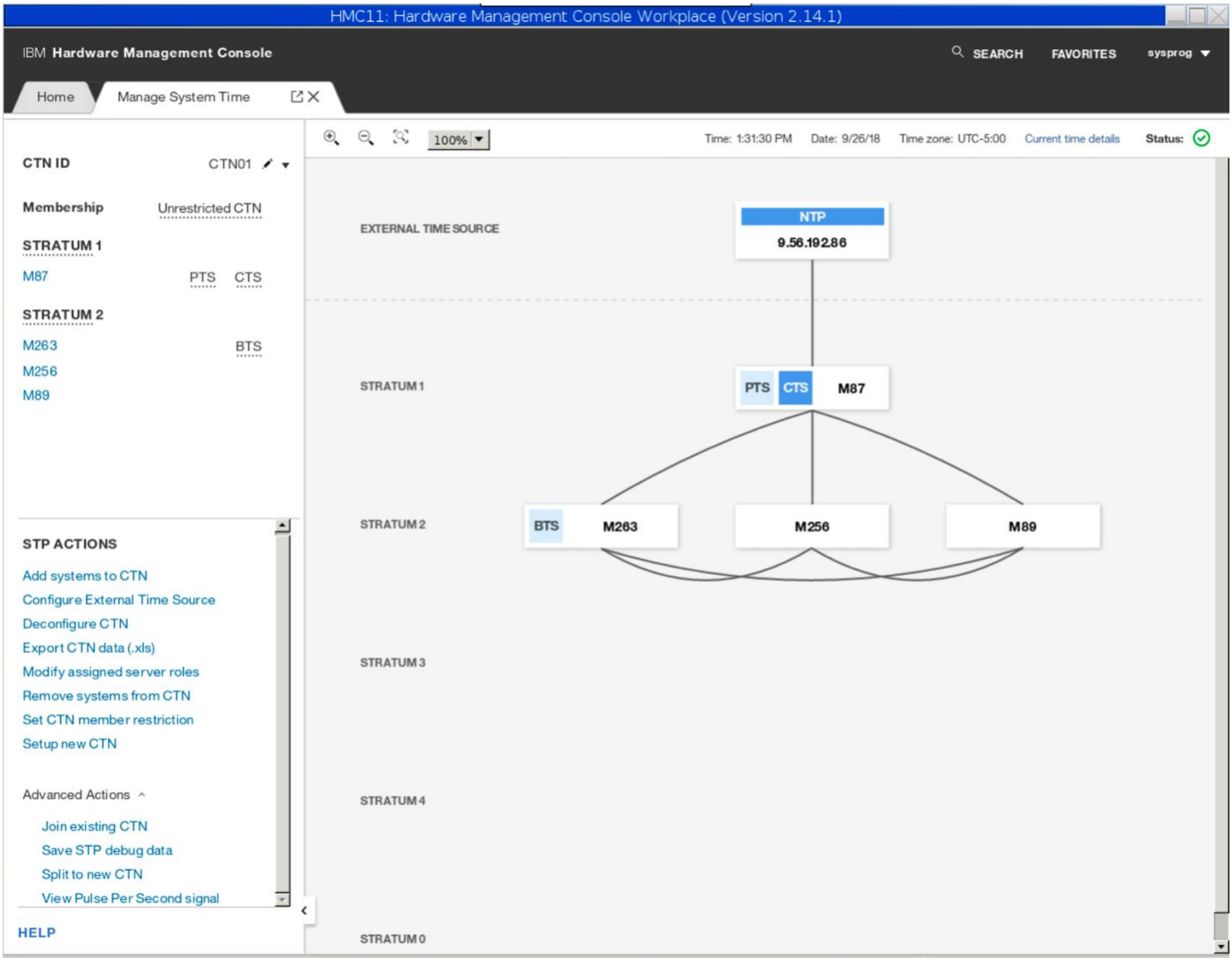
Finally, I confirm the changes I made, scroll down to the bottom and click on Apply and it will remove the Arbiter role from M256.



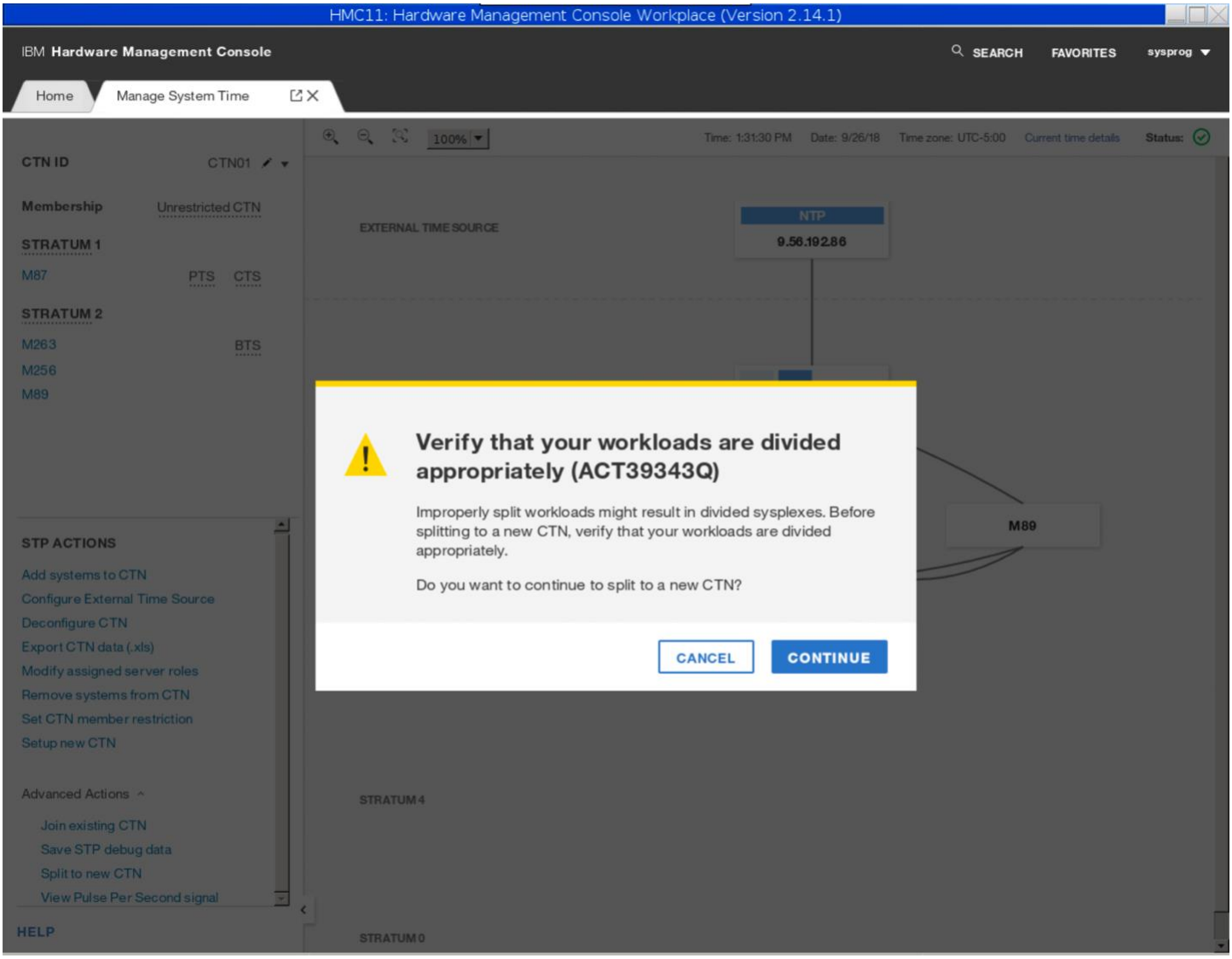
When it’s done a window will pop up and say the server roles were successfully changed.



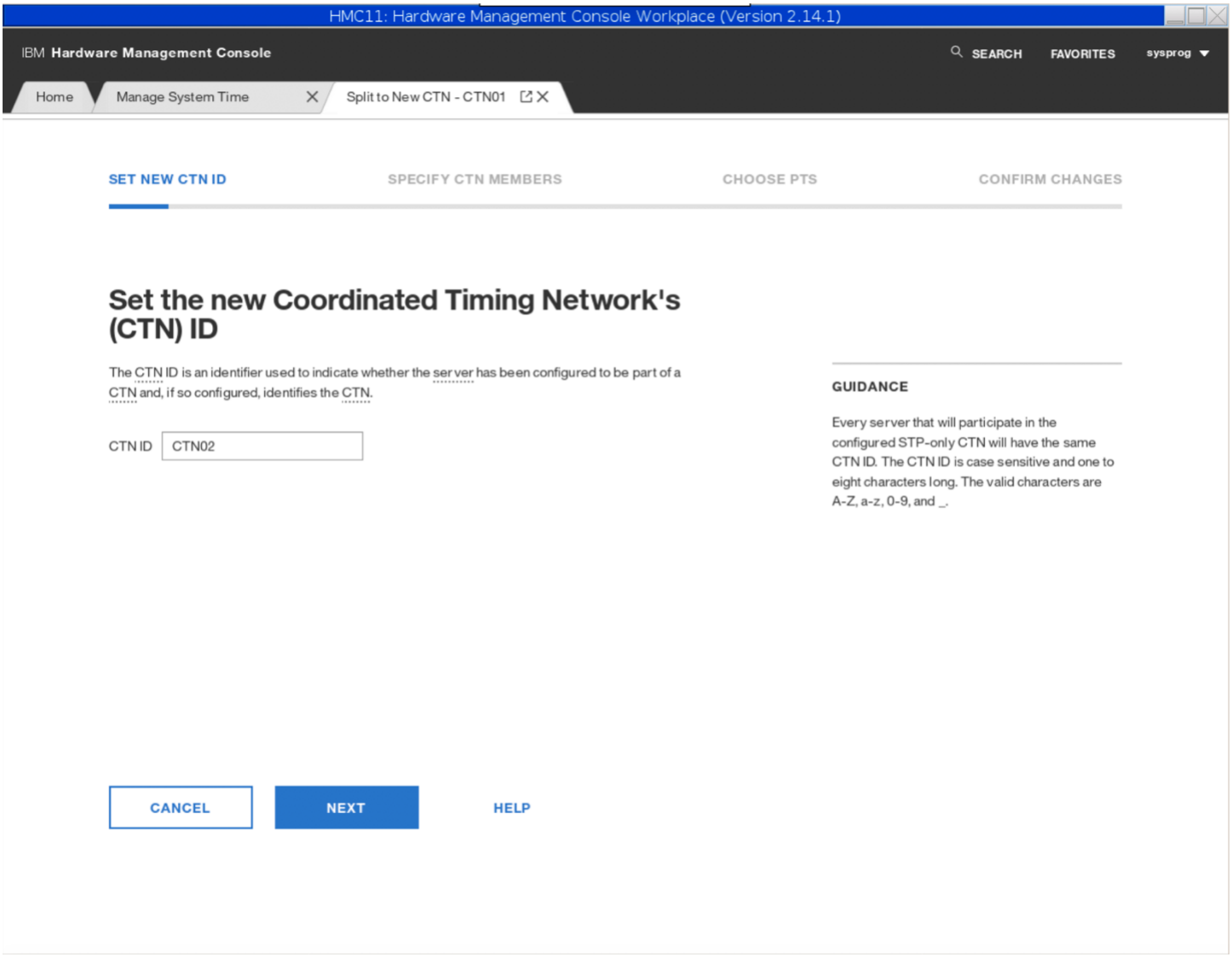
Once the server roles have been successfully changed, the configuration looks like the following:



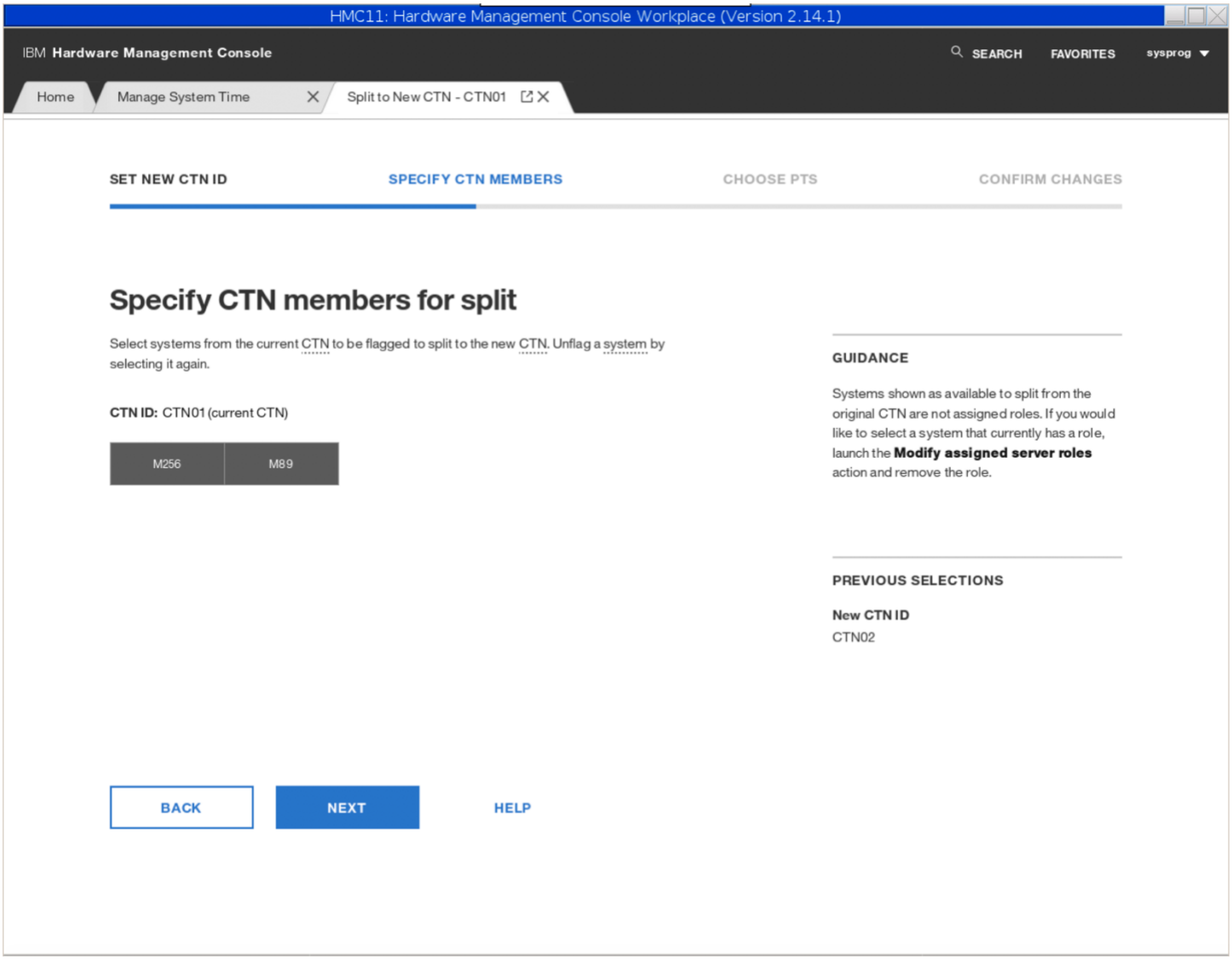
I can now begin the STP Split process. I start this by clicking on Split to New CTN under the Advanced Actions of the Manage System Time panel. I first get a warning reminding me to verify that the workload and sysplexes are properly only running on either CPCs that are splitting away into CTN02 or CPCs that are staying in CTN01. I have verified that all z/OS and coupling facility LPARs for SVPLEX5 are only running on M89 and M256 and that all z/OS and coupling facility LPARs for SVPLEX7 are only running on M87 and M263 and I clicked on continue.



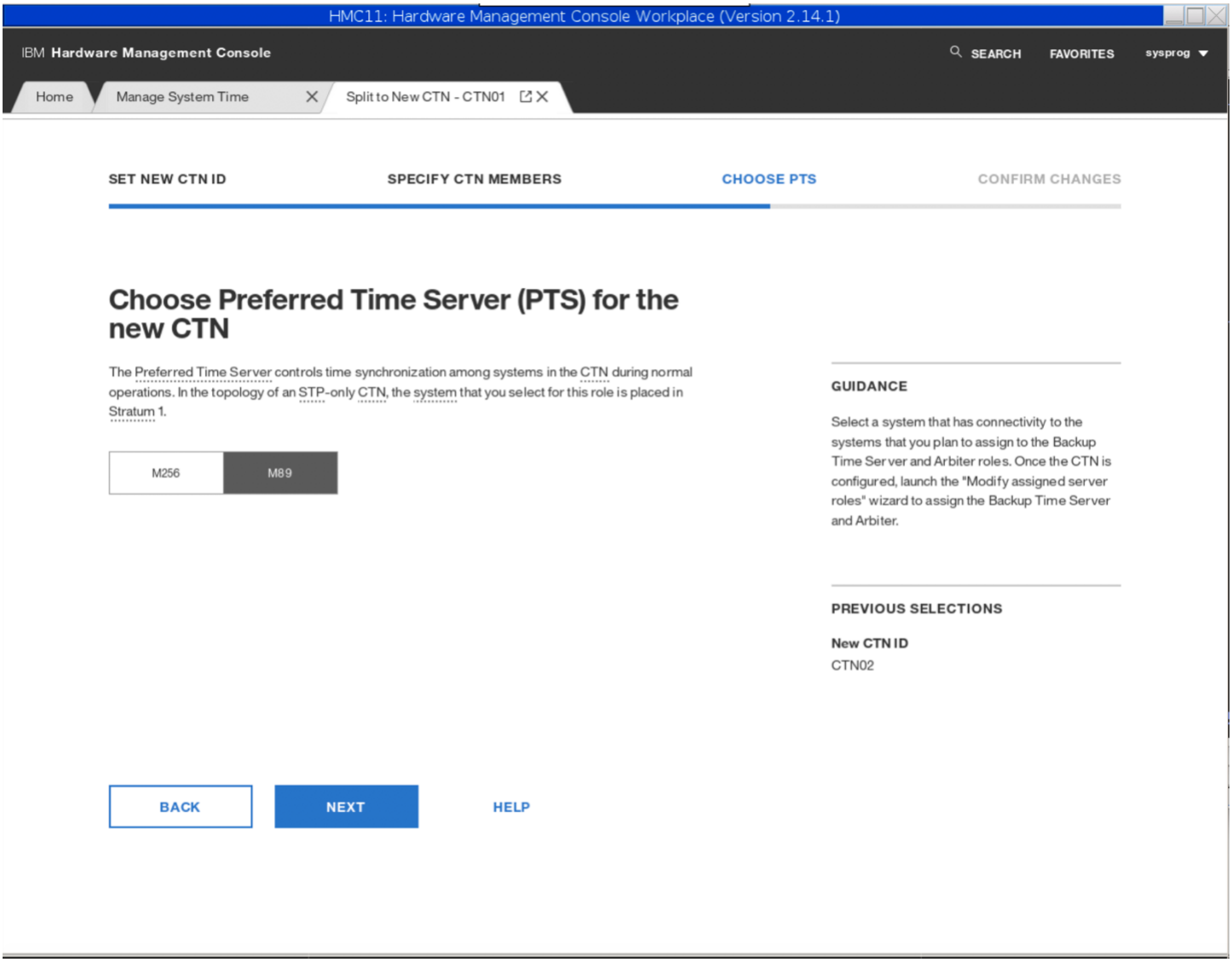
The first step is to set the new CTN ID, which I named as CTN02. As you can see on the right-hand side there is also guidance that will update with helpful information as you move through the process. I set the CTN ID as CTN02 and clicked on next.



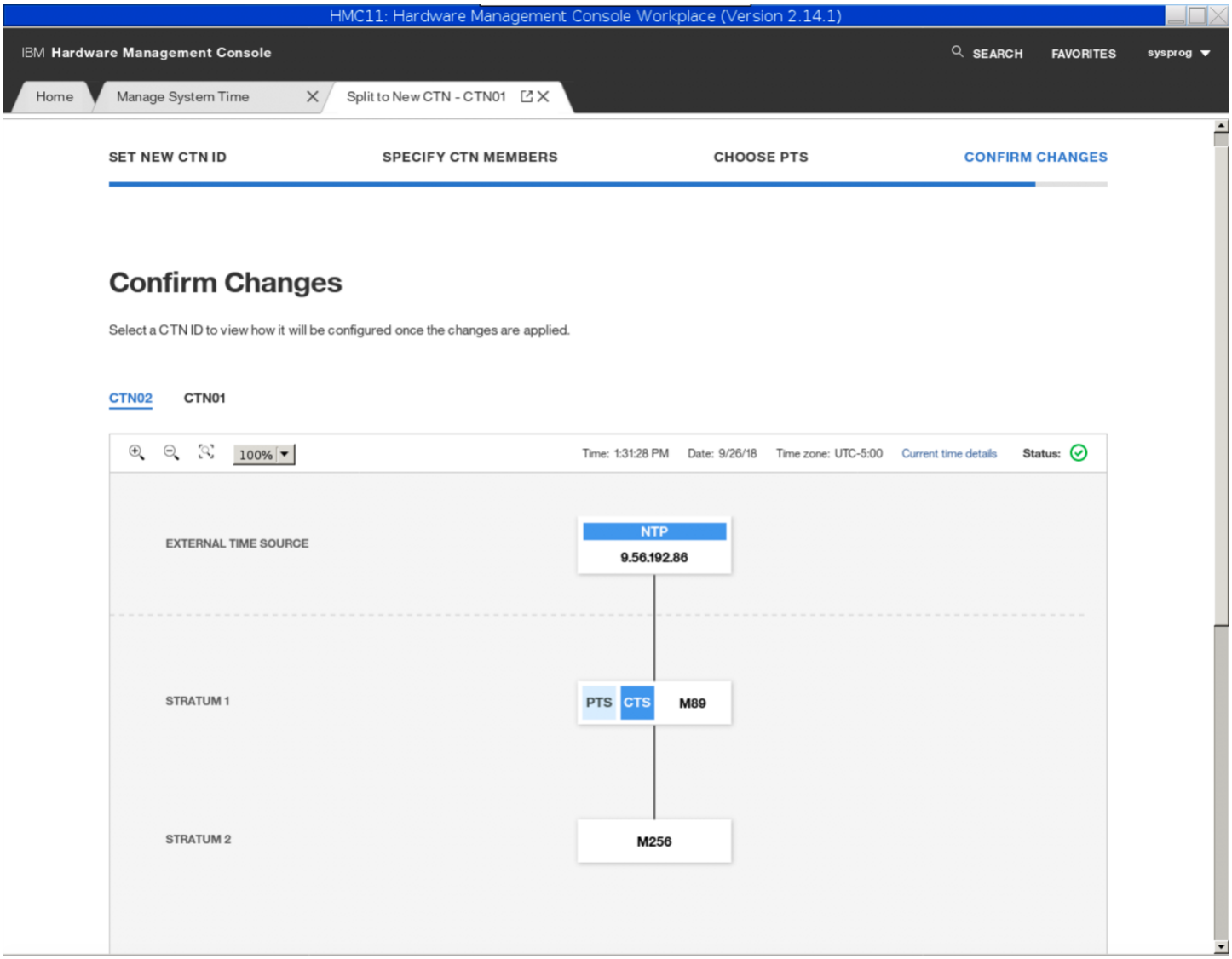
I will now specify which members to split into the new CTN. Since M89 and M256 are the only two systems in the CTN without any assigned roles, they are the only two listed. If you do not see a CPC you would like to be a part of the split, make sure it does not have an assigned role. I selected both M89 and M256 and clicked on next.



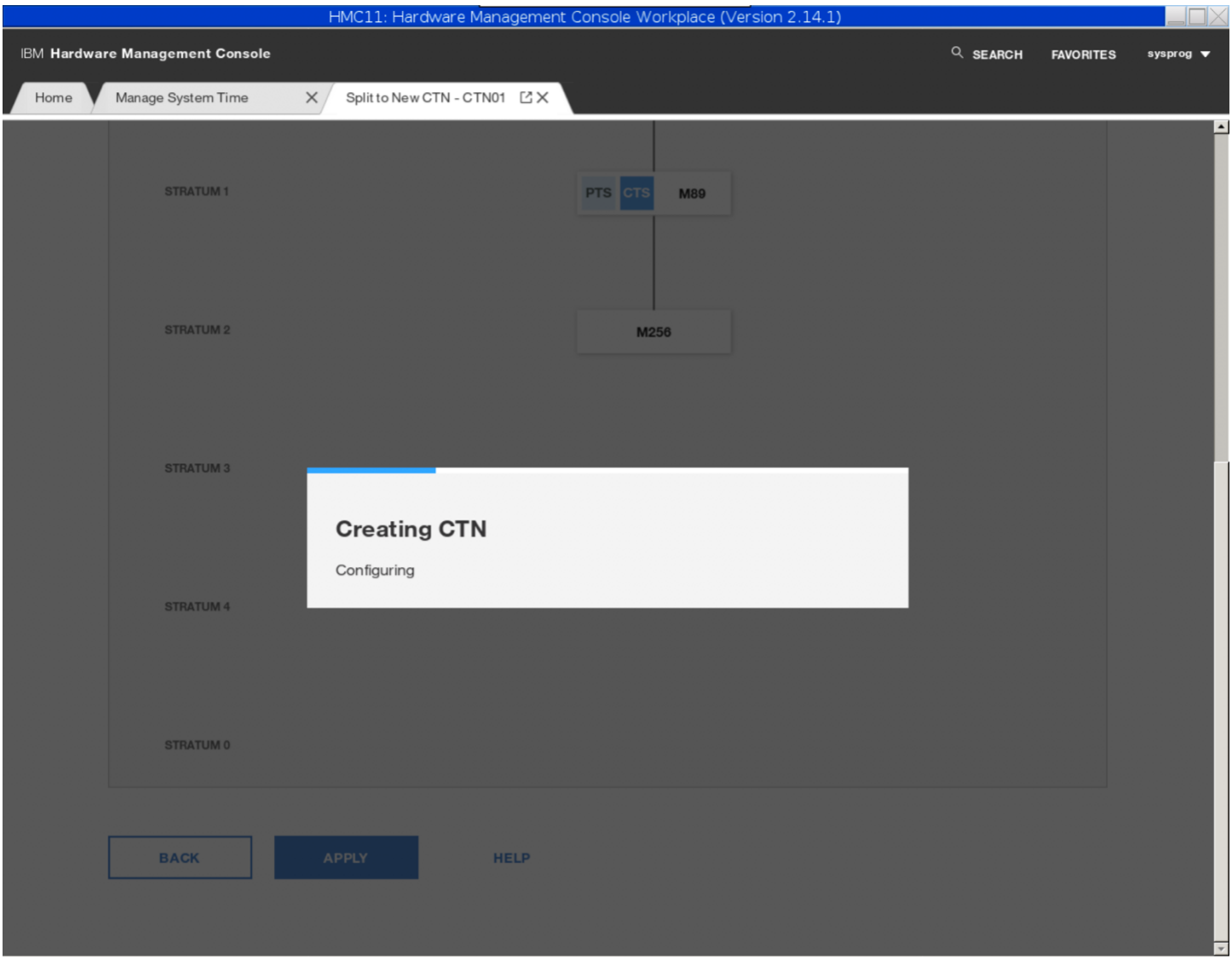
I will now specify the Preferred Time Server for the new CTN. This will also become the Current Time Server of the new CTN. This process does not ask for a Backup Time Server nor does it ask for an Arbiter. If you would like to assign those roles you can do so after the split by going through the Modify Assigned Server Roles panels. I selected M89 as the PTS and clicked on next.



It now shows me a visual diagram of what the two CTNs will look like after the split. You can toggle between what the old and new CTN's will look like by clicking on their CTN ID's. The following is what the new CTN02 will look like. As you can see, I have an ETS configured for the new PTS in the new CTN. It is recommended to have an ETS defined for both the PTS and the BTS of the new CTN. I verified that it is correct and the CPCs I want to split into a new CTN and I scrolled down and clicked on Apply.



It will now go and create the new CTN.

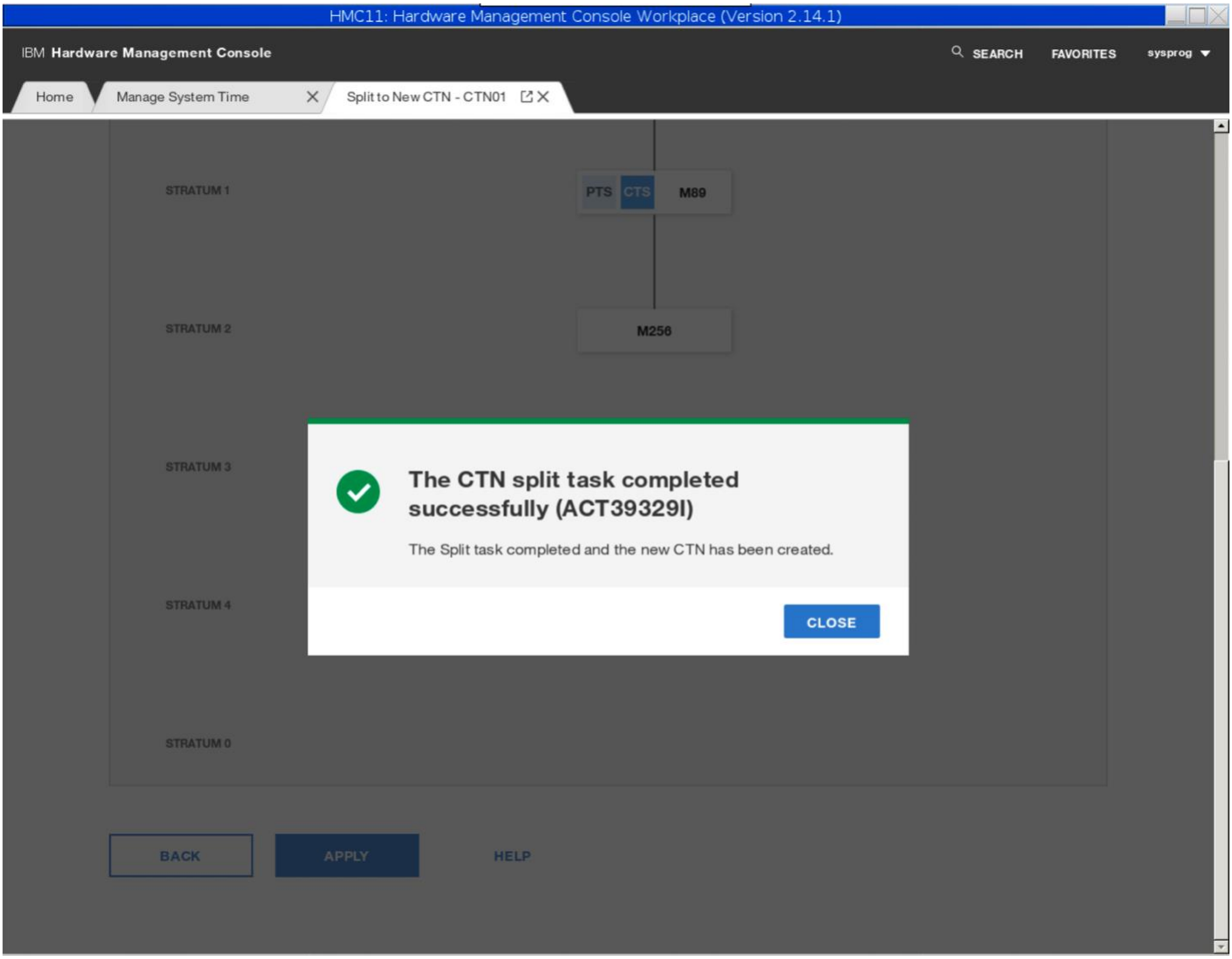


When the split occurs, you will see messages such as IEA389I, IXC439E and IXC425I. The IEA389I message is because during the split it only lets you define a PTS for the new CTN, and this message is letting you know there is no BTS or arbiter. The IXC439E message is letting you know that the CTNID is not in sync across the sysplex, you see this message because this change does not happen in the same instant for all z/OS LPARs in the sysplex. Finally, once all the z/OS LPARs are in sync with the same CTNID, you will see the IXC435I messages. In my environment I saw the following messages from z/OS systems running on the CPCs that are splitting away:

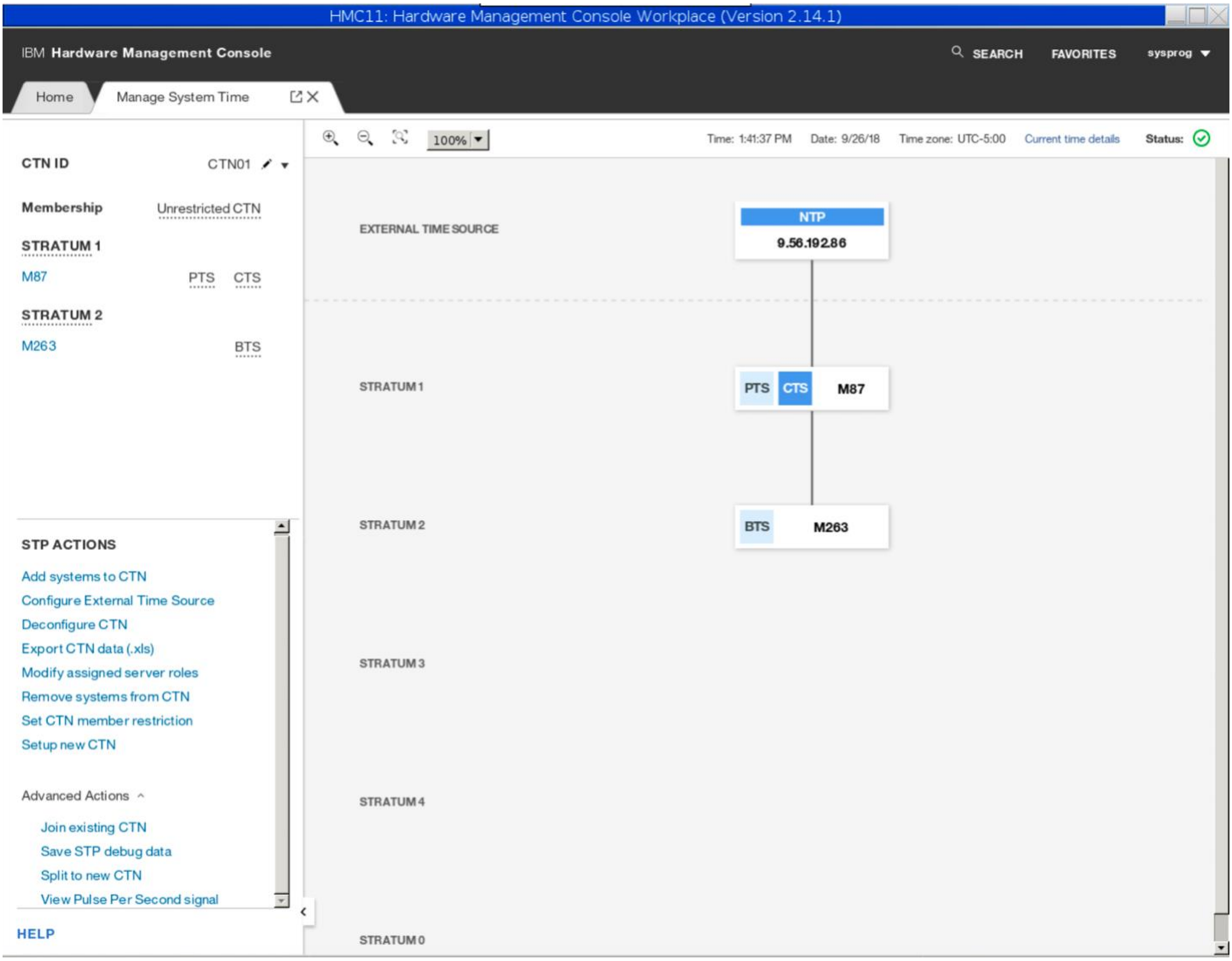
```
S5C      18269 13:39:41.59           00000010  IEA389I THIS STP NETWORK HAS NO SERVER TO ACT AS BACKUP
S5C      18269 13:39:41.59           00000010  IEA389I THIS STP NETWORK HAS NO SERVER TO ACT AS ARBITER
S59      18269 13:39:41.63           00000010  IEA389I THIS STP NETWORK HAS NO SERVER TO ACT AS BACKUP
S59      18269 13:39:41.63           00000010  IEA389I THIS STP NETWORK HAS NO SERVER TO ACT AS ARBITER
S5B      18269 13:39:41.64           00000010  IEA389I THIS STP NETWORK HAS NO SERVER TO ACT AS BACKUP
S5B      18269 13:39:41.64           00000010  IEA389I THIS STP NETWORK HAS NO SERVER TO ACT AS ARBITER
S5B      18269 13:39:41.65           00000010  IXC438I COORDINATED TIMING INFORMATION HAS BEEN UPDATED 496
                                 496 00000010           FOR SYSTEM: S5B
                                 496 00000010           PREVIOUS CTNID:   CTN01...
                                 496 00000010           CURRENT  CTNID:   CTN02...
S5B      18269 13:39:41.65           00000010 *IXC439E ALL SYSTEMS IN SYSPLEX SVPLEX5 ARE NOT SYNCHRONIZED 497
                                 497 00000010           TO THE SAME TIME REFERENCE.
                                 497 00000010         SYSTEM: S5B  IS USING CTNID: CTN02...
                                 497 00000010         SYSTEM: S55  IS USING CTNID: CTN01...
                                 497 00000010         SYSTEM: S5A  IS USING CTNID: CTN01...
                                 497 00000010         SYSTEM: S5D  IS USING CTNID: CTN01...
                                 497 00000010         SYSTEM: S50  IS USING CTNID: CTN01...
                                 497 00000010         SYSTEM: S5C  IS USING CTNID: CTN01...
                                 497 00000010         SYSTEM: S51  IS USING CTNID: CTN01...
                                 497 00000010         SYSTEM: S58  IS USING CTNID: CTN01...
                                 497 00000010         SYSTEM: S59  IS USING CTNID: CTN01...
                                 497 00000010         SYSTEM: S5H  IS USING CTNID: CTN01...
                                 497 00000010         SYSTEM: S5F  IS USING CTNID: CTN01...
                                 497 00000010         SYSTEM: S5E  IS USING CTNID: CTN01...
                                 497 00000010         SYSTEM: S56  IS USING CTNID: CTN01...
                                 497 00000010         SYSTEM: S52  IS USING CTNID: CTN01...
                                 497 00000010         SYSTEM: S53  IS USING CTNID: CTN01...
                                 497 00000010         SYSTEM: S5G  IS USING CTNID: CTN01...
                                 497 00000010         SYSTEM: S54  IS USING CTNID: CTN01...
                                 497 00000010         SYSTEM: S57  IS USING CTNID: CTN01...

S5B      18269 13:39:42.70           00000010  IXC435I ALL SYSTEMS IN SYSPLEX SVPLEX5 ARE NOW SYNCHRONIZED 500
                                 500 00000010           TO THE SAME TIME REFERENCE.
                                 500 00000010         SYSTEM: S5B  IS USING CTNID: CTN02...
                                 500 00000010         SYSTEM: S55  IS USING CTNID: CTN02...
                                 500 00000010         SYSTEM: S5A  IS USING CTNID: CTN02...
                                 500 00000010         SYSTEM: S5D  IS USING CTNID: CTN02...
                                 500 00000010         SYSTEM: S50  IS USING CTNID: CTN02...
                                 500 00000010         SYSTEM: S5C  IS USING CTNID: CTN02...
                                 500 00000010         SYSTEM: S51  IS USING CTNID: CTN02...
                                 500 00000010         SYSTEM: S58  IS USING CTNID: CTN02...
                                 500 00000010         SYSTEM: S59  IS USING CTNID: CTN02...
```

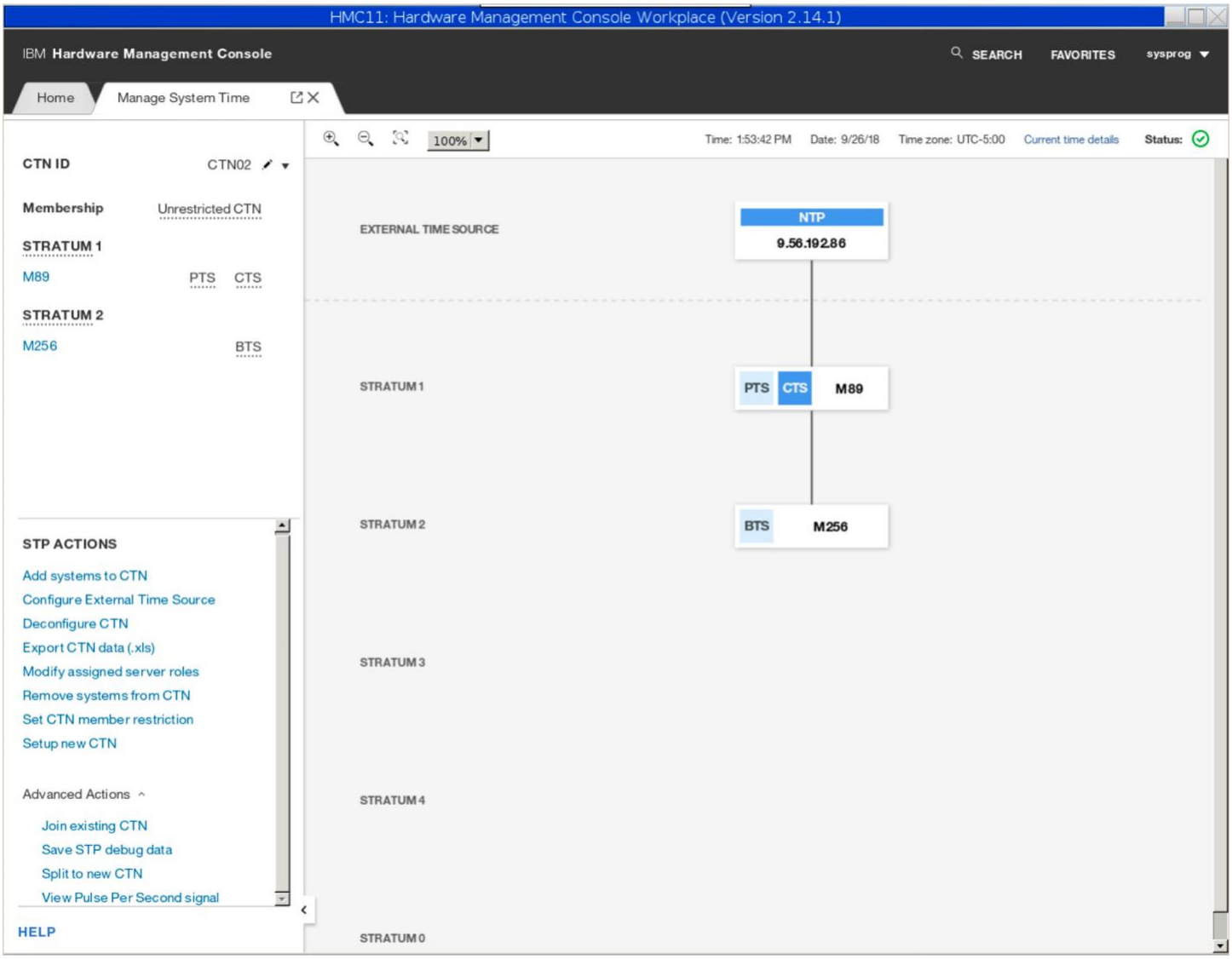
```
500 00000010         SYSTEM: S5H  IS USING CTNID: CTN02...
500 00000010         SYSTEM: S5F  IS USING CTNID: CTN02...
500 00000010         SYSTEM: S5E  IS USING CTNID: CTN02...
500 00000010         SYSTEM: S56  IS USING CTNID: CTN02...
500 00000010         SYSTEM: S52  IS USING CTNID: CTN02...
500 00000010         SYSTEM: S53  IS USING CTNID: CTN02...
500 00000010         SYSTEM: S5G  IS USING CTNID: CTN02...
500 00000010         SYSTEM: S54  IS USING CTNID: CTN02...
500 00000010         SYSTEM: S57  IS USING CTNID: CTN02...
```

When the split is successful you will get the following notice:



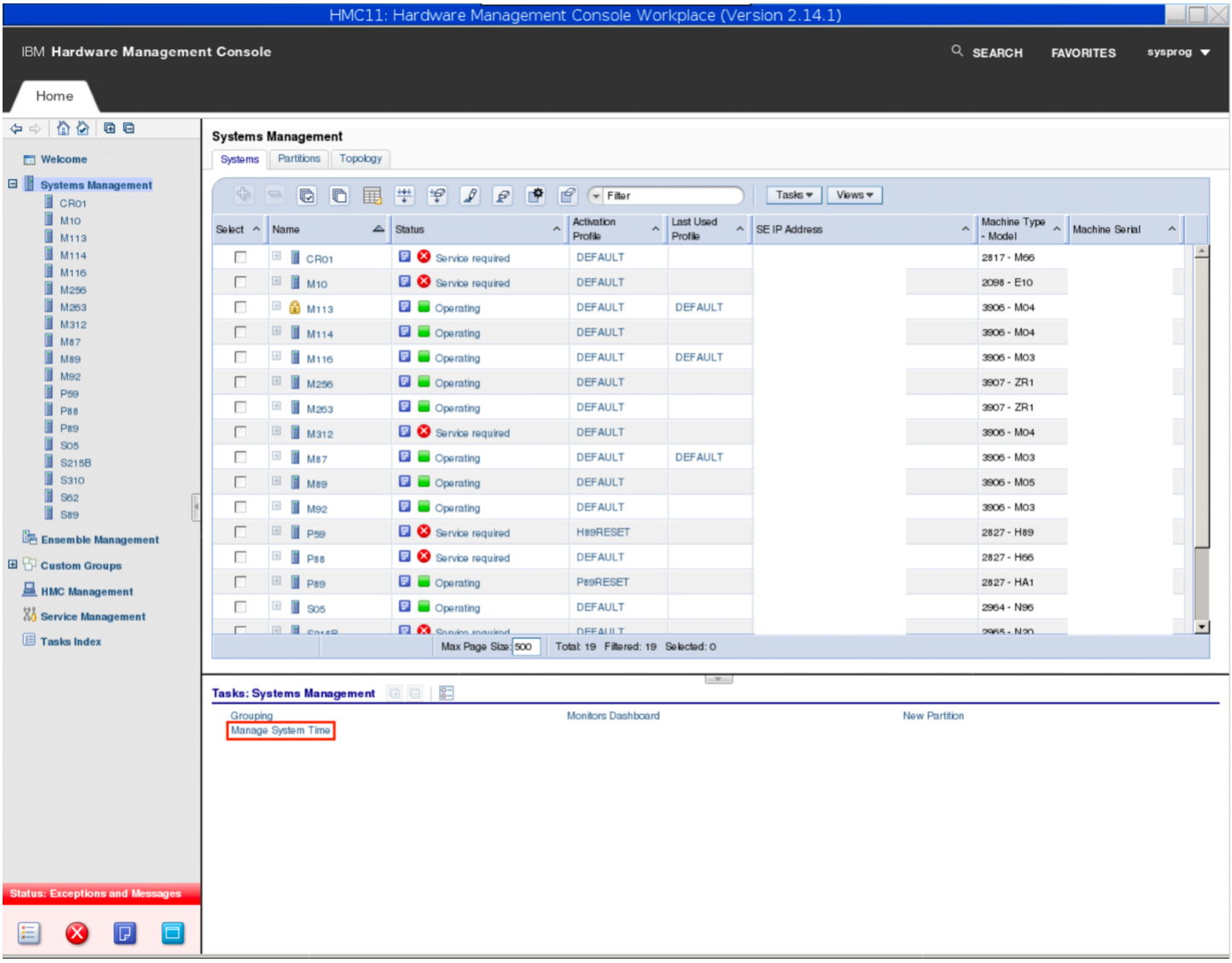
You can now view each CTN and makes changes to each one if you wish. For example, I did Modify Assigned Server Roles while in CTN02 and I assigned M256 as the Backup Time Server. This would also be a good time to configure an ETS for both the PTS and the BTS, if you have not done so already. Also, it is recommended to perform the Set CTN member restriction action under STP actions so that the configuration will be maintained across POR and it will prevent future IEA389I messages from being displayed. The two CTN's now look like the following:



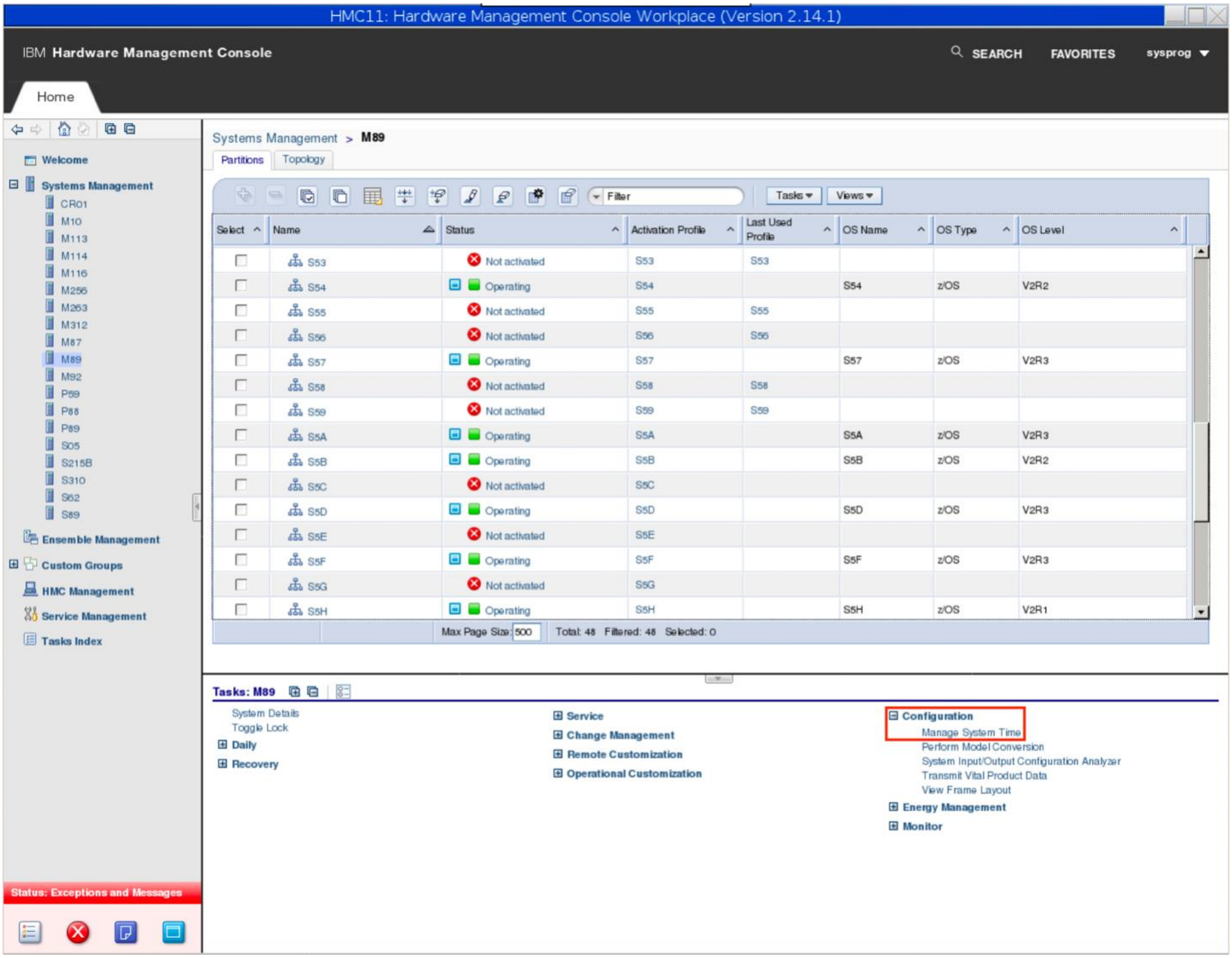


STP Merge

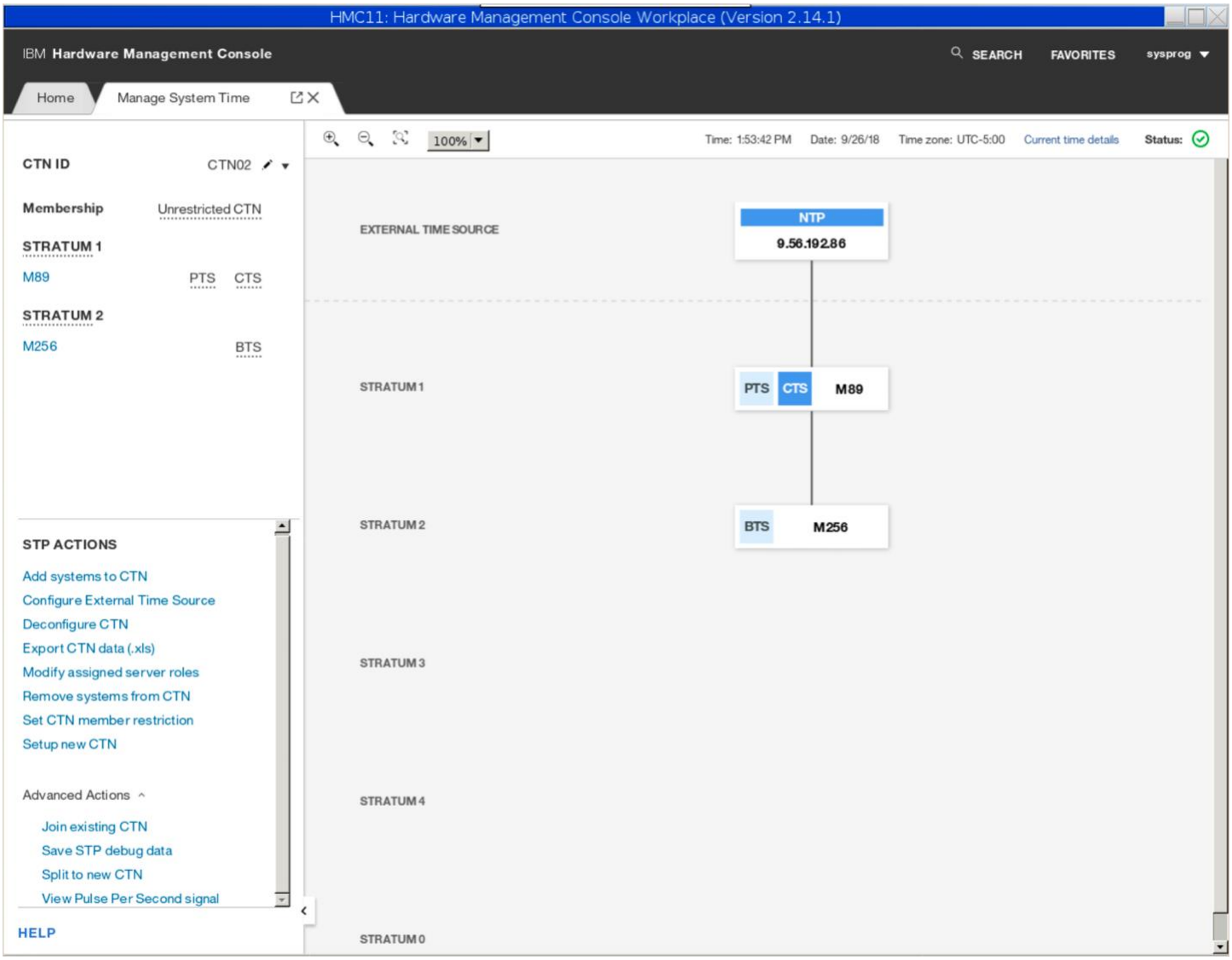
To start the STP merge process I opened the Manage System Time panel on the HMC. There are two ways to get to the panel, one was is by selecting Manage System Time task from the System Management panel.



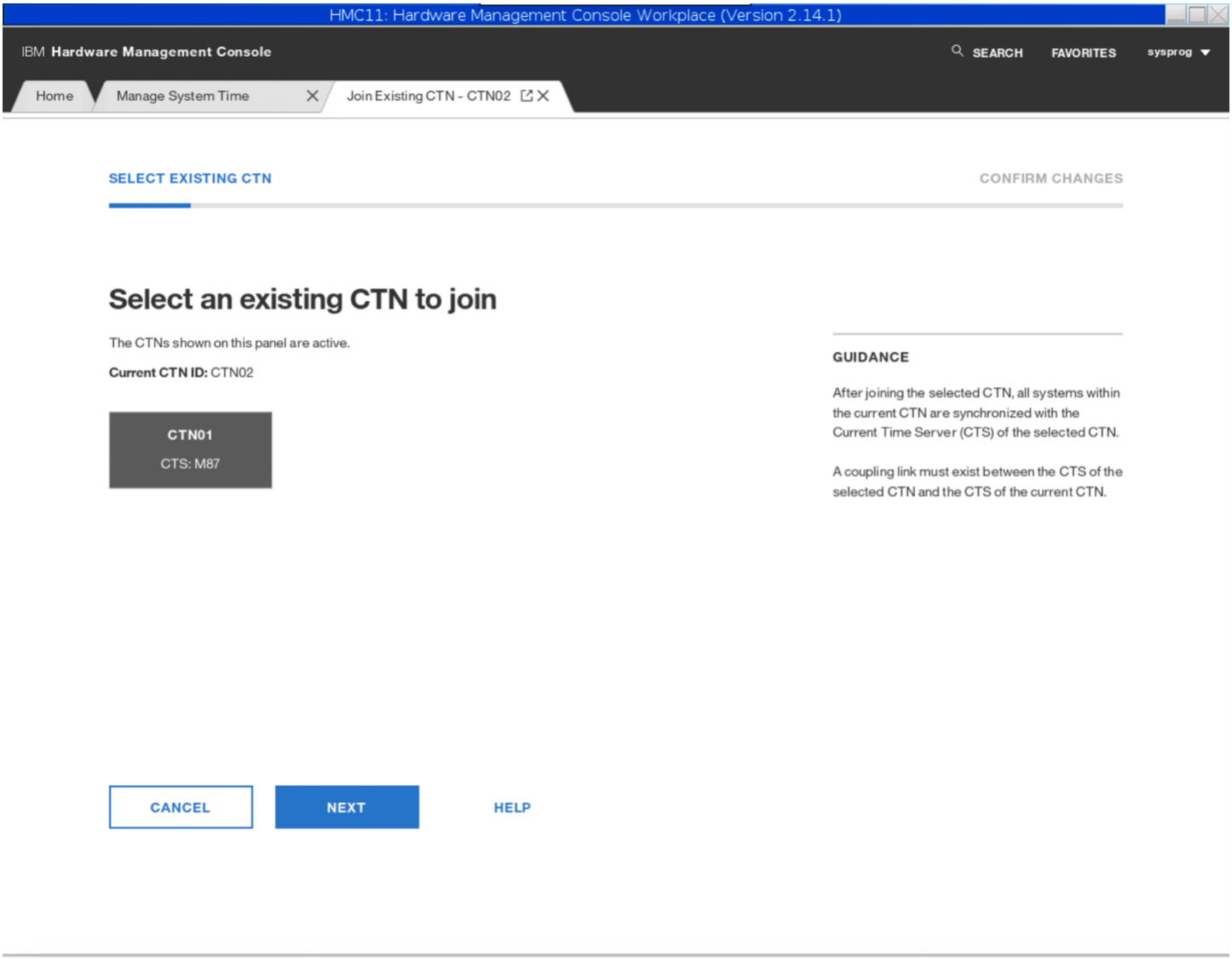
The other way to get to the Manage System Time panel is by selecting the CPC that is part of the CTN you want to work on and then under the configuration tasks, select Manage System Time.



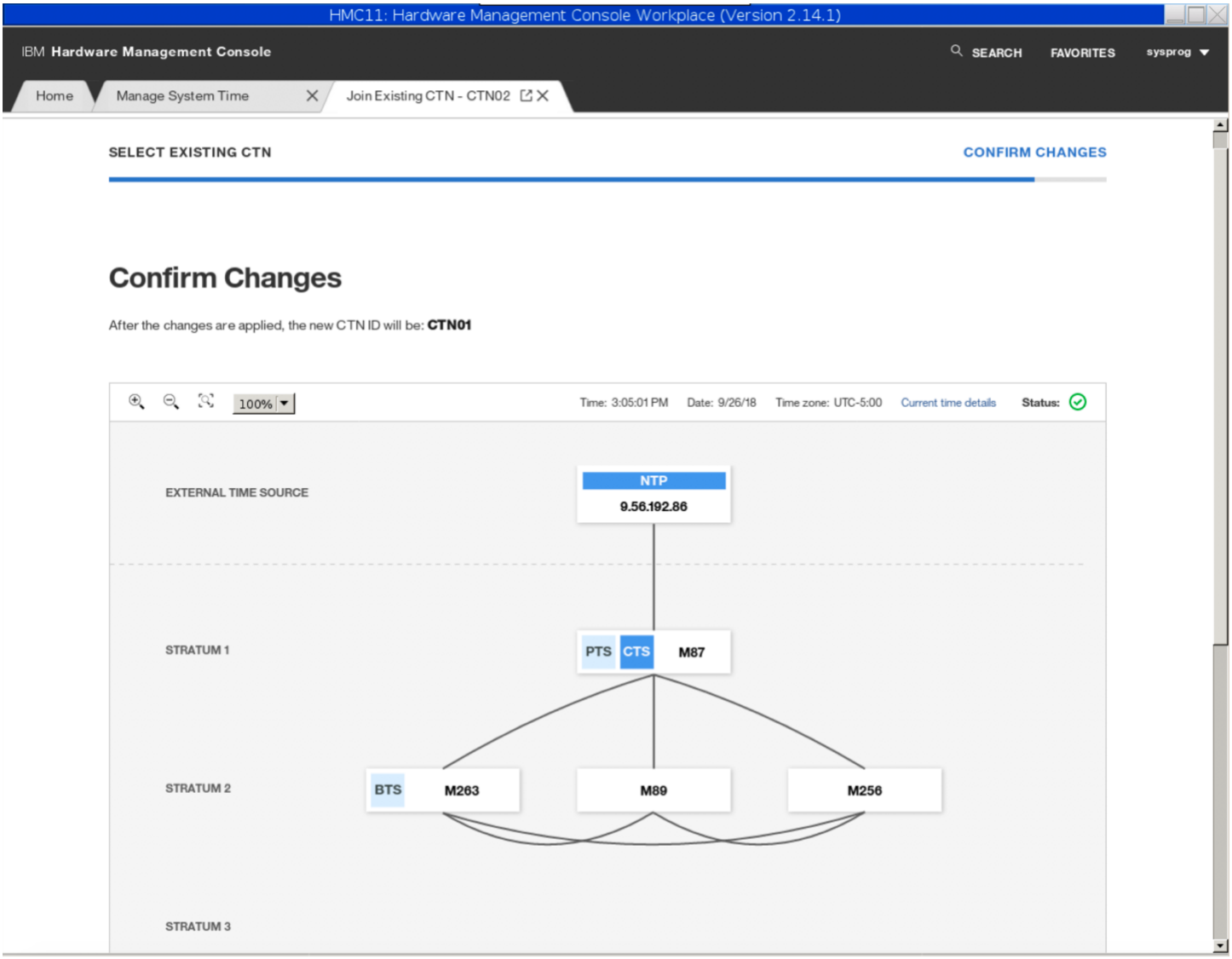
It is recommended to have the same ETS configured for both CTNs before a merge is started. For the merge to happen you also need coupling and/or STP links configured between the CPCs you are merging. The two CTNs need to be within 1 second of each other, if they are not then the merge will not happen and you will have to try again once the two CTNs are closer in time. I can look at the layout of CTN01 and CTN02 (as seen in the last two screen shots above). While looking at CTN02 I select Join Existing CTN under the Advanced Actions.



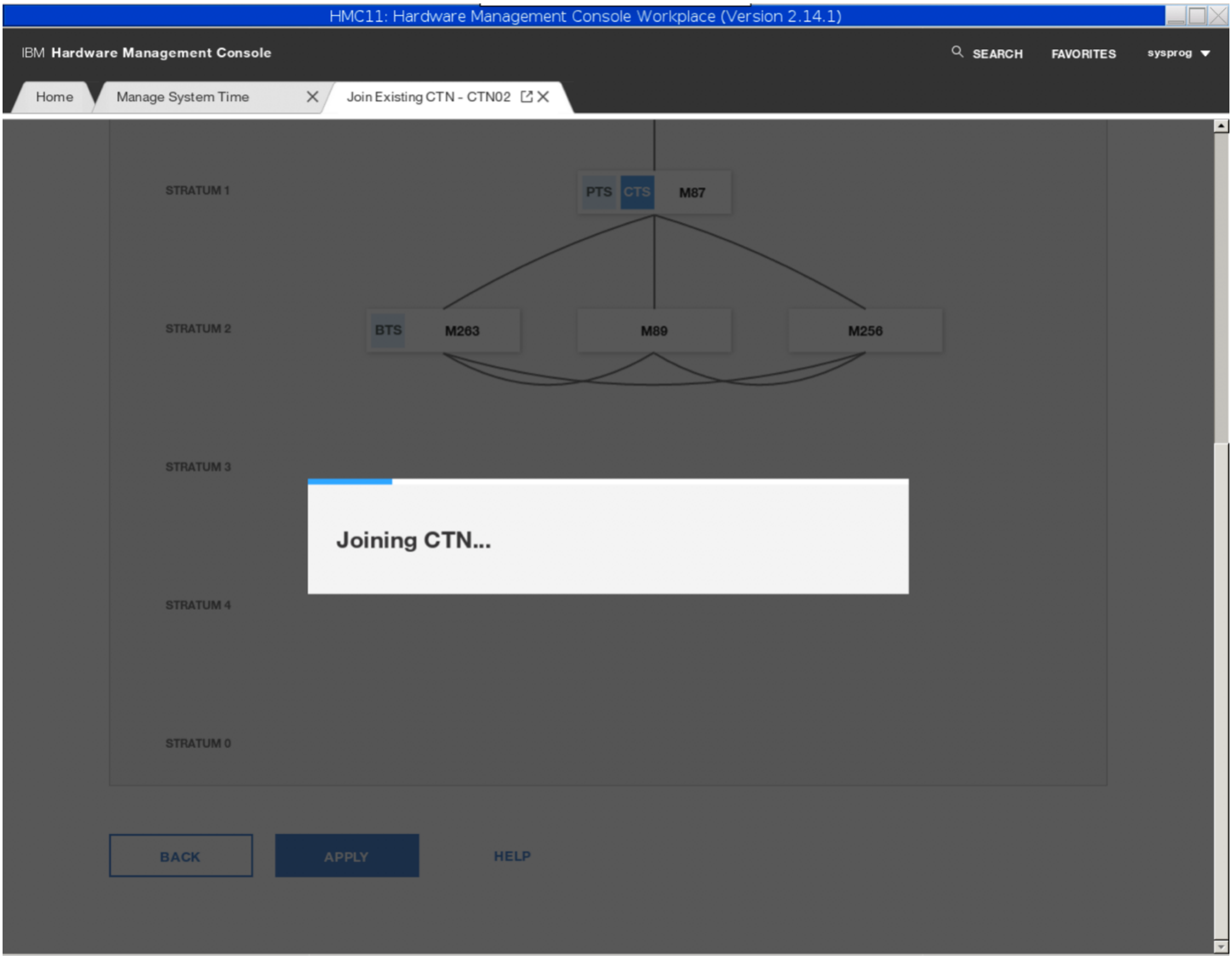
The first step is to select a CTN to join. The only available CTN is CTN01, so I selected that and clicked on next.



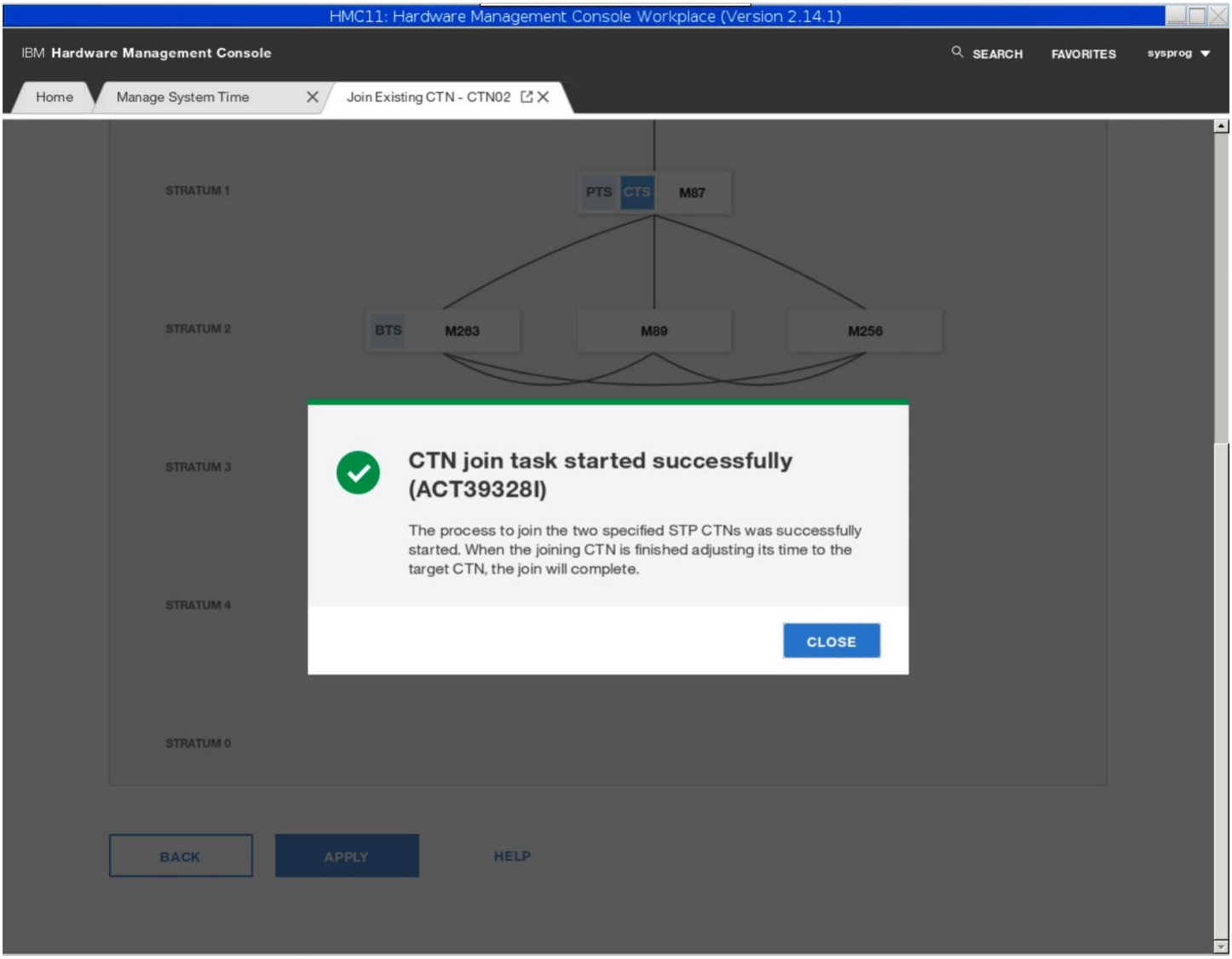
It now shows me a confirmation of what the CTN will look like after the merge. As you can see, the CTN we are merging into, CTN01, will keep its original PTS/CTS and BTS. The CTN that will be doing the merging, CTN02, will have its PTS/CTS and BTS roles removed. Also, it shows the stratum level of each CPC after the merge as well as the defined coupling/STP links between them. As a reminder z14 GA2 can support stratum level 4 but it is recommended that you try and keep the CPCs at a stratum level 2. I confirm that after the join the CTN will be CTN01 with the proper layout and scroll down and click on Apply.



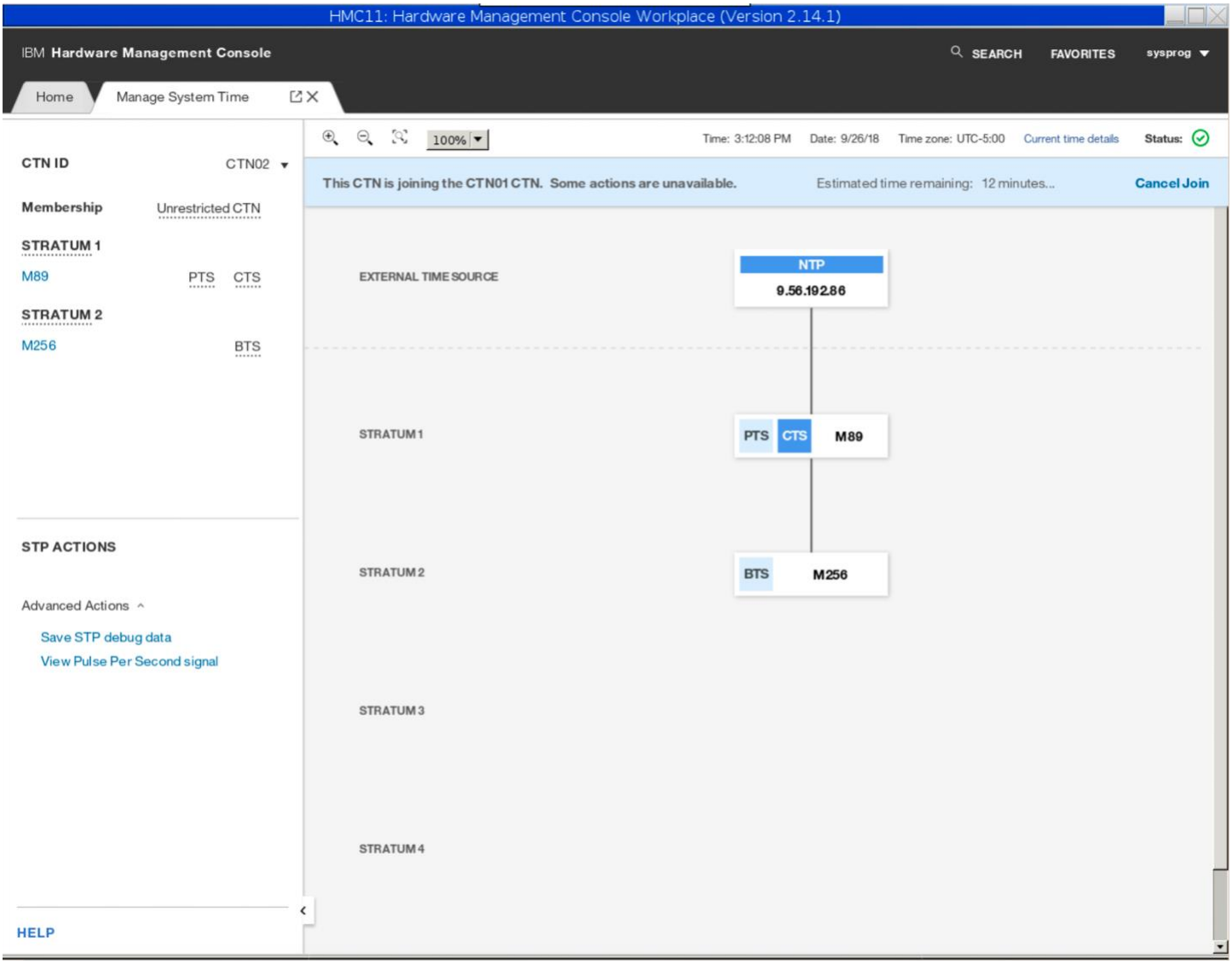
It will now start the join process.



It now tells me that the join process was successfully started.



From here a majority of the STP actions are locked out as it is joining the two CTNs. It is getting the times of the two CTNs in sync and then it will merge them together. As you can see at the top of the panel there is an estimated countdown clock. The two CTN's will not merge unless the system clocks are within one second of each other. If the two CTNs are the maximum one second apart when the join starts it will take about seven hours for the two CTNs to sync up to the same time.

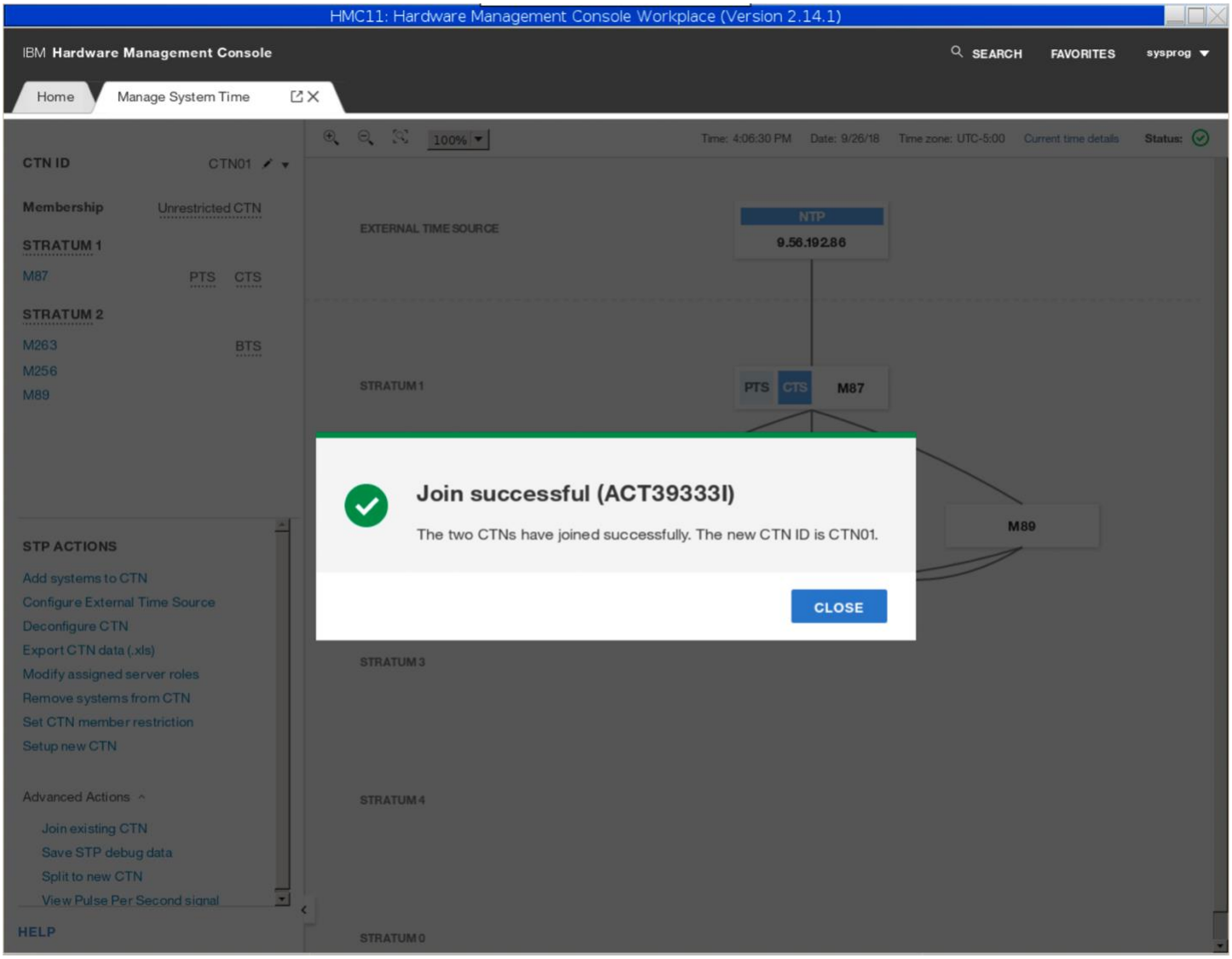


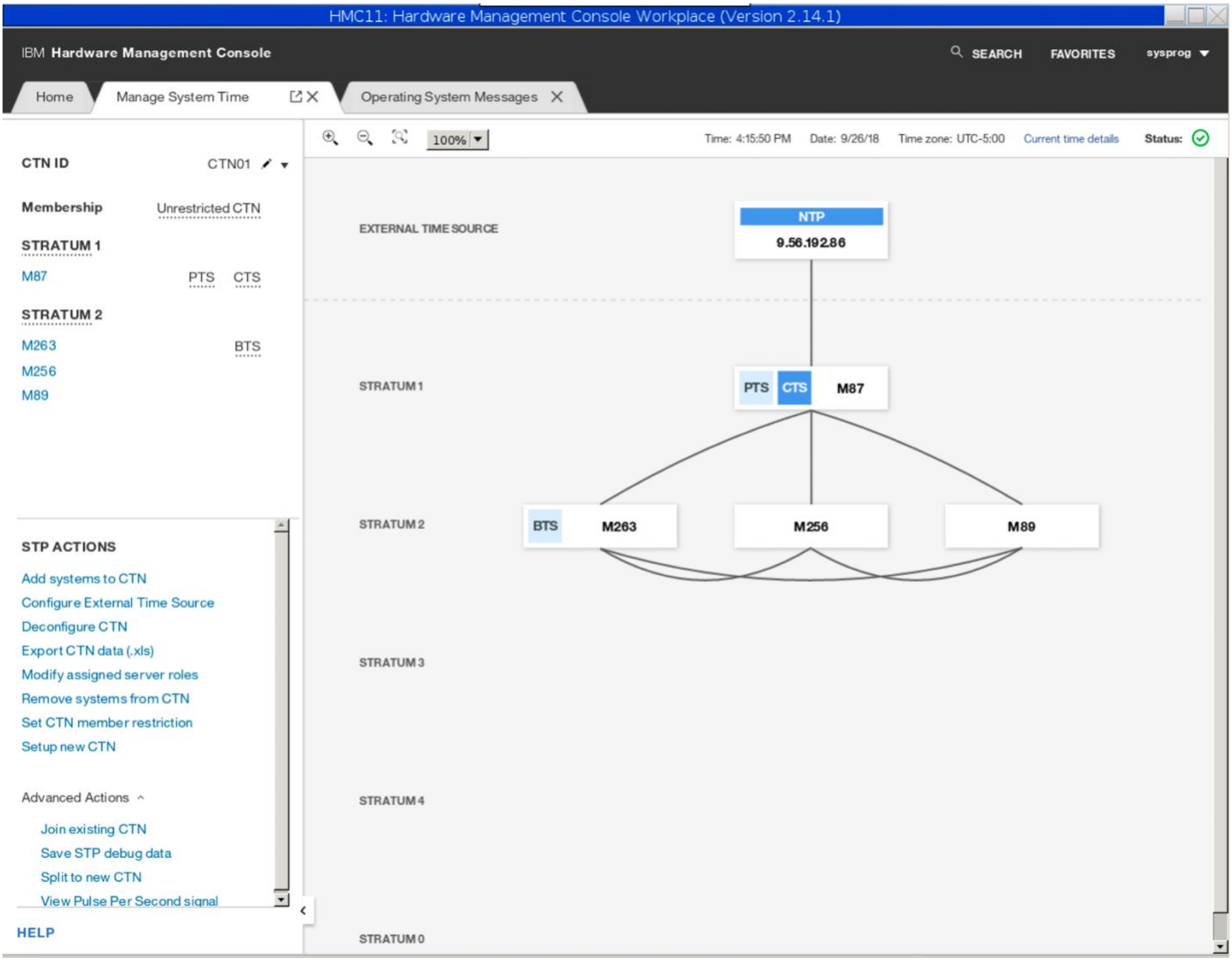
Once the two CTN's join you will see the following messages on the z/OS systems that are merging into the CTN01.

```
16.03.35 S5A           IEA389I THIS STP NETWORK HAS NO SERVER TO ACT AS ARBITER
16.03.36 S5A           IEA389I THIS STP NETWORK HAS NO SERVER TO ACT AS ARBITER
16.03.36 S5A           IXC438I COORDINATED TIMING INFORMATION HAS BEEN UPDATED
        FOR SYSTEM: S5A
        PREVIOUS CTNID:   CTN02
        CURRENT  CTNID:   CTN01
16.03.36 S5E          *IXC439E ALL SYSTEMS IN SYSPLEX SVPLEX5 ARE NOT SYNCHRONIZED
        TO THE SAME TIME REFERENCE.
       SYSTEM: S5B  IS USING CTNID: CTN02
       SYSTEM: S55  IS USING CTNID: CTN02
       SYSTEM: S5A  IS USING CTNID: CTN01
       SYSTEM: S5D  IS USING CTNID: CTN01
       SYSTEM: S50  IS USING CTNID: CTN01
       SYSTEM: S5C  IS USING CTNID: CTN02
       SYSTEM: S51  IS USING CTNID: CTN02
       SYSTEM: S58  IS USING CTNID: CTN01
       SYSTEM: S59  IS USING CTNID: CTN02
       SYSTEM: S5H  IS USING CTNID: CTN02
       SYSTEM: S5F  IS USING CTNID: CTN02
       SYSTEM: S5E  IS USING CTNID: CTN01
       SYSTEM: S56  IS USING CTNID: CTN02
       SYSTEM: S52  IS USING CTNID: CTN02
       SYSTEM: S53  IS USING CTNID: CTN02
       SYSTEM: S5G  IS USING CTNID: CTN01
       SYSTEM: S54  IS USING CTNID: CTN02
       SYSTEM: S57  IS USING CTNID: CTN01
16.03.37 S5A           IXC435I ALL SYSTEMS IN SYSPLEX SVPLEX5 ARE NOW SYNCHRONIZED
        TO THE SAME TIME REFERENCE.
       SYSTEM: S5B  IS USING CTNID: CTN01
       SYSTEM: S55  IS USING CTNID: CTN01
       SYSTEM: S5A  IS USING CTNID: CTN01
       SYSTEM: S5D  IS USING CTNID: CTN01
       SYSTEM: S50  IS USING CTNID: CTN01
       SYSTEM: S5C  IS USING CTNID: CTN01
       SYSTEM: S51  IS USING CTNID: CTN01
       SYSTEM: S58  IS USING CTNID: CTN01
       SYSTEM: S59  IS USING CTNID: CTN01
       SYSTEM: S5H  IS USING CTNID: CTN01
```

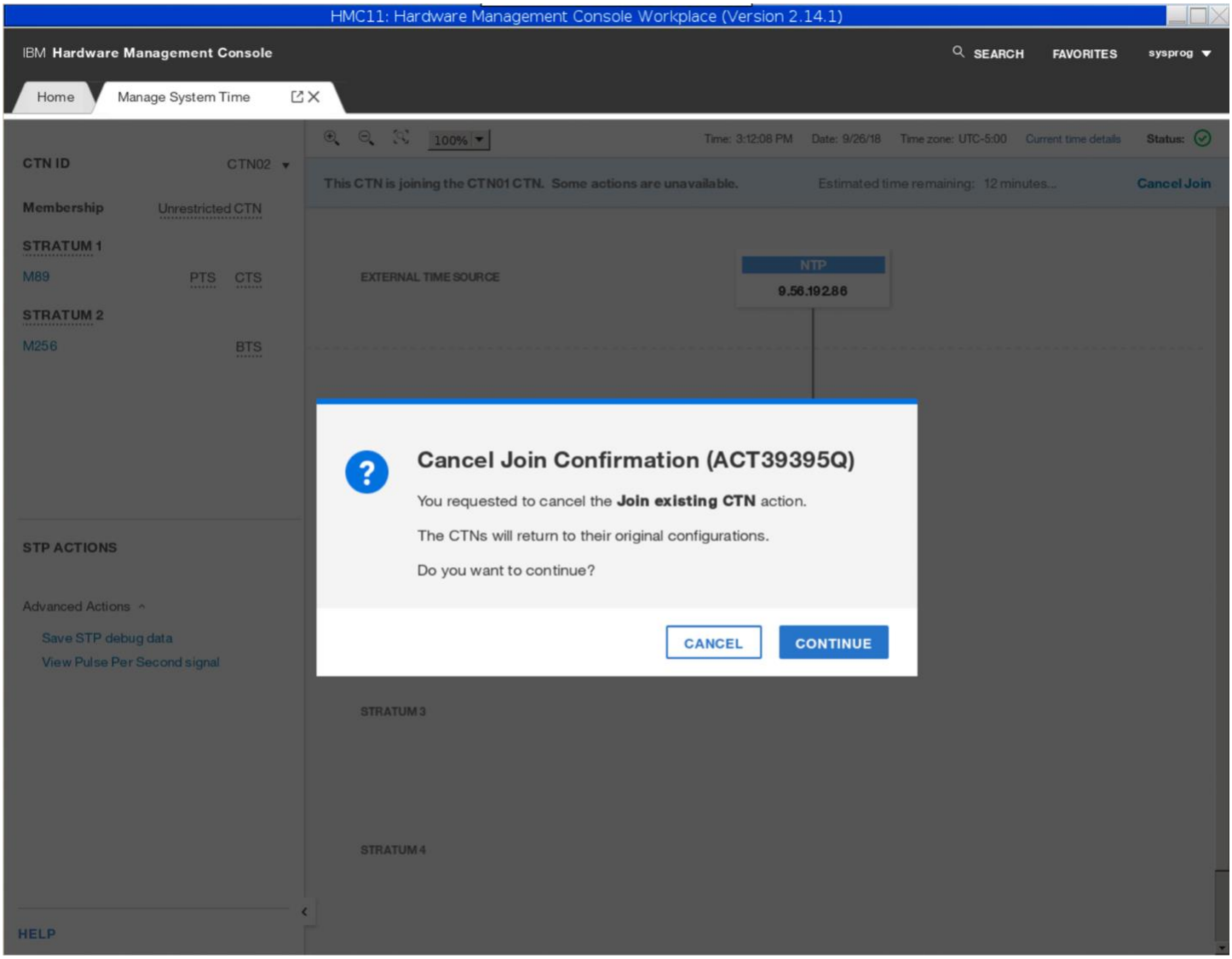
```
SYSTEM: S5F  IS USING CTNID: CTN01
SYSTEM: S5E  IS USING CTNID: CTN01
SYSTEM: S56  IS USING CTNID: CTN01
SYSTEM: S52  IS USING CTNID: CTN01
SYSTEM: S53  IS USING CTNID: CTN01
SYSTEM: S5G  IS USING CTNID: CTN01
SYSTEM: S54  IS USING CTNID: CTN01
SYSTEM: S57  IS USING CTNID: CTN01
```

The panel now tells us that the merge was completed successfully.

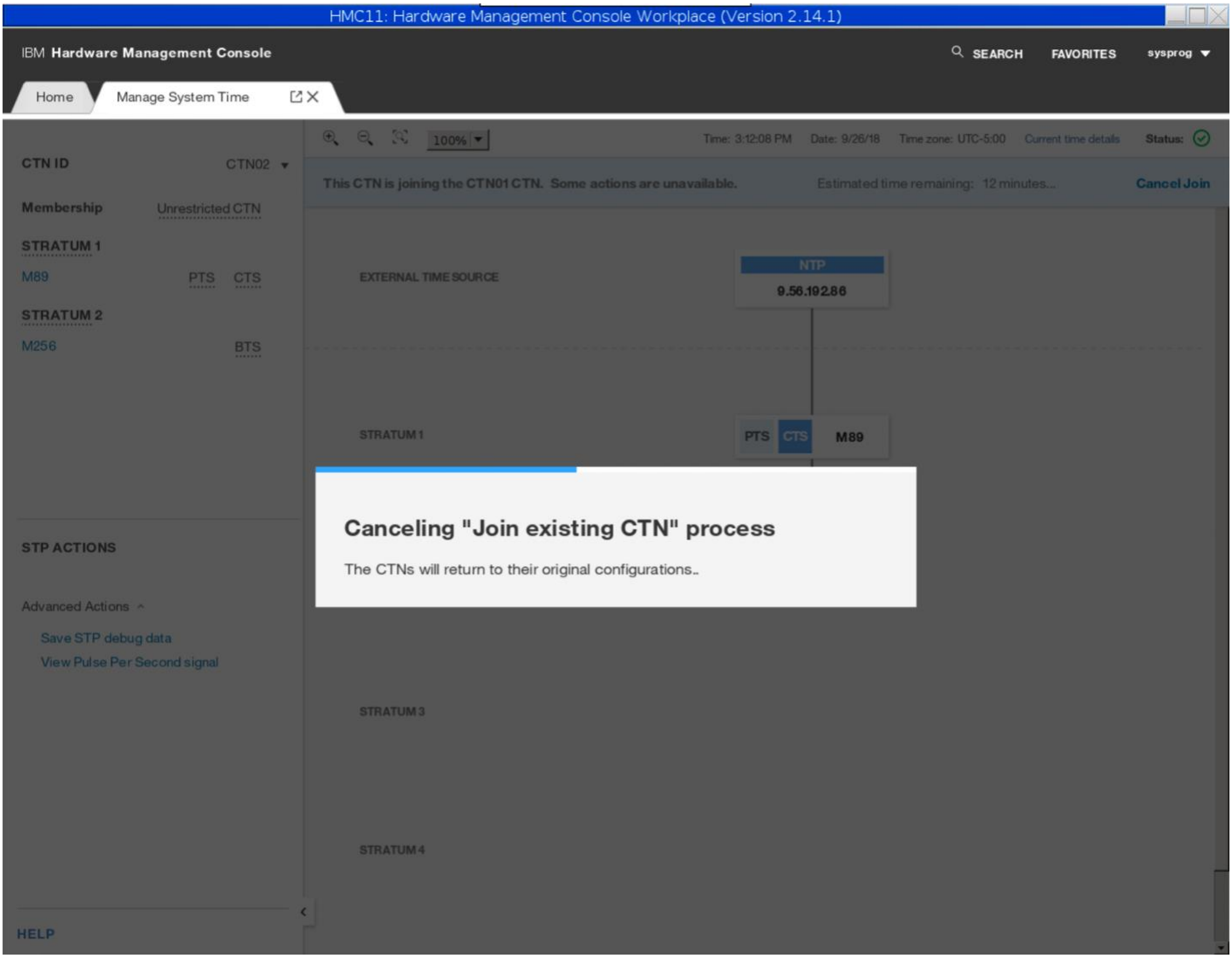




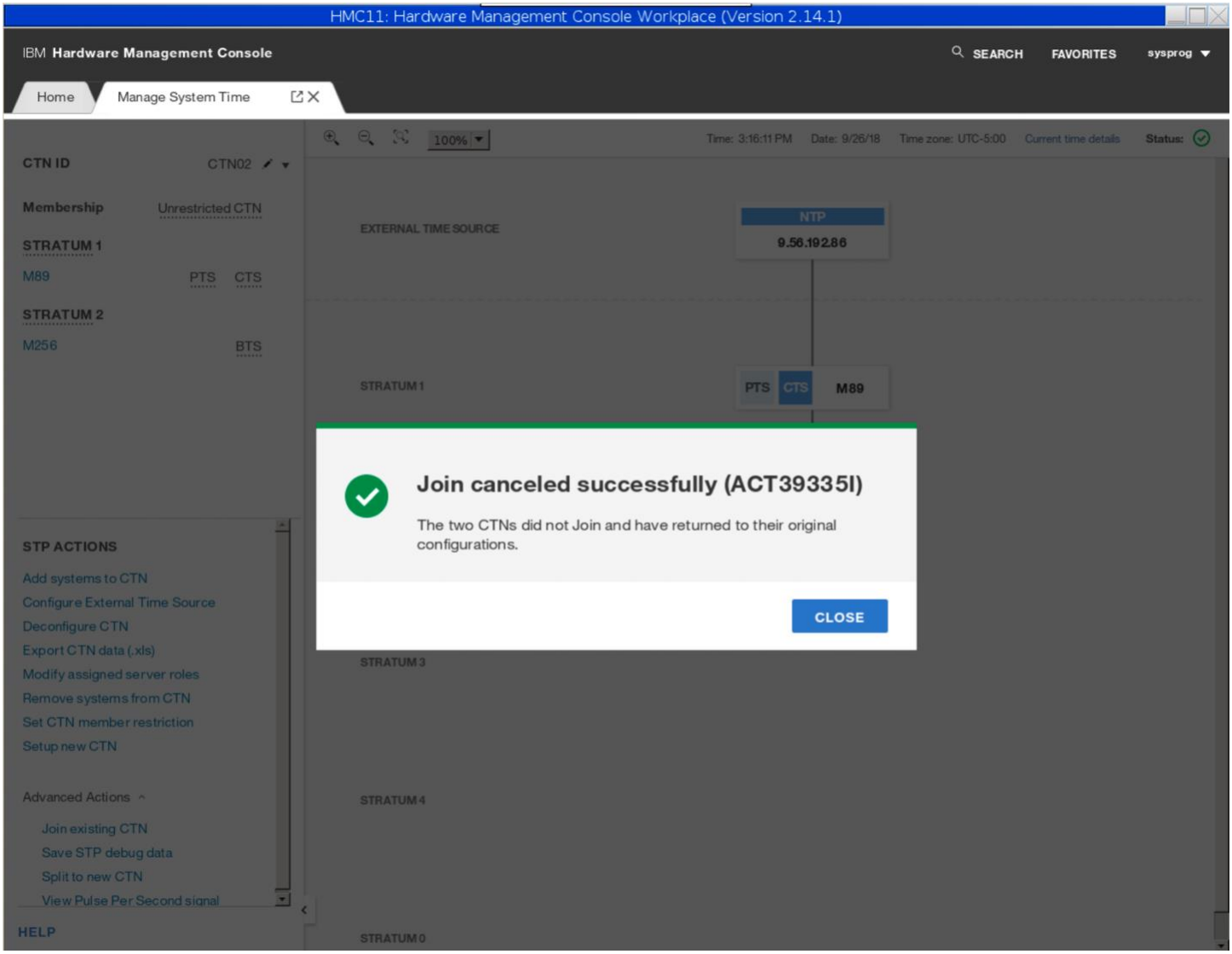
If for some reason during the CTN time sync up you wanted to cancel the join, you can click on the cancel button and it will ask you if you are sure you want to cancel and the two CTNs will return to their original split configuration.



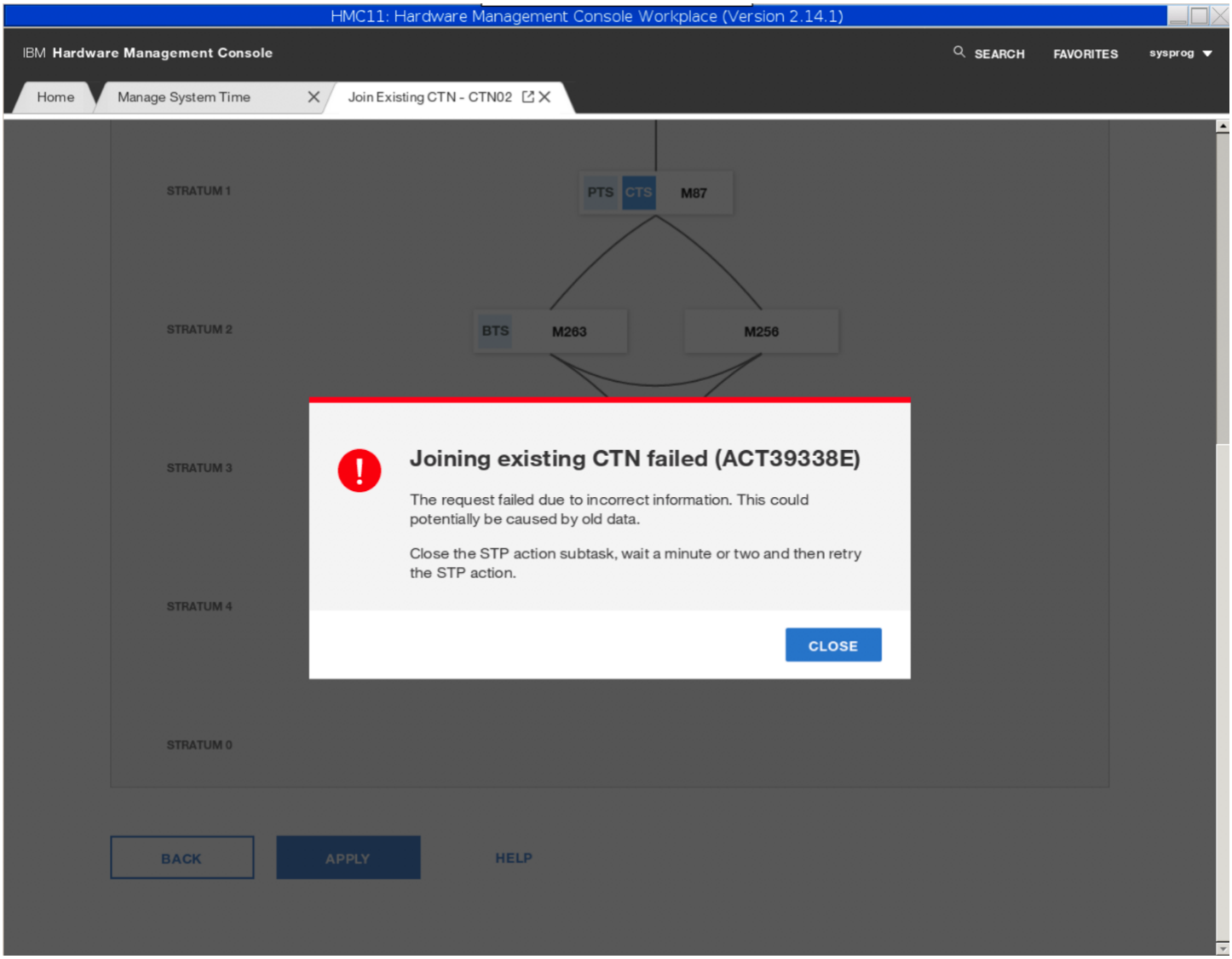
Once you click on continue it goes through with the cancel operation.



Then it lets you know that the cancel operation was successful and the two CTNs are still split.

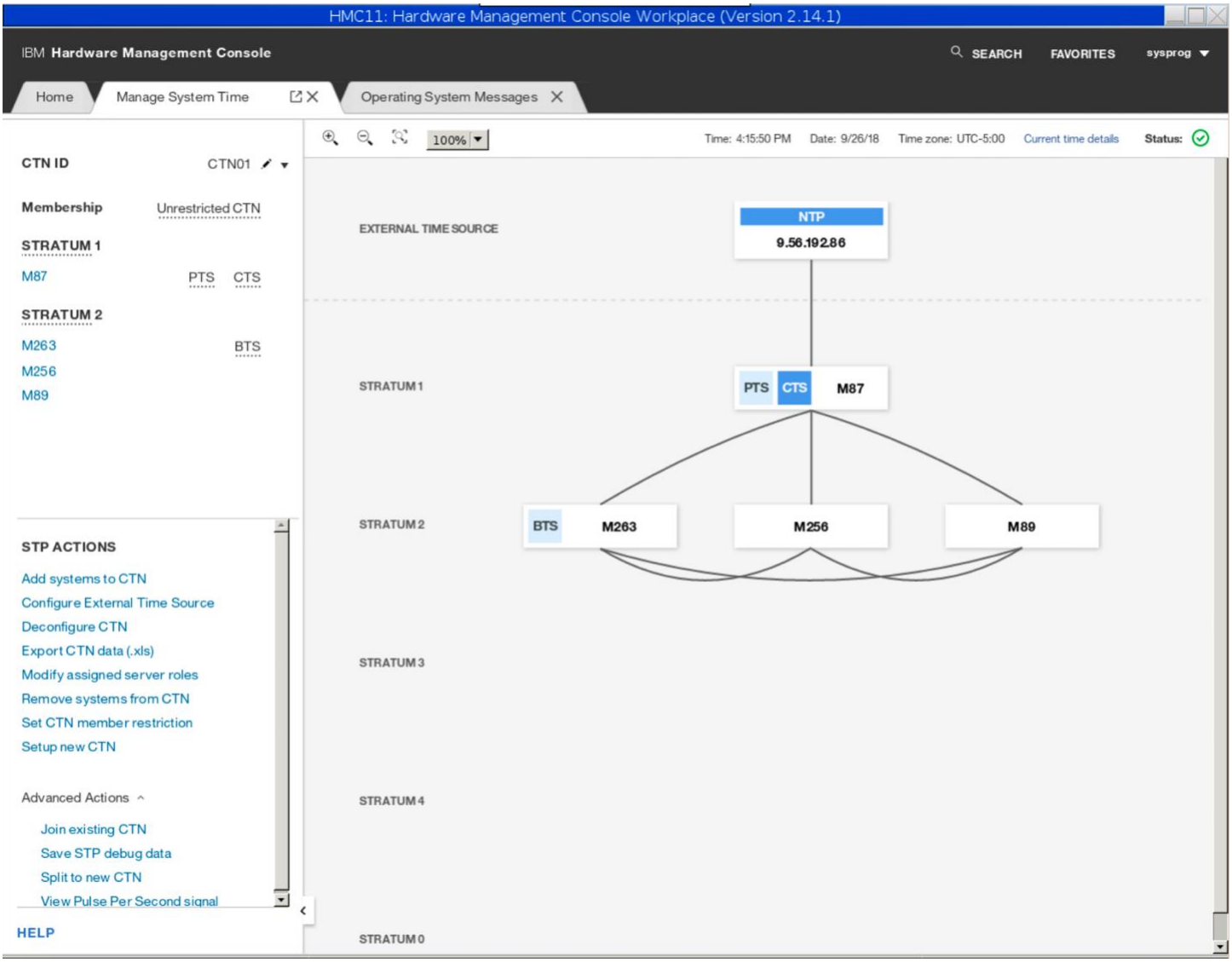


Sometimes the panel could have incorrect information and an action is not available. If that happens it will give you a warning and ask you to close and reopen the panel. For example, I too quickly tried to restart the STP Join operation after canceling it, and it told me the join failed because it was using old data. I closed the panel and waited a few minutes for it to refresh the current configuration and then tried again and it was successful the second time.

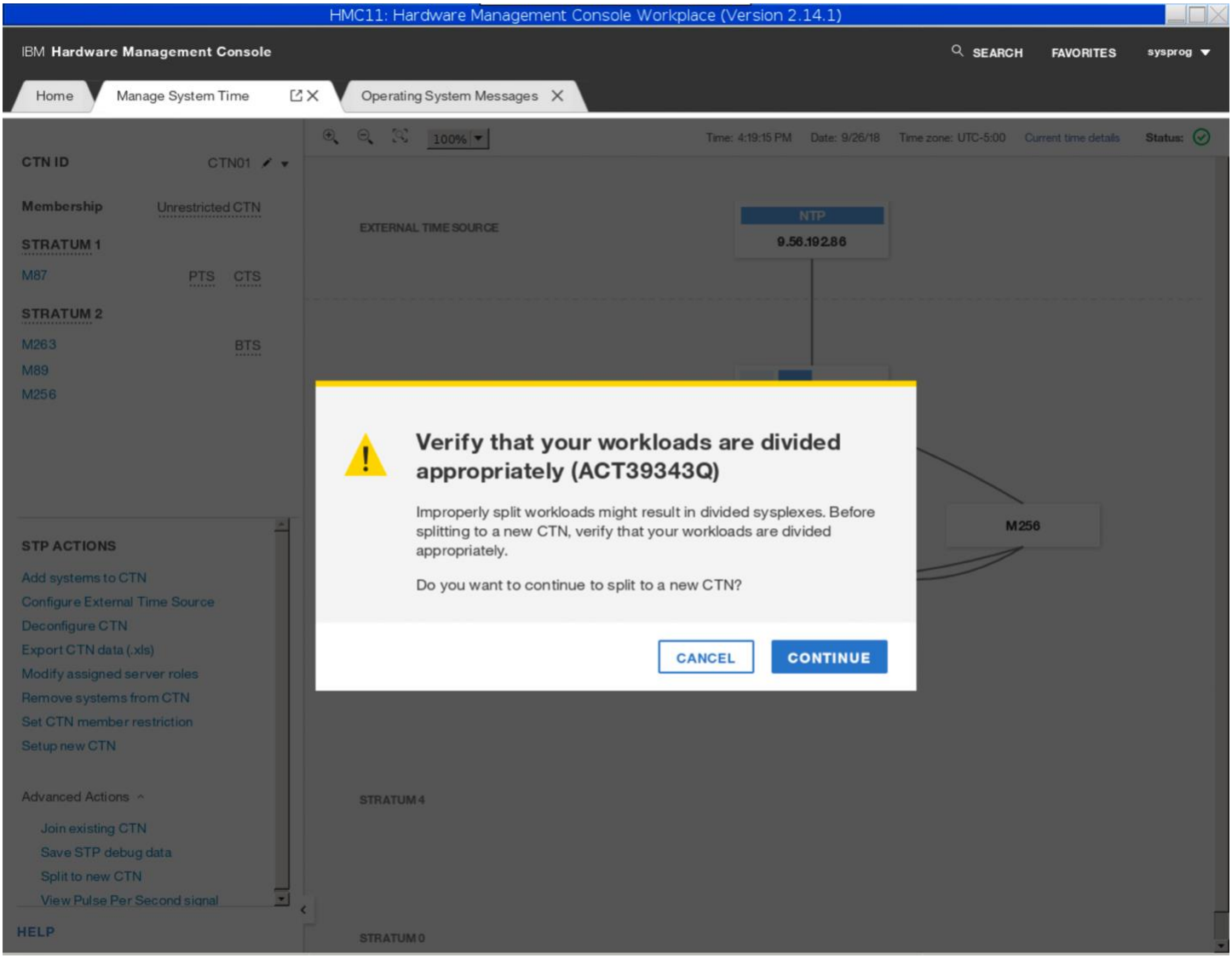


STP Split with an LPAR on the wrong side

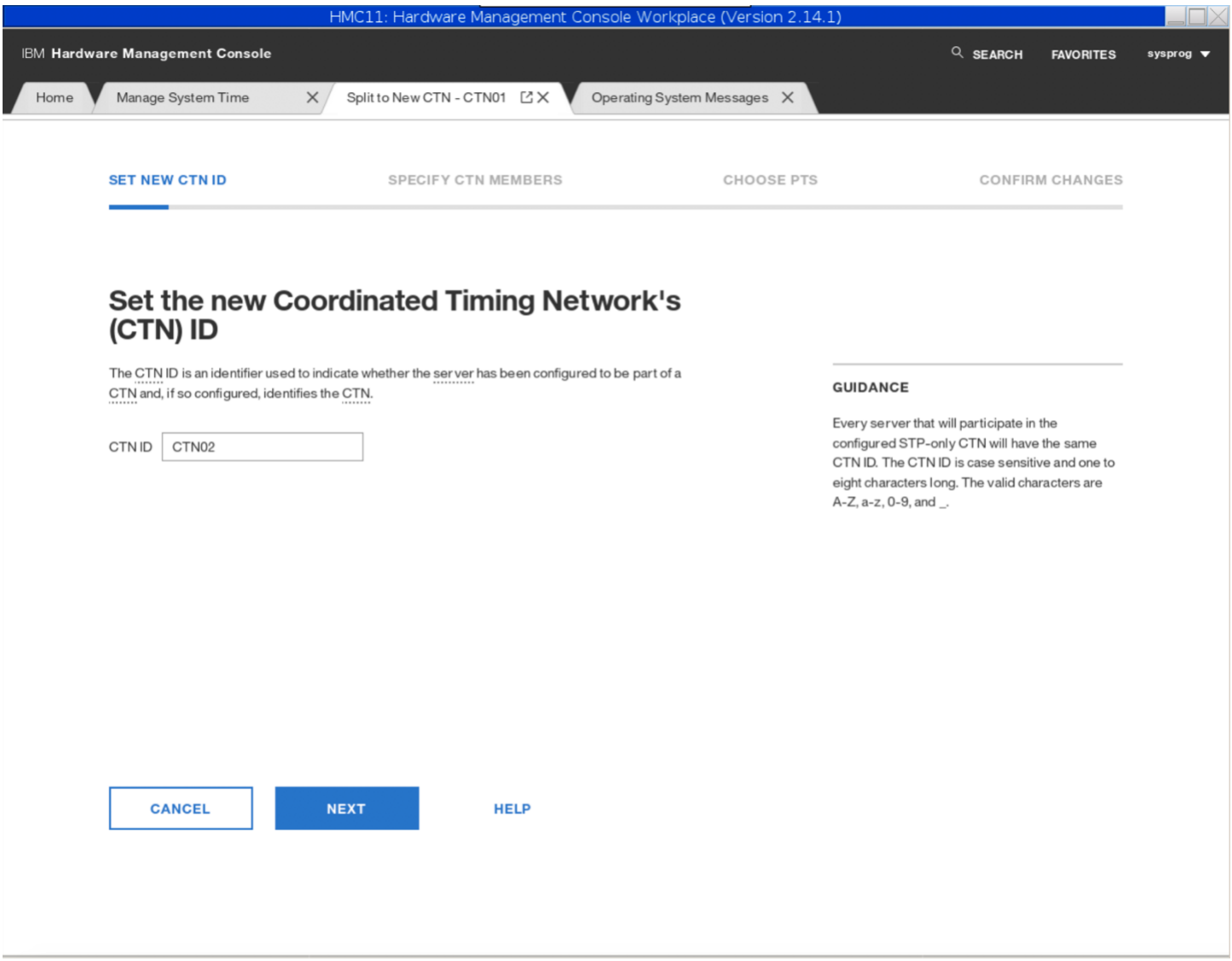
I already showed in this document a proper STP Split, now I am going to show what will happen if you split away CPCs where there is a sysplex running across the split. For example, let's say in the following configuration I want to again split away M89 and M256 into their own CTN, but I have z/OS and coupling facilities running on M87. It will give me a warning about this before it does the split. So, I am starting with the following original CTN01 configuration again.



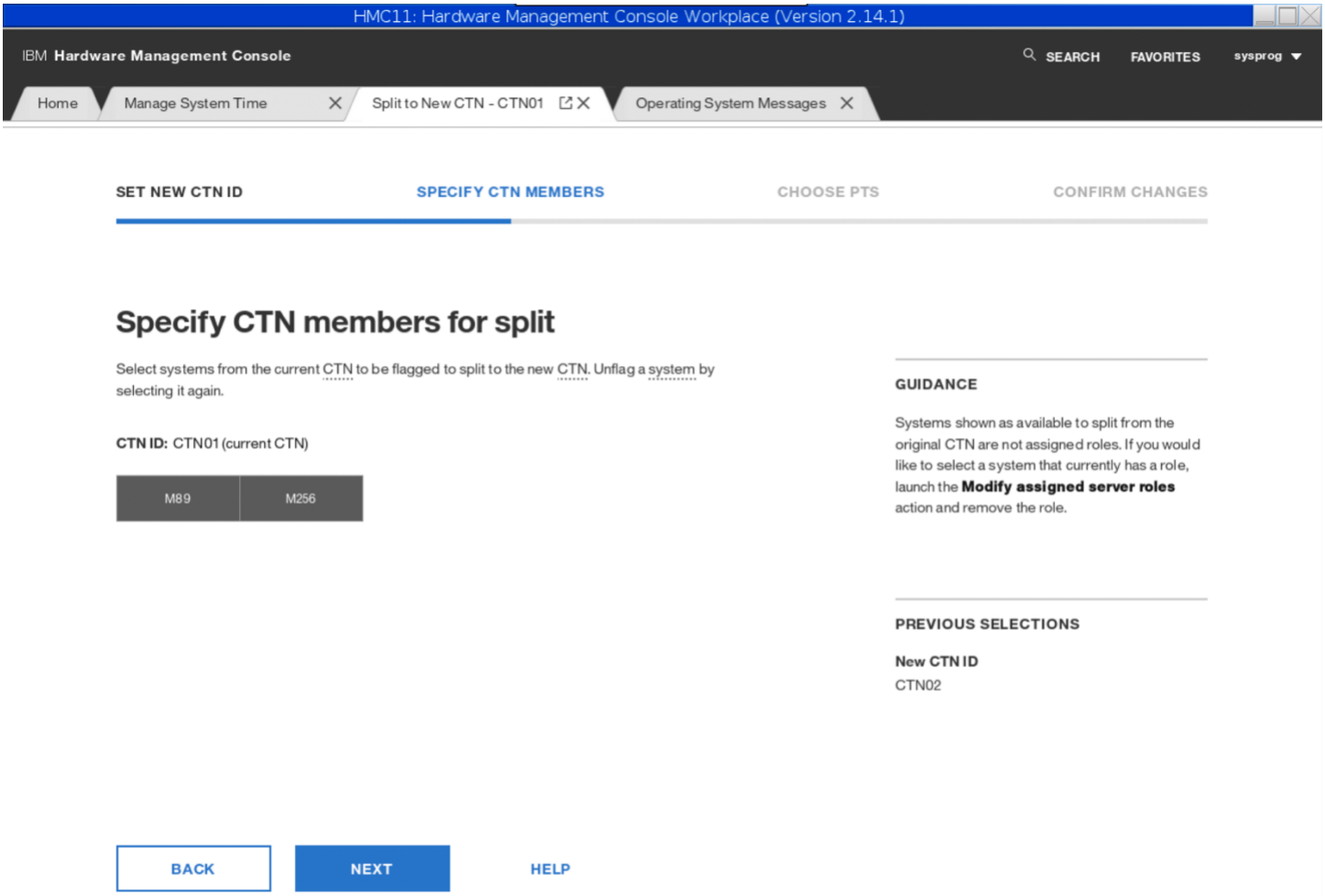
I will select Split to New CTN under the Advanced Actions. A warning will be issued to ensure the syslexes are on the proper CPCs, but for the purpose of a demonstration, continue is clicked. **This would not be recommended in a real production environment and corrective action should be taken.**



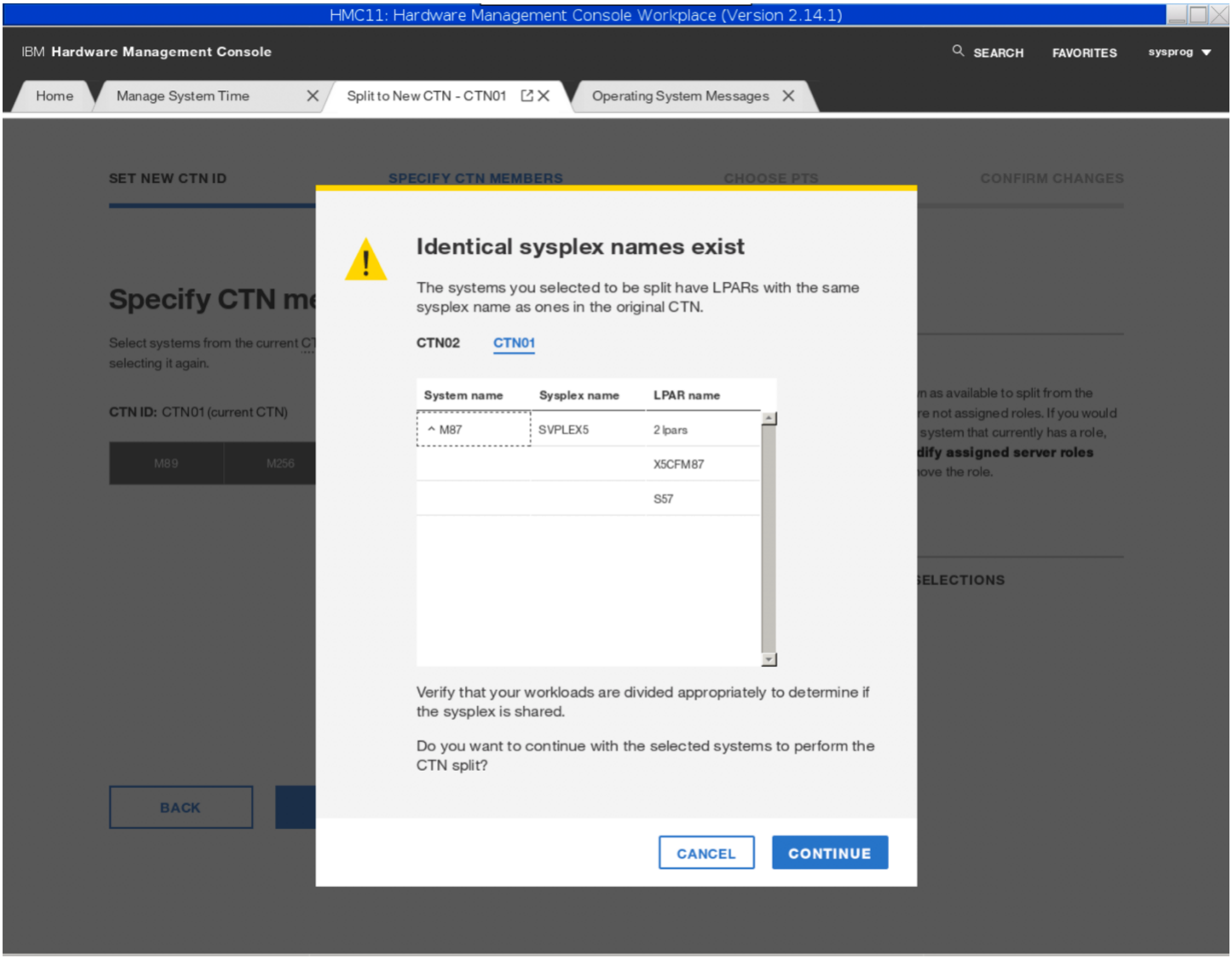
I then assign the new CTN a name of CTN02 and click on next.



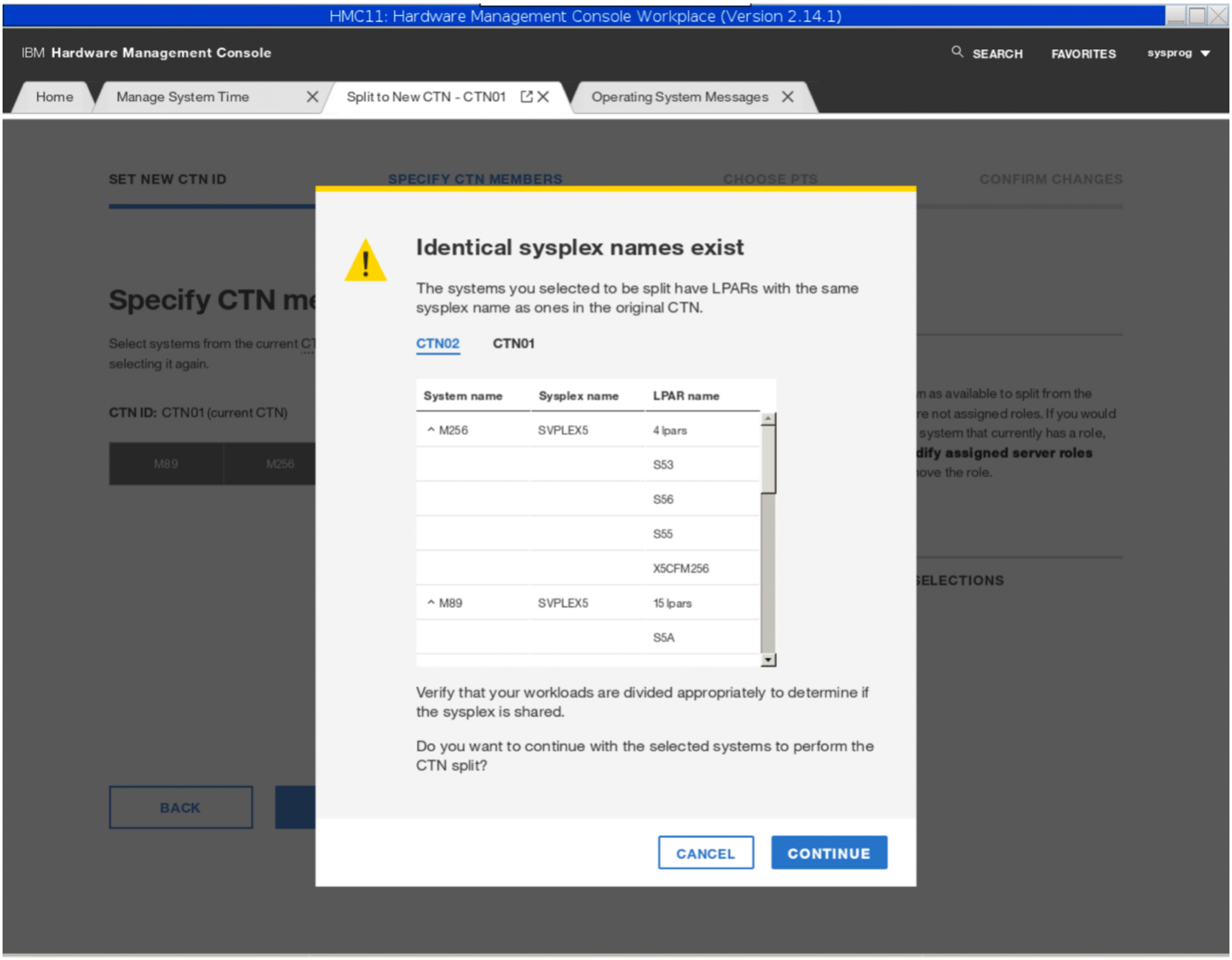
Then it will ask me which CPCs I would like to split away into the new CTN. I select both M89 and M256 and click on next.



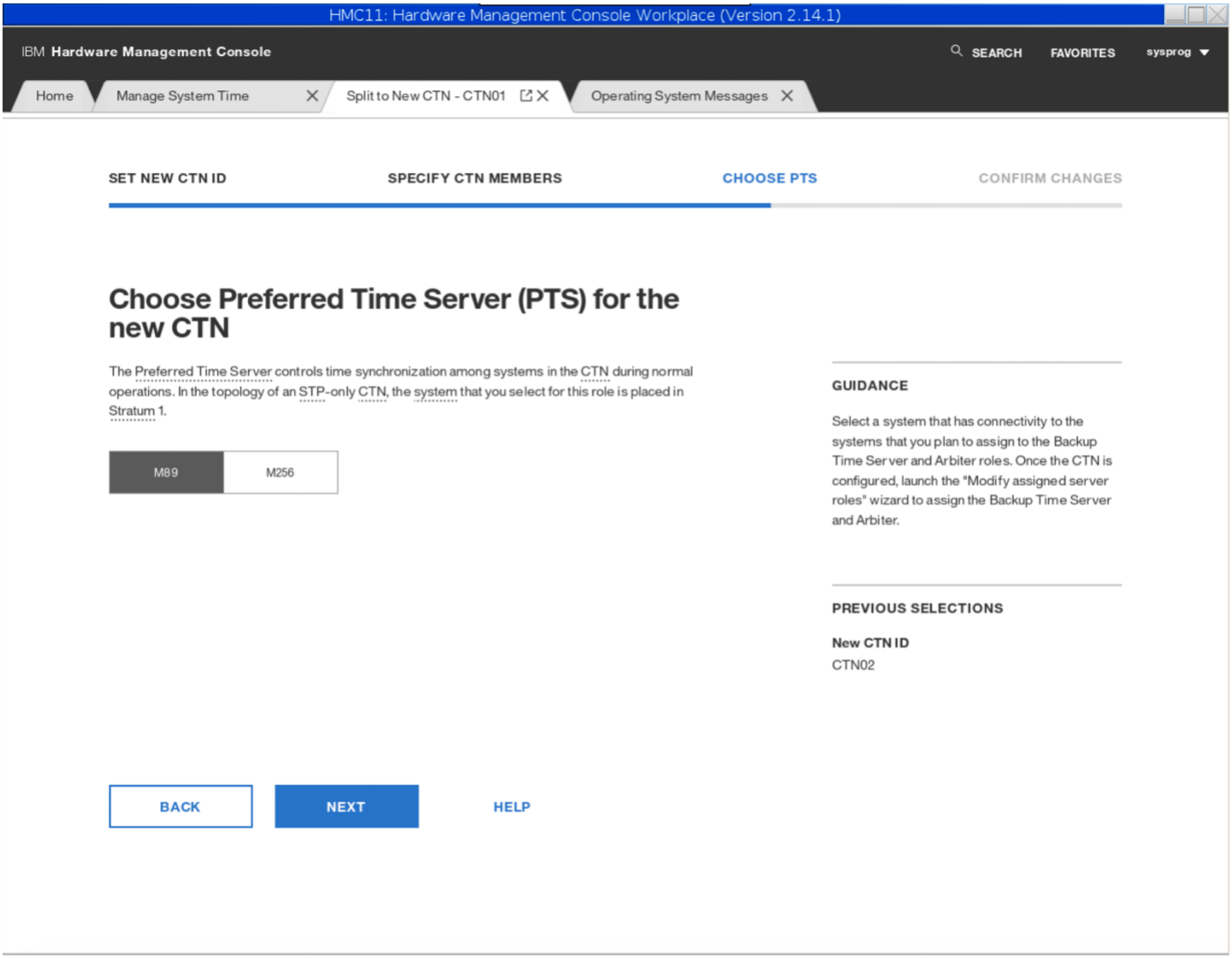
It will now warn me that with the two CPCs selected I will be splitting z/OS and coupling facility LPARs away from SVPLEX5. It shows me which z/OS and coupling facilities will be running in which CTN after the split and is warning me that members of the same sysplex are being split across the two CTNs. So, I can see that in CTN01 on M87, I will be leaving behind z/OS LPAR S57 and coupling facility X5CFM87.



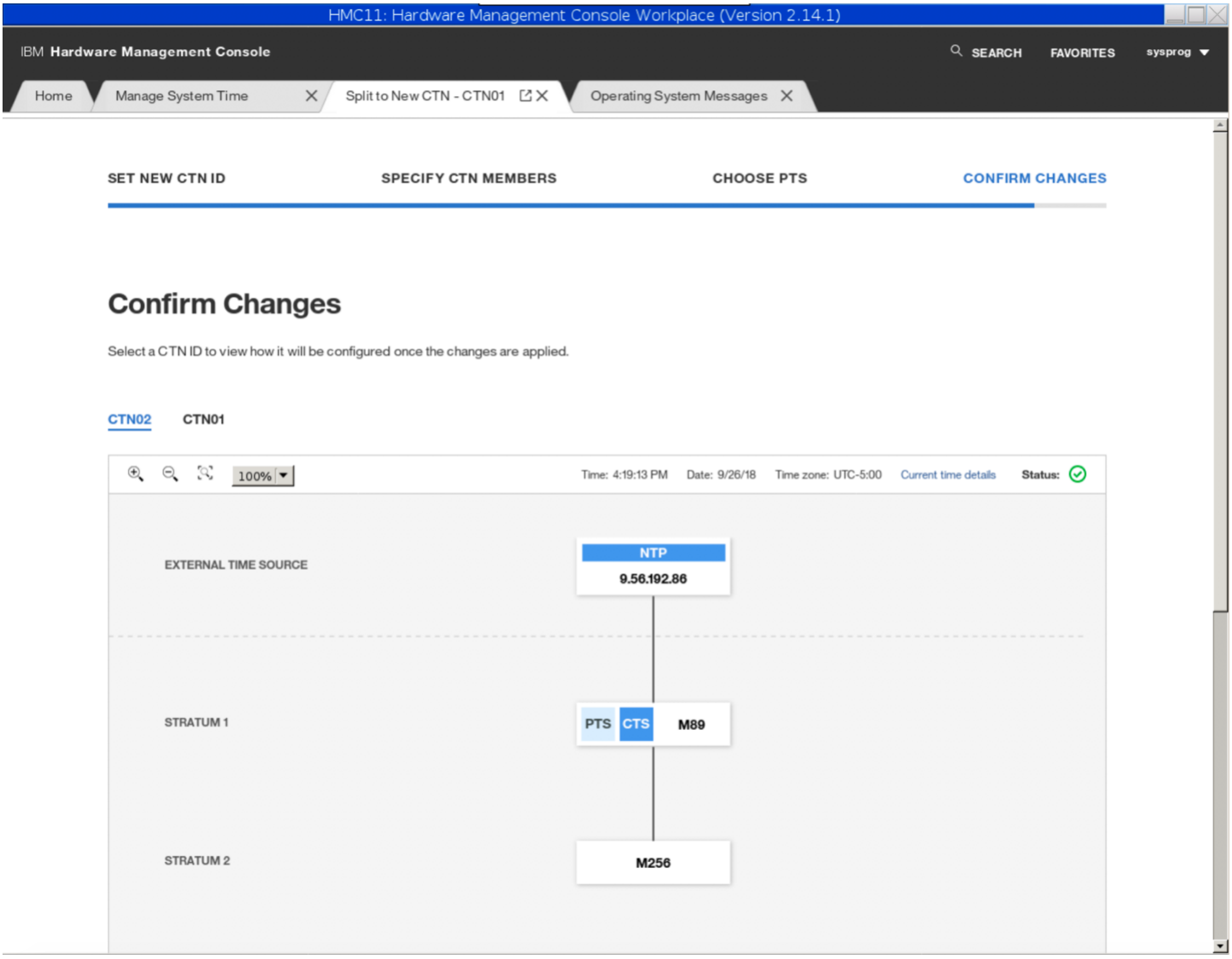
For CTN02 it shows me which z/OS and coupling facilities will be split away into the new CTN.



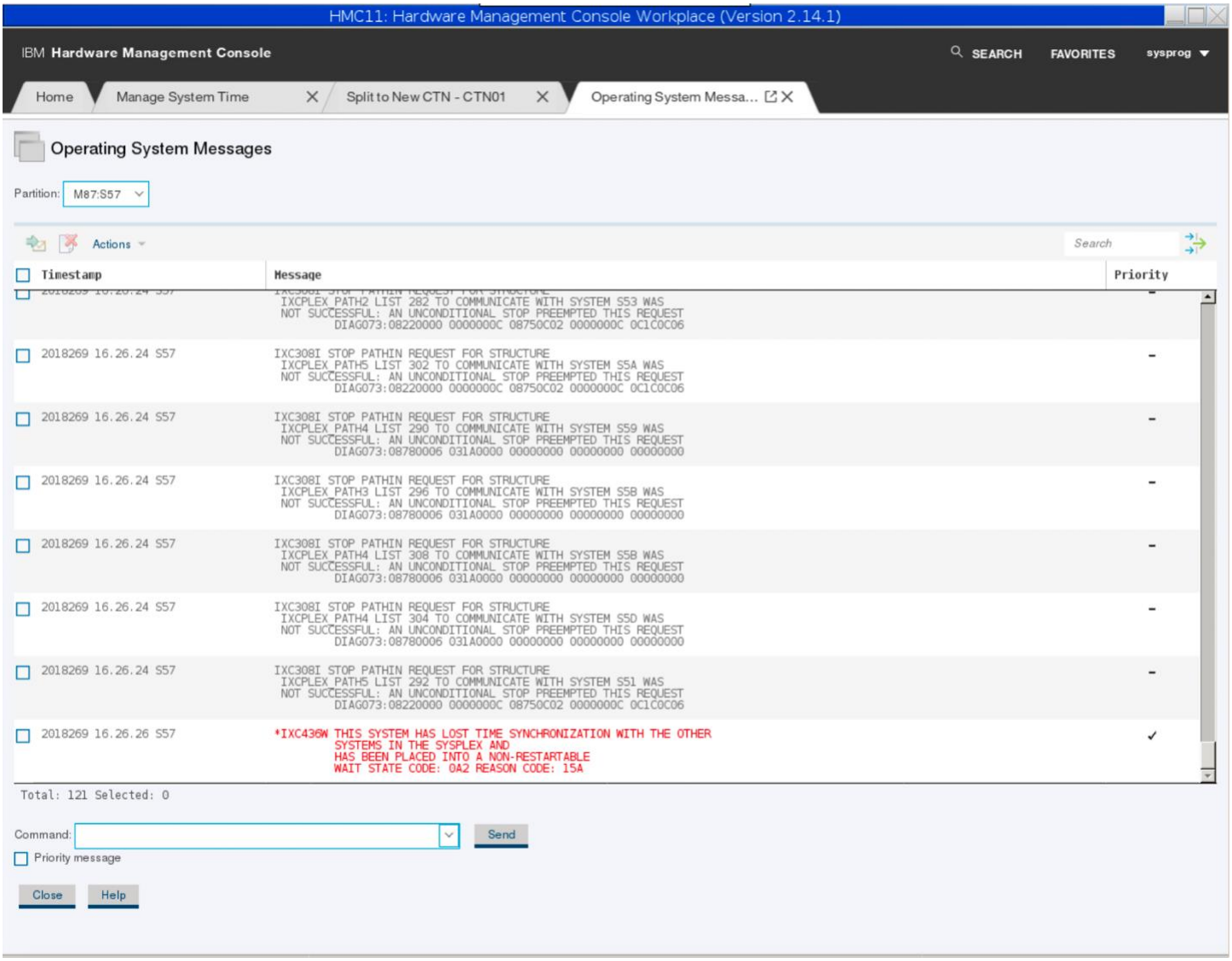
If I did not verify this earlier, I should cancel the split and go resolve my issue with S57 and X5CFM87. I should make sure that the workload is properly shut down on that system and structures are moved off of the coupling facility and I should vary S57 out of SVPLEX5 and deactivating X5CFM87. Instead I am going to show you what will happen if you don't do that, I hit continue and let it wait state z/OS system S57 and leave behind coupling facility X5CFM87. I click on continue **(which in a real production environment I would not do)** and I assign the Preferred Time Server to M89.



It will then show me the configuration of the two CTNs after the split. Happy with the way it looks I tell it to apply the changes.



As it splits away SVPLEX5 on M89 and M256 into the new CTN, z/OS will wait state the S57 image.

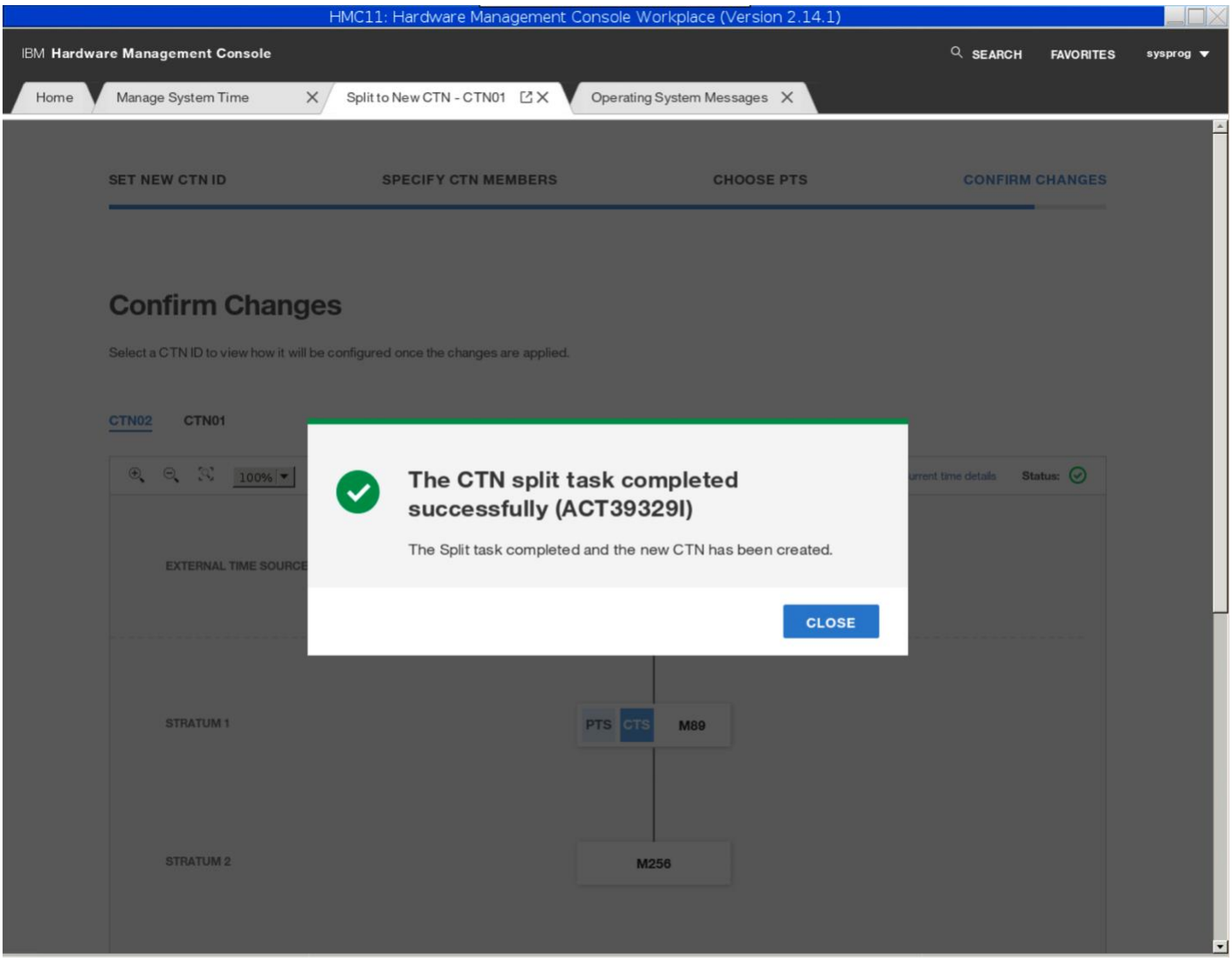


As the split occurs you will see z/OS messages such as the following. The `16:25:57.21 *IXC439E` message is displayed with only system S57 not updated. Thirty seconds later the `16:26:26.40 IXC435I` message was displayed with S57 removed, corresponding with the above `IXC468W` wait state message. Now the split successfully occurs. Also, the IXL162E message is displayed to show that the coupling facility on M87 now has a CTNID mismatch. Since time ordering is no longer enabled, this coupling facility can no longer be used.

```
S5B      18269 16:25:55.59          00000010  IEA389I THIS STP NETWORK HAS NO SERVER TO ACT AS BACKUP
S5B      18269 16:25:55.59          00000010  IEA389I THIS STP NETWORK HAS NO SERVER TO ACT AS ARBITER
S5B      18269 16:25:55.59          00000010  IXC438I COORDINATED TIMING INFORMATION HAS BEEN UPDATED 681
                                681 00000010          FOR SYSTEM: S5B
                                681 00000010          PREVIOUS CTNID:   CTN01...
                                681 00000010          CURRENT  CTNID:   CTN02...
S5B      18269 16:25:55.59          00000010 *IXL162E CF REQUEST TIME ORDERING: REQUIRED AND WILL NOT BE ENABLED
682
                                682 00000010          COUPLING FACILITY 003906.IBM.02.0000000150E8
                                682 00000010                            PARTITION: 17  CPCID: 00
                                682 00000010          REASON: CTNID MISMATCH. CF CTNID: CTN01...
S5B      18269 16:25:55.60          00000010 *IXC439E ALL SYSTEMS IN SYSPLEX SVPLEX5 ARE NOT SYNCHRONIZED 683
                                683 00000010          TO THE SAME TIME REFERENCE.
                                683 00000010         SYSTEM: S5B  IS USING CTNID: CTN02...
                                683 00000010         SYSTEM: S55  IS USING CTNID: CTN01...
                                683 00000010         SYSTEM: S5A  IS USING CTNID: CTN01...
                                683 00000010         SYSTEM: S5D  IS USING CTNID: CTN01...
                                683 00000010         SYSTEM: S50  IS USING CTNID: CTN01...
                                683 00000010         SYSTEM: S5C  IS USING CTNID: CTN01...
                                683 00000010         SYSTEM: S51  IS USING CTNID: CTN01...
                                683 00000010         SYSTEM: S58  IS USING CTNID: CTN01...
                                683 00000010         SYSTEM: S59  IS USING CTNID: CTN01...
                                683 00000010         SYSTEM: S5H  IS USING CTNID: CTN01...
                                683 00000010         SYSTEM: S5F  IS USING CTNID: CTN01...
                                683 00000010         SYSTEM: S5E  IS USING CTNID: CTN01...
                                683 00000010         SYSTEM: S56  IS USING CTNID: CTN02...
                                683 00000010         SYSTEM: S52  IS USING CTNID: CTN01...
                                683 00000010         SYSTEM: S53  IS USING CTNID: CTN01...
                                683 00000010         SYSTEM: S5G  IS USING CTNID: CTN01...
                                683 00000010         SYSTEM: S54  IS USING CTNID: CTN01...
                                683 00000010         SYSTEM: S57  IS USING CTNID: CTN01...

S51      18269 16:25:57.21          00000010 *IXC439E ALL SYSTEMS IN SYSPLEX SVPLEX5 ARE NOT SYNCHRONIZED 687
                                687 00000010          TO THE SAME TIME REFERENCE.
                                687 00000010         SYSTEM: S5B  IS USING CTNID: CTN02...
                                687 00000010         SYSTEM: S55  IS USING CTNID: CTN02...
                                687 00000010         SYSTEM: S5A  IS USING CTNID: CTN02...
                                687 00000010         SYSTEM: S5D  IS USING CTNID: CTN02...
                                687 00000010         SYSTEM: S50  IS USING CTNID: CTN02...
                                687 00000010         SYSTEM: S5C  IS USING CTNID: CTN02...
                                687 00000010         SYSTEM: S51  IS USING CTNID: CTN02...
                                687 00000010         SYSTEM: S58  IS USING CTNID: CTN02...
                                687 00000010         SYSTEM: S59  IS USING CTNID: CTN02...
```

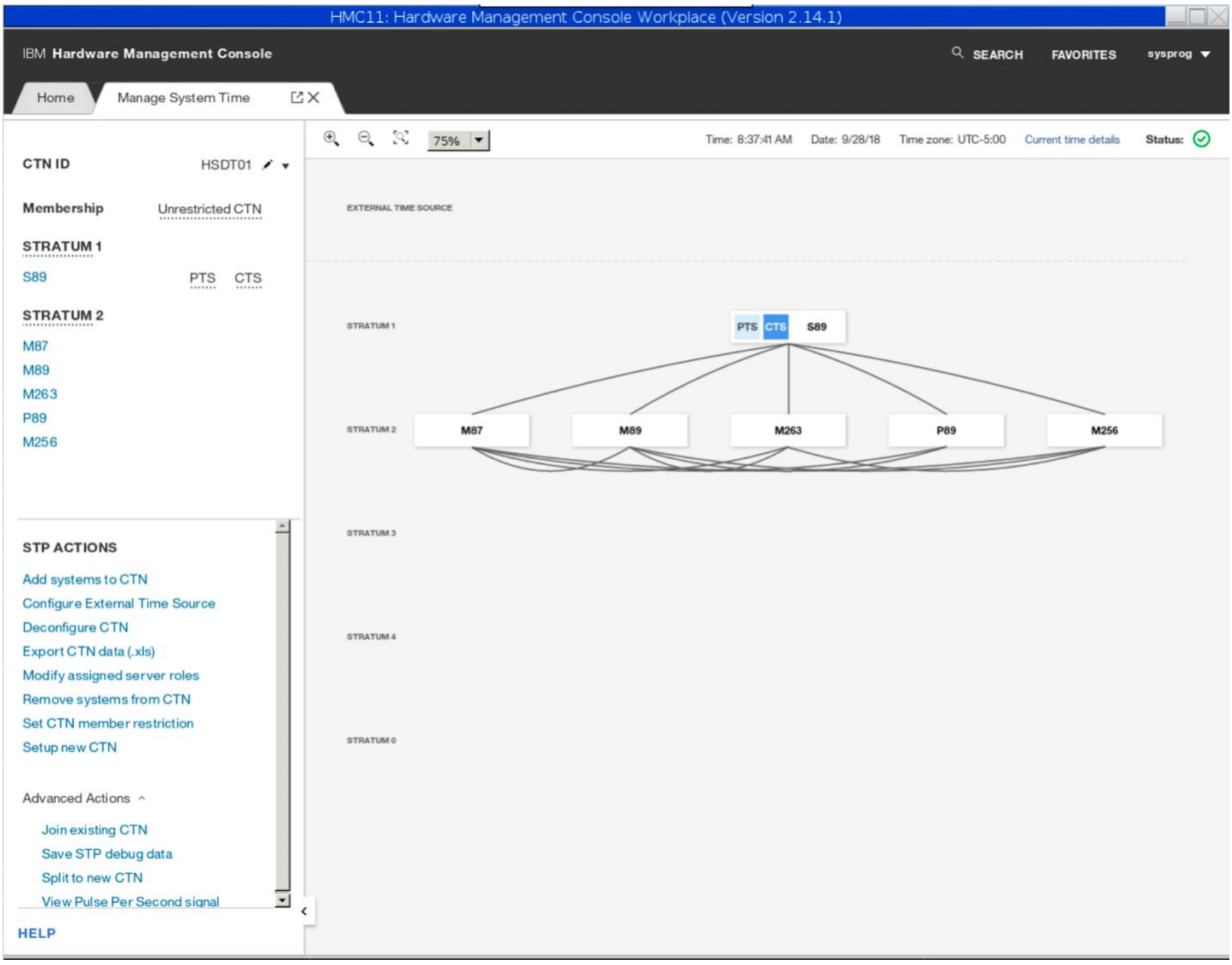
```
                                687 00000010         SYSTEM: S5H  IS USING CTNID: CTN02...
                                687 00000010         SYSTEM: S5F  IS USING CTNID: CTN02...
                                687 00000010         SYSTEM: S5E  IS USING CTNID: CTN02...
                                687 00000010         SYSTEM: S56  IS USING CTNID: CTN02...
                                687 00000010         SYSTEM: S52  IS USING CTNID: CTN02...
                                687 00000010         SYSTEM: S53  IS USING CTNID: CTN02...
                                687 00000010         SYSTEM: S5G  IS USING CTNID: CTN02...
                                687 00000010         SYSTEM: S54  IS USING CTNID: CTN02...
                                687 00000010         SYSTEM: S57  IS USING CTNID: CTN01...

S59      18269 16:26:26.40          00000010  IXC435I ALL SYSTEMS IN SYSPLEX SVPLEX5 ARE NOW SYNCHRONIZED 945
                                945 00000010          TO THE SAME TIME REFERENCE.
                                945 00000010         SYSTEM: S5B  IS USING CTNID: CTN02...
                                945 00000010         SYSTEM: S55  IS USING CTNID: CTN02...
                                945 00000010         SYSTEM: S5A  IS USING CTNID: CTN02...
                                945 00000010         SYSTEM: S5D  IS USING CTNID: CTN02...
                                945 00000010         SYSTEM: S50  IS USING CTNID: CTN02...
                                945 00000010         SYSTEM: S5C  IS USING CTNID: CTN02...
                                945 00000010         SYSTEM: S51  IS USING CTNID: CTN02...
                                945 00000010         SYSTEM: S58  IS USING CTNID: CTN02...
                                945 00000010         SYSTEM: S59  IS USING CTNID: CTN02...
                                945 00000010         SYSTEM: S5H  IS USING CTNID: CTN02...
                                945 00000010         SYSTEM: S5F  IS USING CTNID: CTN02...
                                945 00000010         SYSTEM: S5E  IS USING CTNID: CTN02...
                                945 00000010         SYSTEM: S56  IS USING CTNID: CTN02...
                                945 00000010         SYSTEM: S52  IS USING CTNID: CTN02...
                                945 00000010         SYSTEM: S53  IS USING CTNID: CTN02...
                                945 00000010         SYSTEM: S5G  IS USING CTNID: CTN02...
                                945 00000010         SYSTEM: S54  IS USING CTNID: CTN02...
```

And then the split happens successfully, just with one fewer z/OS LPAR and coupling facility.



STP Split or Merge with a System Involved that does not have the Proper Support

I have the following CTN which is two z14 (M89 and M87), two ZR1 (M256 and M263), a z13 (S89) and an zEC12 (P89) CPCs in the same CTN.



If I try and do either a split or a merge it tells me that it is not possible because it is not supported on the z13 nor is it supported on the zEC12.