RWAC Configurations for HTTPS

Purpose:

By default, RoomWizards are accessible over HTTP. RoomWizards are accessible over HTTPS as well if a secure network if desired. If HTTPS is enabled, HTTP is disabled, as RoomWizards cannot be set to both HTTP and HTTPS at the same time.

PRODUCT: RoomWizard Firmware 4.7

NEW FEATURE: Handshake Protocol HTTPS RoomWizards running firmware 4.7.1.0 configured to authenticate HTTPS requests utilizing a handshake with the TLS 1.2 Protocol.

OS's: Windows 7, Windows 8, Windows 10, Server 2008, Server 2012, Server 2016.

KEYWORD: RoomWizard Administrative Console compatibility with HTTPS RoomWizards on different PC and Server systems.

How to:

RoomWizards that are configured with HTTP will be accessible over the RoomWizard Administrative Console. However, RoomWizards that are configured with HTTPS will not always be accessible over the RoomWizard Administrative Console. This issue is described below and workarounds are suggested in case this issue occurs.

- **Handshake Protocol**: HTTPS RoomWizards that are running FW 4.7.1.0 are configured to authenticate HTTPS requests utilizing a handshake with the TLS 1.2 Protocol. This is necessary to maintain the latest security standards on the RoomWizard. The RoomWizard has thus disabled handshake protocols attempted over SSL and TLS 1.0. TLS 1.1 is still available.
- Due to the recent handshake algorithm change it is observed on occasion that PCs or Servers attempting to authenticate with HTTPS RoomWizards will be unable to connect to the RoomWizard using the RoomWizard Administrative Console. This issue is caused by the Windows system utilizing a TLS 1.0 handshake rather than a TLS 1.2 handshake. Systems configured to use TLS 1.0 will thus be unable to connect to RoomWizards running FW 4.7.1.0 using the RoomWizard Administrative Console.

When this issue occurs either after a RoomWizard Firmware upgrade or a possible PC change, the RoomWizard will appear offline in the RWAC. The RoomWizard is still accessible and able to perform SSH or FTP specific functions but cannot display any RoomWizard Administrative Console settings that require accessibility over HTTPS. Therefore, it is observed that specific RoomWizard information displayed on the Configuration, Properties, and Status Tabs is missing and blank:

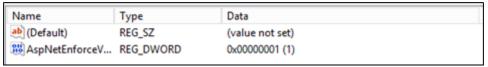| Property	Value	
Disk space free on each partition		
Up Since		
Current Memory Usage		
Actual Link Speed		
Ping Latency in milliseconds		
CPU Loading		
Total memory in use		
Web browser memory usage		
Database memory usage		
Swap partition usage information		

Implementing fix for this issue:

Correcting this issue involves editing the Registry to force Windows to use TLS 1.2 handshakes before attempting TLS 1.1 and TLS 1.0 handshakes.
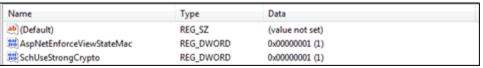
NOTE: This should be done with caution as Registry changes could affect the stability of the PC and Server and possibly corrupt the system if the steps are not followed accordingly. Further this fix could cause other applications using TLS 1.0 to no longer function. Since SSL is already disabled on most Windows systems SSL based applications would not be affected by this fix.

To edit the Registry:

1. Click the **Start** button
2. In the **Start** Menu, either in the run box or the **Search** box type **Regedit** and press enter.
3. Once the Registry is loaded, expand the following: **HKEY_LOCAL_MACHINE\SOFTWARE\Wow6432Node\Microsoft\.NETFramework\v4.0.30319**
4. The default values are displayed below:

Name	Type	Data
(Default)	REG_SZ	(value not set)
AspNetEnforceV...	REG_DWORD	0x00000001 (1)

5. To proceed with the fix, add a DWORD and name it SchUseStrongCrypto and set it to a hexadecimal value of 1. The result will appear below:

Name	Type	Data
(Default)	REG_SZ	(value not set)
AspNetEnforceViewStateMac	REG_DWORD	0x00000001 (1)
SchUseStrongCrypto	REG_DWORD	0x00000001 (1)

6. Repeat this step by adding this value to a second location.
7. HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\.NETFramework\v4.0.30319
8. Once complete collapse all Registry containers and exit the Registry.
9. After these steps are complete all HTTPS RoomWizards running FW 4.7.1.0 will be accessible via the RoomWizard Administrative Console.
10. Once the fix is implemented it is observed that the RoomWizard running Firmware 4.7.1.0 is now being displayed in the RoomWizard Administrative Console.

Property	Value	
Disk space free on each partition	/ : 601M /dev : 110M /mnt/.splash : 40K /home/root/data : 211M /var/volatile : 118M /dev/shm : 118M /home/root/backup : 893M /home/root/log : 218M	
Up Since	Wed Dec 06 10:34:30 2017	
Current Memory Usage	240628	
Actual Link Speed	100BaseT	
Ping Latency in milliseconds	0.345	
CPU Loading	42.8	
Database memory usage	5.6 %	
Web browser memory usage	20.3 %	
Swap partition usage information	257004	

11. **NOTE:** This issue can be resolved by downgrading to Firmware 4.6 as this version accepts TLS Version 1.0 handshakes. This solution is not recommended because this Firmware version is less secure than Firmware 4.7.1.0.

Related articles