

Enterprise - “Not Responding” lockup when using TempWorks Enterprise RemoteApp

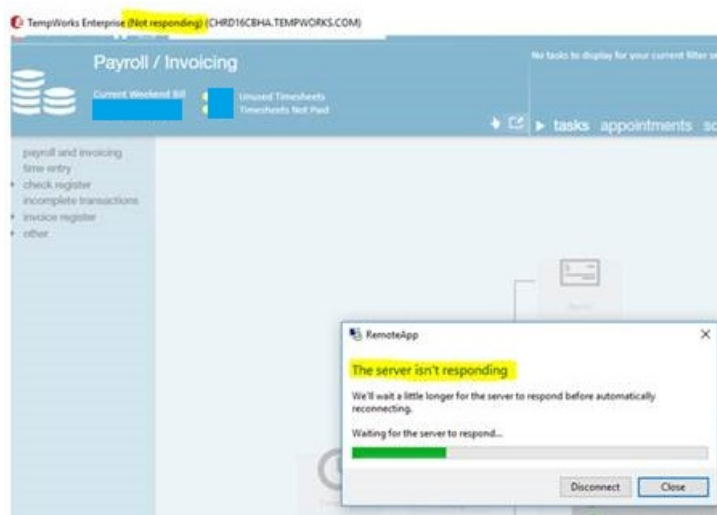
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Updated for latest information after Windows Version 1803 release

In the months surrounding January 2018 several users of TempWorks Software’s “Apps.TempWorks.com” hosted software model have reported frequent and persistent issues with the software appearing to “lock up”.

An example of this particular condition is shown below, characterized by the appearance of a title bar on top of the window with the “(Not responding)” indication, as well as the pop-up message titled “RemoteApp” containing the “The server isn’t responding” error.

The condition will not resolve unless the Remote Desktop process is manually ended by the user.



This condition has been found to be caused by a specific form of network connectivity failure where the conversation between the client computer and TempWorks’ datacenter is interrupted suddenly and with no notification to either the client or TempWorks. This interruption could potentially be caused by network devices at the client, or by devices on the client’s internet service provider. Technical details of the connectivity failure can be found in appendix below. At this time all confirmed examples of this condition are occurring at locations serviced by Comcast Cable internet.

At this time the condition has only been found to occur on clients running the Windows 10 operating system “Fall creators update” also known as version 1709. While the underlying cause is network connection failure, other versions of the Microsoft Operating system resolve the situation with an automatic reconnection attempt that is usually not noticed by the end user. However, this version of Microsoft software appears to suffer from a defect in the reconnection mechanism.

There is some indication from the Microsoft community that this issue may be resolved in the next release of Windows 10 codenamed “Redstone 4”, it is currently available on an Opt-In basis via the Windows 10 Insider

Preview program.

<https://blogs.windows.com/windowsexperience/tag/windows-insider-program/>

However, use of this is cautioned as these preview versions of windows have historically proven problematic for production environments at times.

At this time it is our recommendation that clients experiencing this issue seek to either

- A. Improve network connection stability with the assistance of local IT and ISP resources.
- B. move off of Windows version 1709 either by rolling back updates or upgrading to version 1803

Warning, 1803 has a new RDP performance issue described in
<http://kb.tempworks.com/help/popup-windows-freeze-or-do-not-appear-in-enterprise-remote-app>

C. apply a manual update to RDP components referenced in
<http://kb.tempworks.com/help/popup-windows-freeze-or-do-not-appear-in-enterprise-remote-app>

Either should reduce or eliminate the occurrence of this condition.

If you would like further assistance or have additional information on this matter please reach out to TempWorks Support.

Appendix:

The network disconnection presents as a sudden halt of data flow on the underlying primary TCP session between TempWorks' RDP Gateway server and the RDP client. No TCP RST packets are received by either side of the connection.

Exhaustive diagnostics on TempWorks' infrastructure has ruled out this session loss occurring on any of TempWorks' systems or direct ISP systems.

Further the only ISP in common in the routes to all examples of this condition is Comcast Cable.

The only technical explanation is that some network device between the client computer and the internet that is capable of differentiating traffic on a TCP (layer 4) basis is disposing of the session which allows such traffic for a specific conversation or is discriminating against a specific conversation. This could include NAT gateways, Network Firewalls, or other L4 security or traffic management systems. It could also include such systems operated by the client's ISP (in all examples, Comcast)

Packet capture/analysis of disconnect event.

Server Side, captured at TempWorks network edge

5308	2018-02-09T10:10:03.1	1.0513720	68.142.156.75	96.84	3033990803	HTTPS (443)	51564	Records: [ApplicationData(Encrypted)]	
5309	2018-02-09T10:10:04.0	0.4763250	68.142.156.75	96.84	3033990804	HTTPS (443)	51564	Records: [ApplicationData(Encrypted)]	Last packet recieved
5392	2018-02-09T10:10:04.9	0.5396460	68.142.156.75	96.84	3033990805	HTTPS (443)	51564	Records: [ApplicationData(Encrypted)]	
5394	2018-02-09T10:10:06.2	2.0071880	68.142.156.75	96.84	3033990807	HTTPS (443)	51564	Records: [ApplicationData(Encrypted)]	last packet from tempworks that is recieved
5396	2018-02-09T10:10:08.2	2.0180790	68.142.156.75	96.84	3033990809	HTTPS (443)	51564	Records: [ApplicationData(Encrypted)]	this packet never makes it
5397	2018-02-09T10:10:09.0	0.3093330	68.142.156.75	96.84	3033990810	HTTPS (443)	51564	Records: [ApplicationData(Encrypted)]	note the sequence numbers of the last couple packets highlighted
5398	2018-02-09T10:10:09.0	0.3129320	68.142.156.75	96.84	3033990811	HTTPS (443)	51564	Records: [ApplicationData(Encrypted)]	
5399	2018-02-09T10:10:09.0	0.3092290	68.142.156.75	96.84	3033990812	HTTPS (443)	51564	Records: [ApplicationData(Encrypted)]	
5400	2018-02-09T10:10:10.0	0.2124860	68.142.156.75	96.84	3033990813	HTTPS (443)	51564	Records: [ApplicationData(Encrypted)]	
5401	2018-02-09T10:10:10.0	0.7089440	68.142.156.75	96.84	3033990814	HTTPS (443)	51564	Records: [ApplicationData(Encrypted)]	
5402	2018-02-09T10:10:11.0	0.4053370	68.142.156.75	96.84	3033990815	HTTPS (443)	51564	Records: [ApplicationData(Encrypted)]	Retransmittals of the failed packet are attempted while no further communication is heard
5403	2018-02-09T10:10:12.1	1.6150480	68.142.156.75	96.84	3033990816	HTTPS (443)	51564	Records: [ApplicationData(Encrypted)]	
5404	2018-02-09T10:10:13.0	0.7948730	68.142.156.75	96.84	3033990817	HTTPS (443)	51564	Records: [ApplicationData(Encrypted)]	
5405	2018-02-09T10:10:13.0	0.2161740	68.142.156.75	96.84	3033990818	HTTPS (443)	51564	Records: [ApplicationData(Encrypted)]	
5406	2018-02-09T10:10:15.2	2.0093400	68.142.156.75	96.84	3033990819	HTTPS (443)	51564	Records: [ApplicationData(Encrypted)]	
5407	2018-02-09T10:10:17.2	2.0003350	68.142.156.75	96.84	3033990820	HTTPS (443)	51564	Records: [ApplicationData(Encrypted)]	
5408	2018-02-09T10:10:18.0	0.6751210	68.142.156.75	96.84	3033990821	HTTPS (443)	51564	Records: [ApplicationData(Encrypted)]	
5409	2018-02-09T10:10:18.0	0.4372380	68.142.156.75	96.84	3033990822	HTTPS (443)	51564	Records: [ApplicationData(Encrypted)]	
5410	2018-02-09T10:10:19.0	1.0157040	68.142.156.75	96.84	3033990823	HTTPS (443)	51564	Records: [ApplicationData(Encrypted)]	
5411	2018-02-09T10:10:21.2	2.0002680	68.142.156.75	96.84	3033990824	HTTPS (443)	51564	Records: [ApplicationData(Encrypted)]	
5412	2018-02-09T10:10:22.2	1.0102970	68.142.156.75	96.84	3033990825	HTTPS (443)	51564	Records: [ApplicationData(Encrypted)]	
5413	2018-02-09T10:10:24.2	2.0192250	68.142.156.75	96.84	3034000091	HTTPS (443)	51564	Records: [ApplicationData(Encrypted)]	
5414	2018-02-09T10:10:26.2	2.0059640	68.142.156.75	96.84	3034000092	HTTPS (443)	51564	Records: [ApplicationData(Encrypted)]	
5415	2018-02-09T10:10:28.2	1.0113120	68.142.156.75	96.84	3034000093	HTTPS (443)	51564	Records: [ApplicationData(Encrypted)]	
5416	2018-02-09T10:10:28.2	0.1037450	68.142.156.75	96.84	3034000367	HTTPS (443)	51564	Records: [ApplicationData(Encrypted)]	after 20 seconds of no communication a reset is sent to hangup this reset is never recieved

Client Side, captured by Microsoft packet filter on client

25019	2018-02-09T10:10:03.0	0.4039020	10.1.10.54	68.142.156.75	532765994	51564	HTTPS (443)	Records: [ApplicationData(Encrypted)]	
25021	2018-02-09T10:10:06.0	0.6000100	10.1.10.54	68.142.156.75	532765994	51564	HTTPS (443)	Records: [ApplicationData(Encrypted)]	Last packet sent to tempworks that is recieved
25023	2018-02-09T10:10:06.0	0.4511300	10.1.10.54	68.142.156.75	532765994	51564	HTTPS (443)	Records: [ApplicationData(Encrypted)]	last packet recieved from tempworks
25025	2018-02-09T10:10:10.0	0.5679577	10.1.10.54	68.142.156.75	532766037	51564	HTTPS (443)	Records: [ApplicationData(Encrypted)]	this packet never makes it to tempworks
25026	2018-02-09T10:10:16.0	0.3003096	10.1.10.54	68.142.156.75	532766037	51564	HTTPS (443)	Records: [ApplicationData(Encrypted)]	note the sequence numbers highlighted to correlate with logs from the other side
25027	2018-02-09T10:10:16.0	0.3002218	10.1.10.54	68.142.156.75	532766037	51564	HTTPS (443)	Records: [ApplicationData(Encrypted)]	
25028	2018-02-09T10:10:17.0	0.6003151	10.1.10.54	68.142.156.75	532766037	51564	HTTPS (443)	Records: [ApplicationData(Encrypted)]	
25029	2018-02-09T10:10:18.0	1.1295501	10.1.10.54	68.142.156.75	532766037	51564	HTTPS (443)	Records: [ApplicationData(Encrypted)]	
25030	2018-02-09T10:10:20.0	2.4003105	10.1.10.54	68.142.156.75	532766037	51564	HTTPS (443)	Records: [ApplicationData(Encrypted)]	
25031	2018-02-09T10:10:24.0	0.5402544	10.1.10.54	68.142.156.75	532766044	51564	HTTPS (443)	Records: [ApplicationData(Encrypted)]	retransmittals of the failed packet are attempted while no further messages are recieved from tempworks
25032	2018-02-09T10:10:25.0	0.6107120	10.1.10.54	68.142.156.75	532766037	51564	HTTPS (443)	Records: [ApplicationData(Encrypted)]	
25033	2018-02-09T10:10:35.0	0.5997773	10.1.10.54	68.142.156.75	532766037	51564	HTTPS (443)	Records: [ApplicationData(Encrypted)]	
25034	2018-02-09T10:10:54.0	18.7894085	10.1.10.54	68.142.156.75	532766191	51564	HTTPS (443)	Records: [ApplicationData(Encrypted)]	
25035	2018-02-09T10:10:56.0	0.4142130	10.1.10.54	68.142.156.75	532766037	51564	HTTPS (443)	Records: [ApplicationData(Encrypted)]	
25036	2018-02-09T10:11:03.0	0.3780592	10.1.10.54	68.142.156.75	532766226	51564	HTTPS (443)	Records: [ApplicationData(Encrypted)]	
25037	2018-02-09T10:11:32.0	29.4221050	10.1.10.54	68.142.156.75	532766037	51564	HTTPS (443)	Records: [ApplicationData(Encrypted)]	
25038	2018-02-09T10:11:33.0	0.9780913	10.1.10.54	68.142.156.75	532766209	51564	HTTPS (443)	Records: [ApplicationData(Encrypted)]	
25039	2018-02-09T10:12:03.0	30.0008094	10.1.10.54	68.142.156.75	532766304	51564	HTTPS (443)	Records: [ApplicationData(Encrypted)]	
25040	2018-02-09T10:13:00.0	28.0320279	10.1.10.54	68.142.156.75	532766037	51564	HTTPS (443)	Records: [ApplicationData(Encrypted)]	
25041	2018-02-09T10:13:03.0	0.9737231	10.1.10.54	68.142.156.75	532766037	51564	HTTPS (443)	Records: [ApplicationData(Encrypted)]	
25042	2018-02-09T10:13:32.0	29.4227239	10.1.10.54	68.142.156.75	532766037	51564	HTTPS (443)	Records: [ApplicationData(Encrypted)]	
25043	2018-02-09T10:13:33.0	0.9734601	10.1.10.54	68.142.156.75	532766460	51564	HTTPS (443)	Records: [ApplicationData(Encrypted)]	finally after over 4 minutes this connection is abandoned and a reset is sent to hangup.
25044	2018-02-09T10:14:32.0	59.4264932	10.1.10.54	68.142.156.75	532766538	51564	HTTPS (443)	Records: [ApplicationData(Encrypted)]	this is longer than default as we tried increasing timeouts

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