

The *End* of SMB1

AKA: Sharing will never be the same (AKA-AKA: Shift Happens)

The Backstory



A Grasp Software Corporation Whitepaper
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For a few years now we have been suggesting (more firmly as time went on) that you needed to migrate your Grasp Software application to utilize an SQL backend rather than the more familiar “flat file” relational database (we refer to that as “embedded database”). Our whole developer community had sensed that changes coming with each new release of Windows seemed to indicate that Microsoft was intending to make it harder and harder to allow multi-user sharing of files in this older, tried and true method of flat file databases. In truth almost all non-SQL multi-user database software relied on this method of file sharing. And this method was built on the backbone of a Microsoft protocol called “SMB1” (standing for “Server Message Block”). Anyway, as mentioned, the general consensus in the software community was that the “end” was near.

Late in 2016 we had a limited time offer from the supplier of our SQL interface driver which cut the cost of the required driver in half and we passed this to our customer base in an attractive offer to move over to SQL. Approximately 25% of our non-SQL customer base took advantage of the offer at that time and had their data converted from an “embedded database” to an SQL (Structured Query Language) table.

Our suspicions of a major shift in Microsoft’s delivery of the SMB protocol were validated, when in the summer of 2017, in a blog, Microsoft announced what many of those in software developer communities around the world had sensed, and the end of SMB1 was announced. Here is an excerpt:

Windows 10 and SMB1: As part of a multi-year security plan, we are removing the SMB1 networking protocol from Windows by default. This build has this change, however the change only affects clean installations of Windows, not upgrades. We are making this change to reduce the attack surface of the OS. Here are some more details to take note of:

All Home and Professional editions now have the SMB1 server component uninstalled by default. The SMB1 client remains installed. This means you can connect to devices

from Windows 10 using SMB1, but nothing can connect to Windows 10 using SMB1. We still recommend you uninstall SMB1 if you are not using it. In a later feature update of Windows 10, we may uninstall SMB1 client if we detect that you are not using it.

All Enterprise and Education editions have SMB1 totally uninstalled by default.

The removal of SMB1 means the removal of the legacy Computer Browser service. The Computer Browser depends exclusively on SMB1 and cannot function without it.

*For more information on why SMB1 is being removed,
see: <https://aka.ms/stopusingsmb1>*

*For more information on software and devices that require SMB1,
see <https://aka.ms/stillneedssmb1>*

*Source¹

You can read the blog in its entirety here:

<https://blogs.windows.com/windowsexperience/2017/06/21/announcing-windows-10-insider-preview-build-16226-pc/#iSj0ID5iRybAwEui.97>

Anyway, 2 things are evident.

1. Eventually all multi-user relational database software (like all of Grasp Software Corporation products) will need to live on an SQL backend;
2. As Microsoft rolls out its planned changes through their automatic updates (which you cannot avoid), you may notice that your computer's performance may change dramatically on the morning after any particular Windows Update is installed on either your workstation or server.

In a way, we ourselves may have exasperated the problem because many years ago, when Microsoft released Windows Vista, we got in the habit of disabling SMB2 because we were seeing flaws in the earlier versions of that protocol. Upon checking the current install scripts for our own software, I became aware that today we are still doing that (in other words, we simply never stopped doing that). Re-addressing this we have decided that we need to stop disabling the SMB2 protocol. From this point

¹ From "Announcing Windows 10 Insider Preview Build 16226 for PC" – Dona Sarkar, June 21, 2017

forward, any of our installation scripts written after April 30th, 2018 will no longer disable the SMB2 protocol².

Fixing the issue

1. Move to SQL

The long term solution is to move all of your relational database programs (including ours) to an SQL backend. This may be difficult if the provider of the software that you are running is no longer around or maybe isn't offering any solution to the final curtain drop on SMB1.

With all of our products we will continue to provide and support our products in a non-SQL environment for as long as SMB1 can be made available on your computer by your technical team. At the moment that SMB1 can no longer or will no longer be available, then your only option will be to move to an SQL environment (which by-the-way has several benefits over non-SQL).

The bottom line is that if you are not on SQL, you should definitely be planning to move to SQL within the next year or two.

2. Re-enable SMB2

OK. This one is our bad. Because we disabled it, it needs to be re-enabled. It is relatively easy to do and often your IT support team would be able to do this quickly and easily.

1. Press **Ctrl + R** to open the Windows Run Command.
2. Type in **Regedit**
3. Browse to
[\\HKEY_LOCAL_MACHINE\\SYSTEM\\CurrentControlSet\\Services\\LanmanServer\\Parameters](#)
4. Right click on the registry entry **SMB2** if it exists. If it doesn't exist then it is not disabled and you do not need to proceed in these steps.
5. Change the value from **0** (disabled) to **1** (enabled)
6. Close Regedit

3. Re-enable SMB1

There are several methods to re-enabling SMB1, and you can find out more about that from Microsoft's site in this link:

<https://support.microsoft.com/en-ca/help/2696547/how-to-detect-enable-and-disable-smbv1-smbv2-and-smbv3-in-windows-and>

² SMB2 Protocol seems to be the "go to" protocol for Microsoft when they disable or remove SMB1 from your computer. When we choose many years ago to disable that protocol, we unwittingly created a situation whereby your computer would end up with both SMB1 and SMB2 disabled, causing the fallback protocol to be SMB3.

While the Microsoft document is very thorough, I often choose to use Regedit to modify the appropriate registry entry as follows.

1. Press **Ctrl + R** to open the Windows Run Command.
2. Type in **Regedit**
3. Browse to
[\\HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\LanmanServer\Parameters](#)
4. Right click on the registry entry **SMB1** if it exists. If it doesn't exist then it is not disabled and you do not need to proceed in these steps.
5. Change the value from **0** (disabled) to **1** (enabled)
6. Close Regedit

//End of Whitepaper