

Temporary Files

SYSPRO 8 2022 and Later Releases

SYSPRO 8 Technical Article

Last Published: July 2022



SYSPRO Help and Reference

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SYSPRO and Temporary Files

INTRODUCTION

A temporary file is created to store information temporarily, either for a program's temporary use, to transfer information from one program to another, or for transfer to a permanent file or database storage when complete.

It may be created for a variety of purposes, such as when the program cannot allocate enough memory for its tasks, or the program wants to limit memory usage to better support an application server with many concurrent users.

Selected SYSPRO applications make use of temporary files as described above. The system administrator can configure the folder to be used to store temporary files.

The purpose of this document is to provide a deeper insight into the options available and the benefits of each approach.

TEMPORARY FILES LEFT BEHIND

Programs that create temporary files will generally remove them as soon as they no longer require them, or as the application exits.

If a program crashes (fails unexpectedly) or is killed (for example an administrator uses 'End task' in the **WINDOWS TASK MANAGER** or one of the 'Logout' functions in the **Logout Users** program in SYSPRO) then temporary files may not be removed. This could lead to excessive disk space being consumed by the left-behind temporary files. Therefore, it's good practice to have a mechanism to remove old temporary files from time-to-time.

This document will provide some insight to the approach to take to reduce temporary files left behind and explains how SYSPRO 8 2022 has been enhanced to make this seamless.

SYSPRO 8 2022 ONWARDS

SYSPRO 8 2022 has been enhanced to simplify the day-to-day administration of SYSPRO and temporary file management specifically has been improved. This requires you to manually define an environment variable named **SYSPRO_TEMP**.

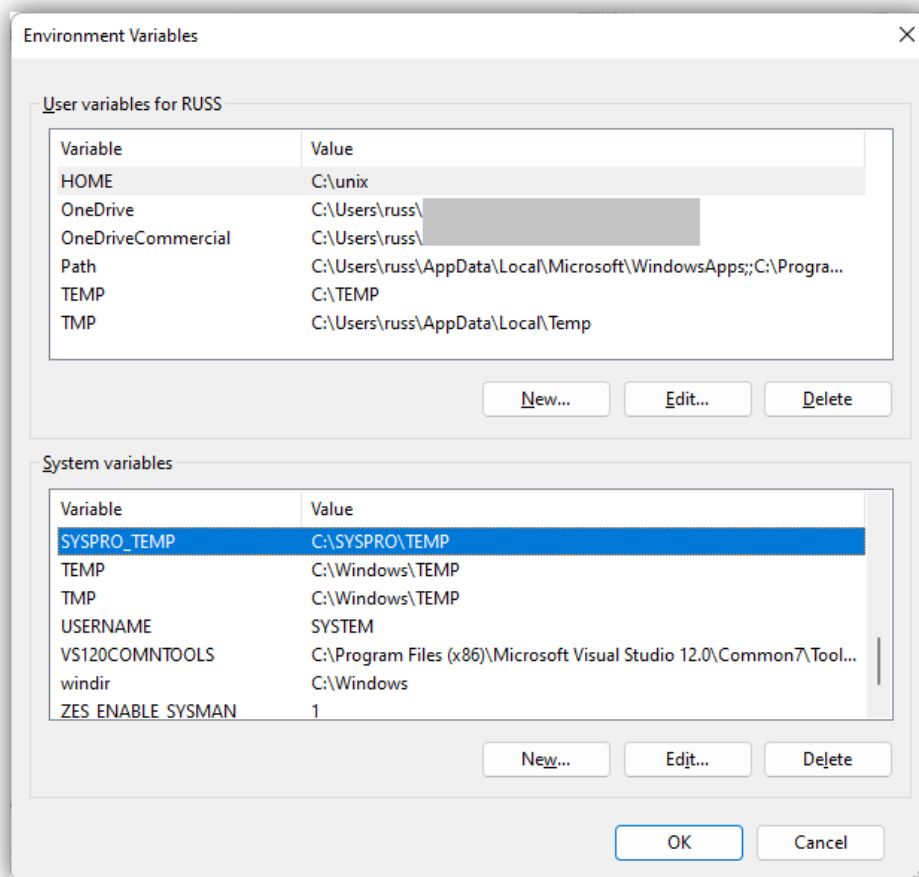
If you do not set the new environment variable, the default behavior is identical to all prior releases, so this has also been covered in this document.

SYSPRO 8 2022 and Later Releases

This topic describes the best practice when using SYSPRO 8 2022 and later releases. If you are using an earlier release, see the topic: [SYSPRO 8 2021 R2 and Prior Releases](#).

CONFIGURE ENVIRONMENT VARIABLE: SYSPRO_TEMP

From SYSPRO 8 2022 onwards, you should define a system variable against your application server named **SYSPRO_TEMP**. See the following example:



Ensure you have a folder with this name. In this example: **C:\SYSPRO\TEMP**

Important: The folder should be dedicated to SYSPRO temporary files.

After changing any environment variables you should restart all SYSPRO services for the change to take effect.

Once set, all temporary files created by SYSPRO applications will be created in the new folder.

This includes each of the different SYSPRO technologies and platforms, including SYSPRO Client-Server server-side applications, SYSPRO Web UI (Avanti), SYSPRO e.net Solutions (SYSPRO API) and standalone instances of SYSPRO run on the application server.

TEMPORARY FILE NAMING CONVENTIONS

Once you have set the **SYSPRO_TEMP** environment variable, SYSPRO applications that create temporary files generally create them with the following naming convention:

`_SYSPRO_2022-07-08_SYS-d012ad91-102d-4a76-bdf3-cea8e1118954_001_IMP MEN.txt`

Where:

File part	Notes
<code>_SYSPRO</code>	File prefix
<code>2022-07-08</code>	App server date in CCYY-MM-DD format
<code>SYS-d012ad91-102d-4a76-bdf3-cea8e1118954</code>	A 40-character unique id (typically begins 'SYS-')
<code>001</code>	A sequence number from 001 upwards incremented for each temporary file required by the current SYSPRO process
<code>IMP MEN</code>	The name of the program that created the temporary file
<code>.txt</code>	The file extension - varies by context

The underscore ('_') character is used to delimit file name parts.

The naming convention ensures that:

- SYSPRO temporary files are clearly marked as belonging to SYSPRO applications (i.e. prefix)
- We know the date of when the file was created
- There is some unique information to prevent two or more files being generated with the same name
- We know the application that created the temp file
- We have a clear understanding of the file type (the extension)

Note: It should be noted that some applications may use a different file naming convention for temporary files, however the majority of SYSPRO applications will use the naming convention explained here.

TEMPORARY FILE TIDY UP

A SYSPRO application that uses a temporary file will typically delete it as soon as it has finished with it. Alternatively, the application will delete the temporary file as it exits.

If a program crashes (fails unexpectedly) or is killed (for example an administrator uses 'End task' in the **WINDOWS TASK MANAGER** or one of the 'Logout' functions in the **Logout Users** program in SYSPRO) then temporary files may not be removed.

This could lead to excessive disk space being consumed by the left-behind temporary files.

In addition, if there are a very large number of files (even small ones) then the operating system may demonstrate performance degradation – this typically only occurs when there are tens of thousands of files or more in a single folder.

SYSPRO 8 2022 has an automatic tidy up feature (**Auto-Tidy**) that is enabled as soon as you define the **SYSPRO_TEMP** environment variable.

TEMPORARY FILE AUTO-TIDY LOGIC

As a user exits from SYSPRO, the system will check to see if there are any temporary files that are two or more days old.

All files that match the following file pattern in the temporary folder and have a date that is two or more days old, will be deleted:

```
_SYSPRO_CCYY-MM-DD_*.*
```

Warning: If a temporary file has a different naming convention, then it will not be deleted using this **Auto-Tidy** function.

To avoid the software performing excessive testing for obsolete temporary files, this logic is only performed for the first user who exits SYSPRO on a specific day (i.e. the **Auto-Tidy** logic is only performed once-a-day).

See the topic: [How does Auto-Tidy test a maximum of once per day?](#)

TEMPORARY FOLDER SOURCE LOGIC

As mentioned earlier, the best practice is to create an environment variable named **SYSPRO_TEMP**.

However, if you do not create this environment variable then the system will revert to the same logic as used by [SYSPRO 8 2021 R2 and Prior Releases](#).

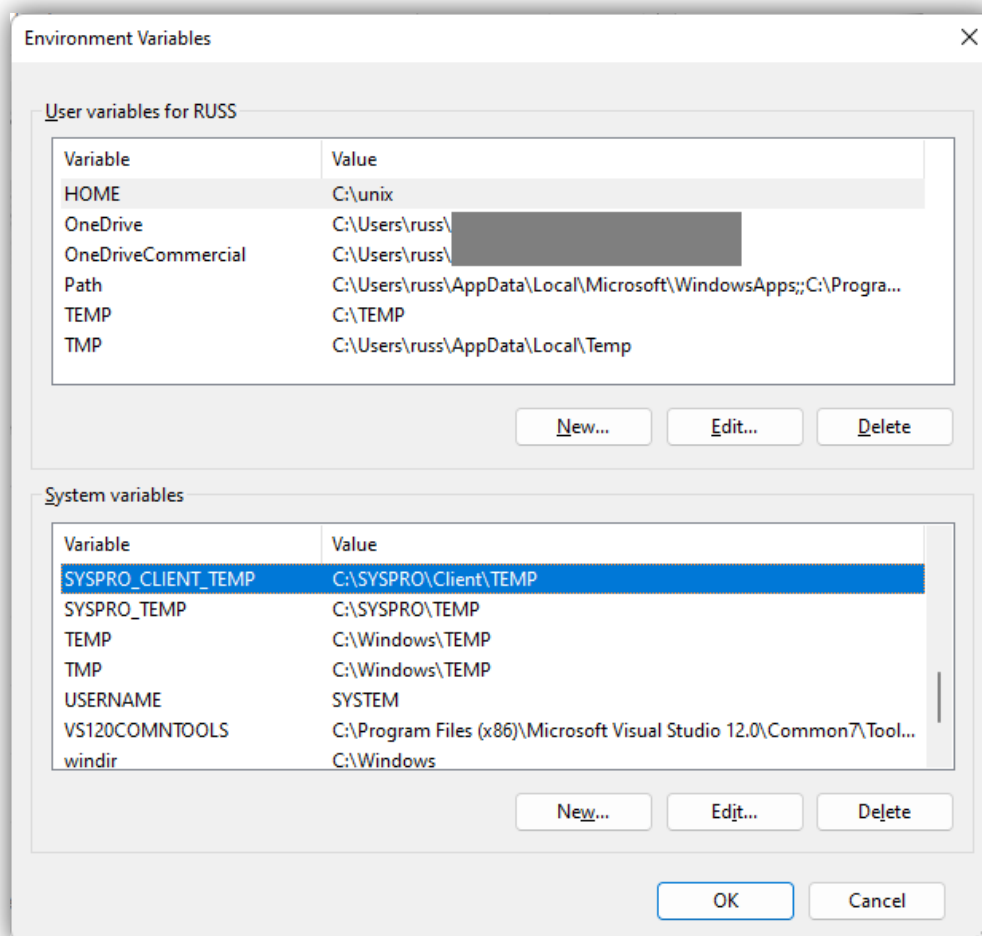
Note: If you do not use the **SYSPRO_TEMP** variable there is no **Auto-Tidy** function.


The sequence of determining the temporary folder is:

1. Environment variable: **SYSPRO_TEMP**
2. Environment variable: **TEMP**
3. IMPACT.INI entry: **IMPTMP=**

CLIENT-SIDE TEMPORARY FILES: SYSPRO_CLIENT_TEMP

From SYSPRO 8 2022 onwards, you may define a system variable against each client computer named **SYSPRO_CLIENT_TEMP**. See the following example:





Ensure you have a folder with this name. In this example: `C:\SYSPRO\Client\TEMP`

Important: The folder should be dedicated to SYSPRO temporary files.

Once set, all client-side temporary files created by SYSPRO applications will be created in the new folder.

Warning: Files created on the SYSPRO Client do not have the **Auto-Tidy** function and therefore it's possible that you may have to periodically remove any left-behind temp files.

TEMPORARY CLIENT FOLDER SOURCE LOGIC

As mentioned earlier, you can create an environment variable named `SYSPRO_CLIENT_TEMP`.

However, if you do not create this environment variable then the system will revert to the same logic as used by [SYSPRO 8 2021 R2 and Prior Releases](#).

The sequence of determining the client temporary folder is:

1. Environment variable: `SYSPRO_CLIENT_TEMP`
2. Environment variable: `SYSPRO_TEMP`
3. Client's `IMPACT.INI` entry: `IMPTMP=`
4. Environment variable: `TEMP`

SYSPRO 8 2021 R2 and Prior Releases

If you are running SYSPRO 8 2021 R2 and prior releases, the remainder of this topic applies. This is called **Legacy temp mode**.

If you are running SYSPRO 8 2022 onwards but have NOT defined a **SYSPRO_TEMP** environment variable, then you are also running **Legacy temp mode**.

For clarity - when you are running later releases of SYSPRO software, it will behave identically as far as temporary files is concerned as it did with prior releases, unless you define the variable **SYSPRO_TEMP**.

LEGACY TEMP MODE - SERVER-SIDE TEMP FOLDER

When SYSPRO loads in **Legacy temp mode**, it determines the temporary folder by first testing for an environment variable named **TEMP**, and if that is not found it looks at the **IMPTMP=** entry in the **IMPACT.INI** file.

Search sequence:

1. Environment variable: **TEMP**
2. **IMPACT.INI** entry: **IMPTMP=**

LEGACY TEMP MODE - CLIENT-SIDE TEMP FOLDER

When running in a client-server environment in **Legacy temp mode**, any client-side temporary files will be located by first looking at the **IMPTMP=** entry in **IMPACT.INI** on the client and if that is not found (or spaces) then the environment variable named **TEMP** defined on the client PC will be used.

The search sequence is:

1. Client **IMPACT.INI** entry: **IMPTMP=**
2. Client environment variable: **TEMP**

You may notice that this is the reverse of the server-side temporary folder resolution sequence. The reason is historical and will not be changed.

LEGACY TEMP MODE - TEMPORARY FILE NAMES

When running in **Legacy temp mode**, SYSPRO client-server (client and server), SYSPRO Web UI (Avanti) and SYSPRO standalone applications that create temporary files create them with the following naming convention:

`_T1234001.txt`

Where:

File part	Notes
<code>_T</code>	File prefix ('_P' for portal users)
<code>1234</code>	The SYSPRO unique internal user number (0001-9999)
<code>001</code>	A sequence number from 001 upwards incremented for each temporary file required by the current SYSPRO process
<code>.txt</code>	The file extension – varies by context

This is a very compact file name convention. However, as it relies on a 4-digit unique internal user number, this file naming convention cannot be used by e.net business objects as there are no 'user numbers' when running e.net.

Therefore, e.net applications that create temporary files create them with the following naming convention:

`_T_SYS-d012ad91-102d-4a76-bdf3-cea8e1118954-001.txt`

Where:

File part	Notes
<code>_T</code>	File prefix ('_P' for portal users)
<code>SYS-d012ad91-102d-4a76-bdf3-cea8e1118954</code>	A 40-character unique id (typically begins 'SYS-')
<code>001</code>	A sequence number from 001 upwards incremented for each temporary file required by the current SYSPRO process
<code>.txt</code>	The file extension – varies by context

In this case, both an underscore ('_') and dash ('-') are used as delimiters.

LEGACY TEMP MODE - DIAGNOSTICS

When running in **Legacy temp mode**, you can enable the diagnostic mode - see the topic: [Where can I see which app created a specific temp file?](#)

LEGACY TEMP MODE - TEMP FILES LEFT BEHIND

When running in **Legacy temp mode**, there is no **Auto-Tidy** functionality, meaning that if a program terminates unexpectedly or is killed prematurely then temporary files may be left behind.

Warning: When running in **Legacy temp mode**, you must be cautious when deleting files that are in the folder pointed to by the **TEMP** environment variable, as it's possible that other applications also store temporary files in the same folder.

If you do need to manually (or automatically) remove temp files, you should use the naming conventions mentioned earlier.

It is considered safe to delete temp files created by SYSPRO that are 2 or more days old – using the **Date Modified** attribute.

Troubleshooting and FAQs

WHY DO MY ENVIRONMENT VARIABLES NOT WORK AS EXPECTED?

Firstly, check the spelling of the environment variables. The relevant ones are:

- **SYSPRO_CLIENT_TEMP**
- **SYSPRO_TEMP**
- **TEMP**

After changing any environment variables, you should restart all SYSPRO services for the change to take effect.

Ensure you have created a folder with the correct path as defined by the relevant environment variable.

If you have defined 'System Variables', they are available regardless of the user or service that is running SYSPRO. However, you can create a 'User Variable' – in this case ensure that the SYSPRO services are running with the same user credentials. If in doubt, use 'System Variables'.

If you are running SYSPRO 8 2022 onwards, login to SYSPRO and run the **System Information** program. This shows the source of the temporary folder names. See the topic: [Where can I see how the temporary folder was determined?](#)

WHY ARE THERE TEMP FILES OLDER THAN TWO DAYS?

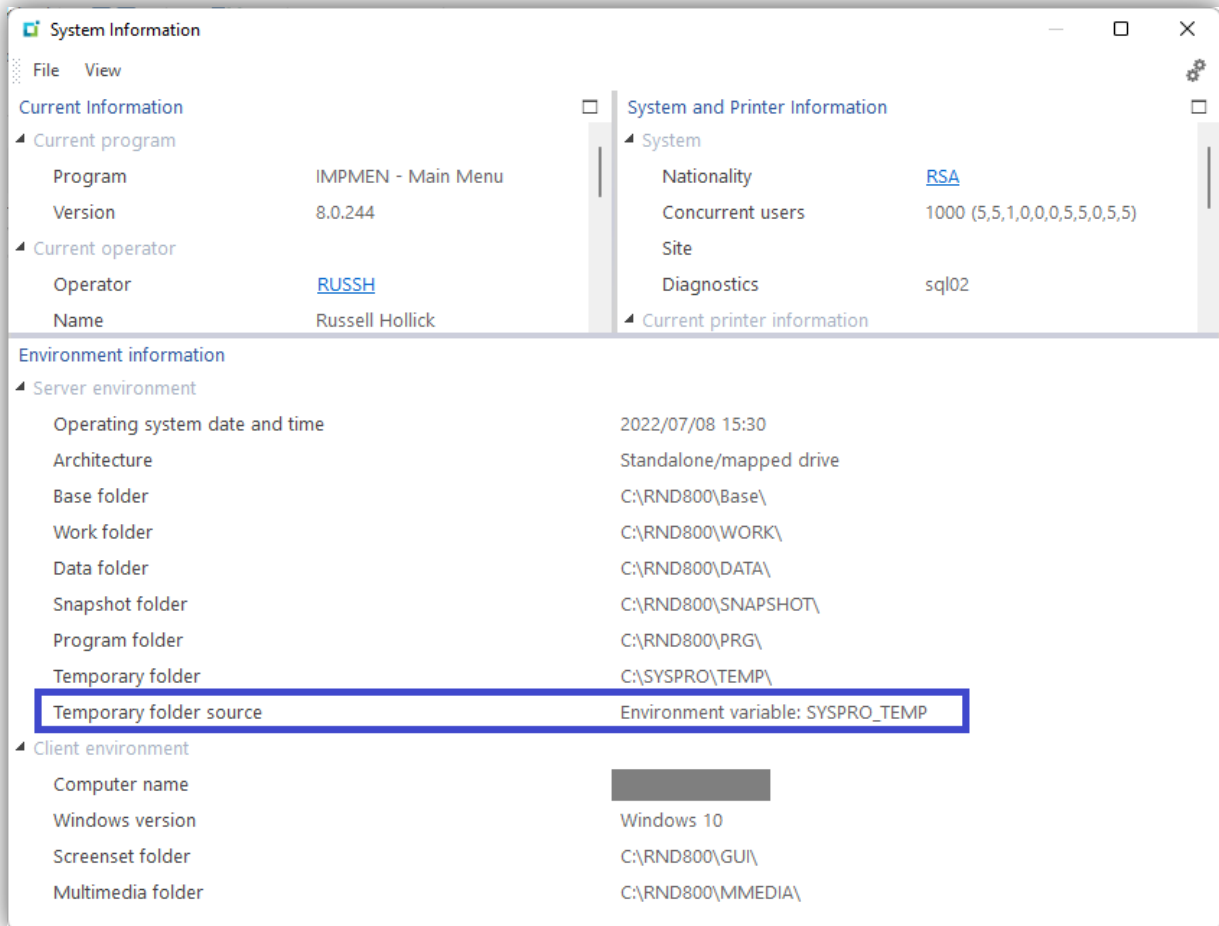
Note that the **Auto-Tidy** function is only available in SYSPRO 8 2022 or later AND when you have defined a **SYSPRO_TEMP** environment variable on the application server. Assuming that both are true...

1. The **Auto-Tidy** function is performed as someone exits SYSPRO, so one answer is that no one has exited SYSPRO recently. It's easy just to launch SYSPRO and immediately exit for this to be resolved.
2. If there are still files in the temporary folder older than two days, then it's possible that the temporary files created in the temporary folder have a different naming convention than the [Temporary File Naming Conventions](#) explained earlier. If this is the case **and** you can see the 'Date Modified' is two days ago or older then you should be safe to delete the temporary files.
3. Lastly, perhaps verify the file(s) left behind have not been set to read-only or are not accessible by the SYSPRO application.

WHERE CAN I SEE HOW THE TEMPORARY FOLDER WAS DETERMINED?

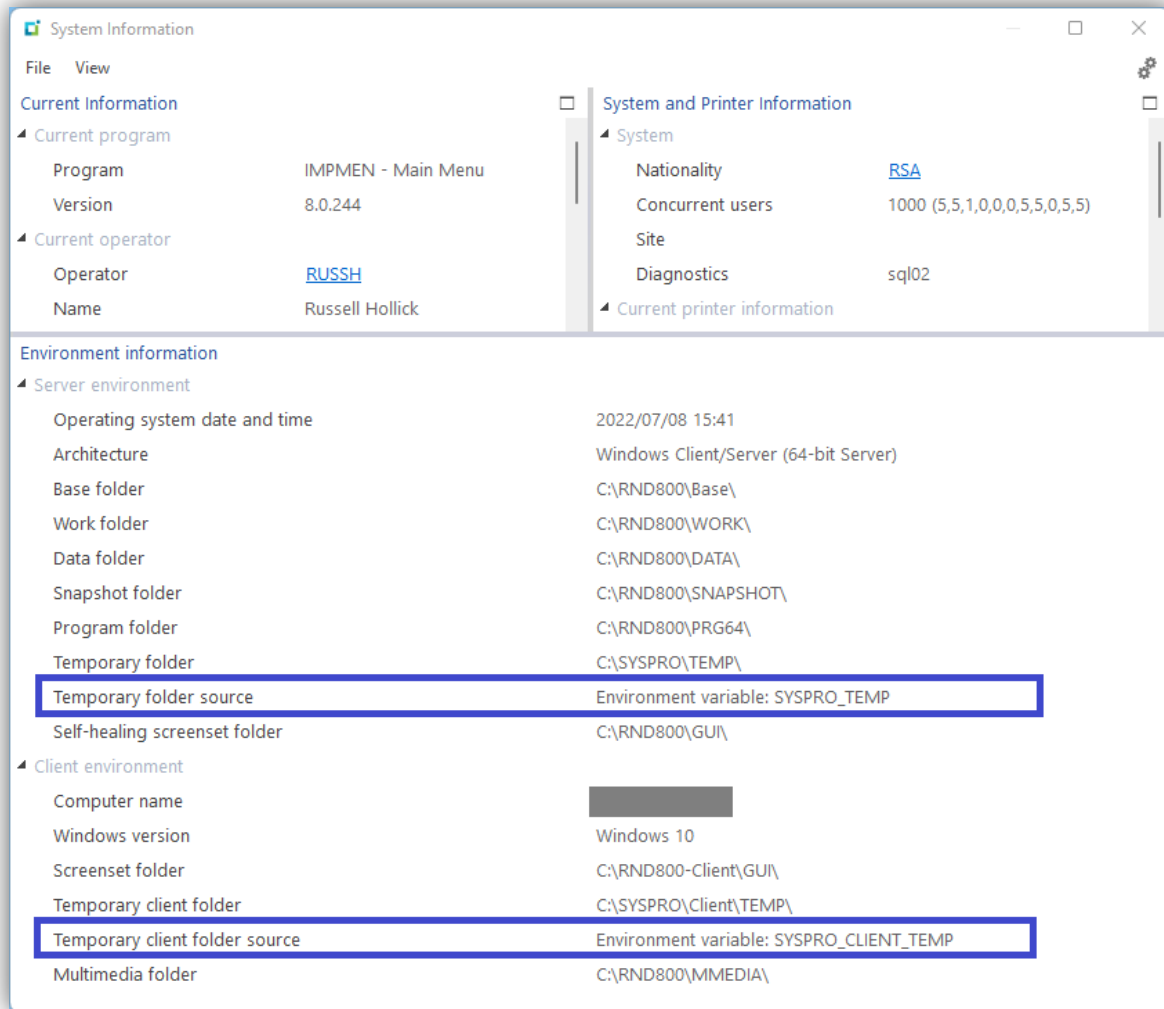
From SYSPRO 8 2022 onwards, you can see the temporary folder source that has been used by SYSPRO by running the **SYSTEM INFORMATION** program from the menu (**Query > System Information**).

See example taken from a development system:



From the screenshot above you can see that the Temporary folder being used is **C:\SYSPRO\TEMP** and the Temporary folder source: **Environment variable: SYSPRO_TEMP**

Similarly, when running client-server, you can also view the client-side temporary folder and source as shown below:



From the screenshot above you can see that the Temporary client folder being used is **C:\SYSPRO\Client\TEMP** and the Temporary folder source: **Environment variable: SYSPRO_CLIENT_TEMP**

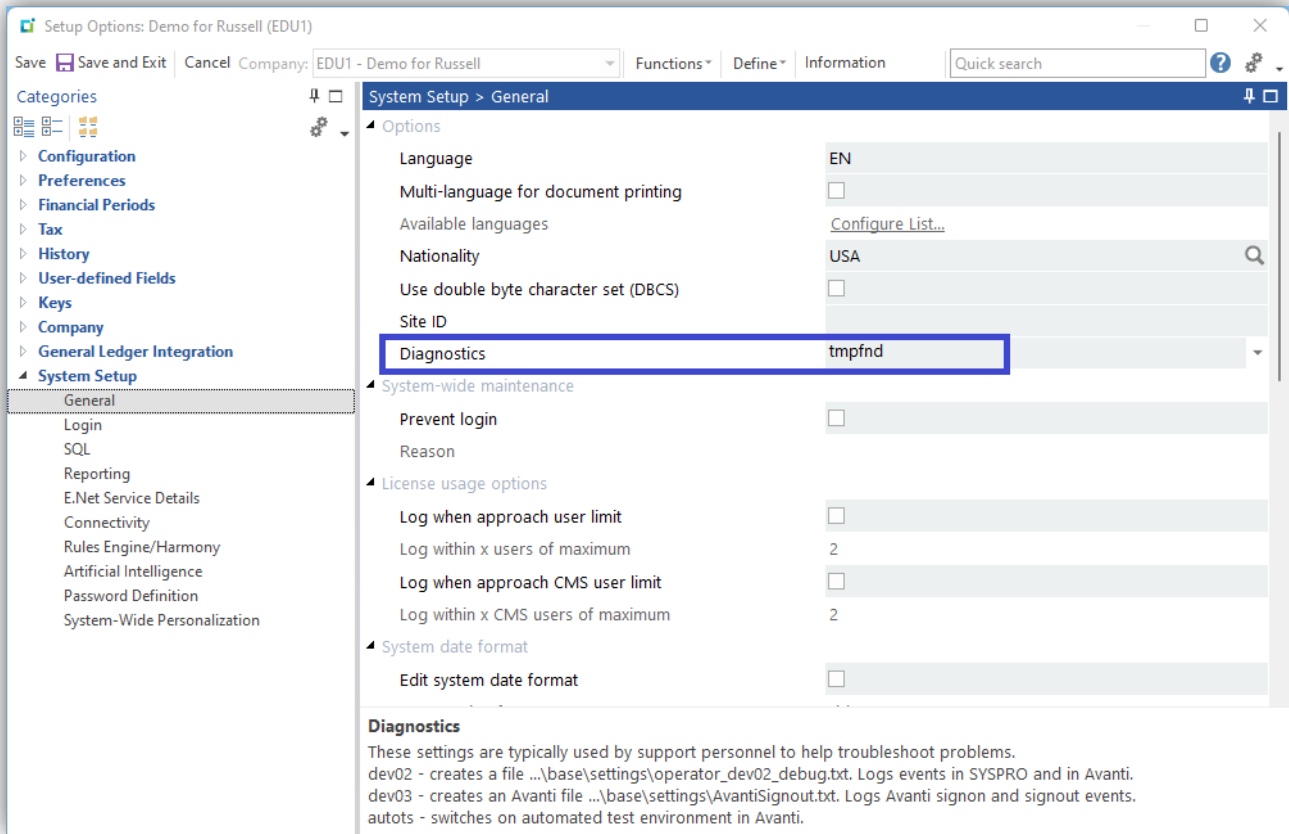
WHERE CAN I SEE WHICH APP CREATED A SPECIFIC TEMP FILE?

From SYSPRO 8 2022 onwards, the temporary file naming convention includes the name of the program that created the temp file, and the file name also contains the date it was created. Often this is enough information to help pinpoint which application created the temp file.

All releases of SYSPRO 8 have a diagnostic mode that can be set that causes the system to check that all temporary files have been removed when you exit SYSPRO.

Edit the System Setup options by locating the **Setup Options > System Setup > General > Diagnostic** field and setting the value to **'tmpfnd'** (exact case). See example below:

See example below:



Important: As with most diagnostics, this diagnostic setting should only be used for the minimum time required to help diagnose any problems and when completed, set the diagnostic to spaces. Use of this diagnostic may slow some programs.

Once this diagnostic has been enabled, when you exit SYSPRO the system will compare each temporary file created since you logged in with the physical files in the temporary folder. If any temporary files have been 'left behind' then a diagnostic dialog will be shown indicating the file names, which program created each file and when.

The following example was taken from a development system where two temporary files were deliberately left behind to verify the diagnostic functionality.

Operator	User	File	Program	System	Function	e.net so...	Company	Created date	Created time
RUSSH	2651	_SYSPRO_2022-07-08_SYS-0bbcd3cd-c76f-4b70-9153-013e6969b752_002_SYSRJH.DAT	SYSRJH	SYSPRO	TMPFIL		EDU1	08/07/2022	15:57:05:90
RUSSH	2651	_SYSPRO_2022-07-08_SYS-0bbcd3cd-c76f-4b70-9153-013e6969b752_003_SYSRJH.txt	SYSRJH	SYSPRO	TMPFIE		EDU1	08/07/2022	15:57:05:90



Note that SYSPRO 8 2022 with the **SYSPRO_TEMP** variable was in use at the time the diagnostic dialog was shown – the temp file names have the newer file naming convention.

If you receive this diagnostic, then it indicates that a program has not removed the temporary files that it created.

This may be reported to a SYSPRO service team – please include the screenshot and as much information as possible about all programs run prior to the message being shown.

As mentioned previously, once you have finished attempting to diagnose any problems, you should clear the diagnostic field in the **Setup Options** program.

HOW DOES AUTO-TIDY TEST A MAXIMUM ONCE PER DAY?

For SYSPRO 8 2022 onwards AND when you have defined an environment variable named **SYSPRO_TEMP**, the **Auto-Tidy** function is active.

A plain text file named **_Last_Tidy.txt** will be read from the temporary folder. If found, the entry named '**Last:**' will be tested for the last tidy date. If this is today, then the **Auto-Tidy** function has already been performed today and doesn't need to be performed again.

On all other conditions, the **Auto-Tidy** function will be performed and the **_Last_Tidy.txt** file re-created with an entry of today's date. This helps ensure that the **Auto-Tidy** function is only performed a maximum of once per day.

From this you can see that if you wish to 'force' the system to perform the **Auto-Tidy** function you can delete the file named **_Last_Tidy.txt** in the temporary folder and then login to SYSPRO and immediately exit – thus initiating the **Auto-Tidy** function.



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