

Tech Tip: Using the Trace Requesters in Zen v15.10 and Above

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Sometimes, it is difficult to tell where a problem in an environment resides. Is it a problem on the Server? The Client? The Application? Often, we point to the network analyzer as a great way to detect where the problem lies, but sometimes we know the problem is on the workstation – but we still don't know if the problem is with the application or with the Zen Client.

In previous versions of Actian Zen and PSQL, we had to install special **trace requesters** to ascertain once and for all which side is really at fault, and end any finger-pointing. Starting with the Actian Zen v15.10 release, though, the trace functionality is built into the standard requester DLL's, so things are much more simple.

Configuring the Trace Requesters

To configure the requesters for tracing, open up the Registry Editor (RegEdit.exe) and find this key:

HKEY_LOCAL_MACHINE\SOFTWARE\Actian\Zen\Communications Requester\Diagnostics

Inside this registry key, you will find the following settings:

| Name | Type | Data |
|---------------------------------|--------|-----------------|
| ab (Default) | REG_SZ | (value not set) |
| ab Trace Buffer Length | REG_SZ | 128 |
| ab Trace Level | REG_SZ | 99 |
| ab Trace Modules | REG_SZ | all |
| ab Trace with OutputDebugString | REG_SZ | no |

Your default values may be different. Set up the configuration values as described here:

- **Trace Buffer Length:** Set this to the minimum value you need for tracing. Sometimes, 32 or 64 bytes is sufficient, but I often find myself needing more data, so I usually start with 128 to avoid having to re-do the testing a second time.
- **Trace Level:** Set this to **99** to enable tracing, or **None** to disable tracing.
- **Trace Modules:** Leave this set to **all** to capture data from all components. You can also set this to a comma-delimited list including "mif", "nsl", or "upi" to capture data only from those specific components.
- **Trace with OutputDebugString:** If set to "no" (the default), then tracing will work exactly as listed in this document. If set to "yes", then the debug lines will instead be sent to the Windows OS call OutputDebugString(). These messages can then be viewed in a Debugger or with the DebugView tool from SysInternals.

After you configure these registry settings, the system should be ready to start logging. Leave RegEdit open, as you will need it again.

Using the Trace Requesters

If you want to trace your application from the beginning, simply start your application and data will be collected.

If you only want to capture trace data from a small portion of the application, then set the Trace Level to “none” and launch the application and get it to the point at which you want to start tracing. Once there, change Trace Level to “99”, run the app to capture the trace data, then set it back to “none” when done.

IMPORTANT NOTE: Do not forget to disable tracing when you are done! If you leave tracing enabled by mistake, you will not only impede system performance, but the subsequent files may completely fill up the C: drive, causing major issues within the OS when this volume runs out of space.

Locating the Trace Requester Data

Once you have captured data, it will show up in the C:\ProgramData\Action\Zen\Logs folder by default. If you have a non-standard installation, then you should first look for the path contained in one of these three registry locations:

- HKLM\SOFTWARE\Action\Zen\InstallInfo\Client\InstallData
- HKLM\SOFTWARE\Action\Zen\InstallInfo\Workgroup\InstallData
- HKLM\SOFTWARE\Action\Zen\InstallInfo\Server\InstallData

The Client will read the path from the first key found, append “\Logs”, and use that as the storage location. There is no easy way to change this at this time, but a future versions may allow for changes to the log file location.)

Each application will be given its own trace file that will include the date, time, process name, process ID, and ending in COMM.TRC. You can open this file with Notepad or any other text editor.

Analyzing the Trace Requester Data

If you have captured data correctly, you should have a very large text file to start digging through. Remember that this is the easy part! Depending on what you are working on or looking for, you may have to wade through various pieces of the trace data, but that is completely out of scope of this document. If needed, contact Action or Goldstar Software for additional help in evaluating a given trace file or issue.

Summary

You can use this process to capture tons of good diagnostic data from inside the Zen components and learn how the Zen Client actually works underneath the covers.

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