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Genesys Pulse Deployment Guide

How do I capture Pulse Collector memory dumps?

How do I capture Pulse Collector memory dumps?

This information will be useful when you need to:

- Take memory dump from a running Collector process
- Configure operating system for automatically generating crash dumps so that when Collector crashes you get a crash dump

Contents

- [1 How do I capture Pulse Collector memory dumps?](#)
 - [1.1 Taking a Memory Dump of the Running Pulse Collector Process on Linux](#)
 - [1.2 Taking a Memory Dump of the Running Pulse Collector Process on Windows](#)
 - [1.3 Tuning Linux Operating System to Generate a Core Dump for the Pulse Collector in the Case it has Crashed](#)
 - [1.4 Tuning Windows 2008/2012 Operating System to Generate a Crash Dump for the Pulse Collector in the Case it has Crashed](#)

Taking a Memory Dump of the Running Pulse Collector Process on Linux

1. Open Linux terminal.
2. Type **gcore** in the terminal window to confirm you have the **GCore** utility installed. If it is missing, you must install it. **GCore** is part of the **gdb** package.
 - a. Ubuntu: **sudo apt-get install gdb**
 - b. RHEL, CentOS: **sudo yum install gdb**
3. Determine the process ID of Pulse Collector: **ps -ef | grep collector**
4. Change to the directory where you want to store the dump: **cd ~/memory_dumps**
5. Run commands **gcore <PID>** where <PID> is process ID
6. You should get file **core.<PID>** .
7. If you need to submit this core dump file to Genesys:
 - a. Compress it using BZip2 or any method that has a better compression ratio:
 - i. with bzip2: **bzip2 -9 core.<PID>**
 - ii. or with gzip: **gzip -9 core.<PID>**
 - b. Submit your compressed file **core.<PID>.bz2** (or **core.<PID>.gz**) to the location specified by Genesys Customer Care.

Taking a Memory Dump of the Running Pulse Collector Process on Windows

1. Make sure you have ProcDump utility. If not, complete following steps
 - a. Download freeware **SysInternals ProcDump** utility from this page <https://technet.microsoft.com/en-us/sysinternals/dd996900.aspx>
 - b. Extract **procdump.exe** from the downloaded archive to **C:\Windows**
2. Open Windows Task Manager (by pressing **Ctrl+Shift+Esc** , or pressing **Win+R** and typing **taskmgr** in the **Run** dialog.)
3. In the Windows Task Manager, make sure you have column PID. If not:
 - a. Choose menu item **View->Select Columns...**
 - b. Check item called **PID (process identifier)** in the list
4. In the Windows Task Manager, press button "**Show processes from all users**"
5. In the Windows Task manager, sort processes by process name and find appropriate **collector.exe** and

How do I capture Pulse Collector memory dumps?

- notice its PID
6. Open command prompt
 7. Change current directory to the location where you plan to store the dump. For example: **cd /D D:\MemoryDumps**
 8. Type following command: **procdump -ma -o <PID> collector.<PID>.dmp** where <PID> is process ID of Collector
 9. You will get memory dump file named as **collector.<PID>.dmp** .
 10. If you need to submit this memory dump file to Genesys:
 - a. Install freeware **7-Zip** archiver if you don't already have it. You may download from this web site <http://www.7-zip.org>
 - b. Open folder where memory dump resides in the Windows Explorer.
 - c. Right-click on the dump file and choose menu item **7-Zip->Add to archive...**
 - d. Adjust following parameters in the **Add to Archive** dialog:
 - i. Archive format: 7z
 - ii. Compression level: Ultra
 - iii. Compression method: LZMA
 - e. Press OK and wait for compression to finish.
 - f. Submit resulting file **collector.<PID>.7z** to the location specified by the Genesys Technical Support.

Tuning Linux Operating System to Generate a Core Dump for the Pulse Collector in the Case it has Crashed

1. Create new startup script **/etc/init.d/core_settings** with following contents (replace path to real path where you want to store core files).

```
#!/bin/bash
echo /path/to/core/files/storage>/core.%e.%p.%s.%t > /proc/sys/kernel/core_pattern
```

You can use command like this to do that:

```
sudo vim /etc/init.d/core_settings
```

or

```
sudo nano /etc/init.d/core_settings
```

2. Adjust file privileges:
sudo chmod 0755 /etc/init.d/core_settings
 3. Create link to it in the startup folders:
sudo ln -s /etc/init.d/core_settings /etc/rc3.d/S01core_settings
 4. Apply settings immediately:
sudo /etc/init.d/core_settings
 5. Enable core dumps globally: edit file **/etc/security/limits.conf**, add or uncomment (if already present)
-

How do I capture Pulse Collector memory dumps?

the following line

```
* soft core unlimited
```

6. Edit /etc/profile and /etc/init.d/functions - add or uncomment following lines:

In /etc/profile (Redhat)

```
# No core files by default  
ulimit -S -c 0 > /dev/null 2>&1
```

In /etc/init.d/functions (Redhat)

```
# make sure it doesn't core dump anywhere unless requested  
ulimit -S -c ${DAEMON_COREFILE_LIMIT:-0} >/dev/null 2>&1
```

7. Restart the system
8. Now core files with names formatted as **core.<executable name>.<pid>.<signal #>.<timestamp>** will appear in the specified folder.
9. If you need to submit this core dump file to Genesys:
 - a. Compress it (BZip2 is recommended, as long as gives better compression ratio):
 - i. with bzip2: **bzip2 -9 core.<executable name>.<pid>.<signal #>.<timestamp>**
 - ii. or with gzip: **gzip -9 core.<executable name>.<pid>.<signal #>.<timestamp>**
 - b. Submit resulting file **core.<executable name>.<pid>.<signal #>.<timestamp> .bz2** (or **core.<executable name>.<pid>.<signal #>.<timestamp> .gz**) to the location specified by the Genesys Technical Support.

Tuning Windows 2008/2012 Operating System to Generate a Crash Dump for the Pulse Collector in the Case it has Crashed

1. Open Notepad text editor
2. Enter there following text, replacing value of the **DumpFolder** parameter with real path where you want to store Collector crash dumps:

```
Windows Registry Editor Version 5.00
```

```
[HKEY_LOCAL_MACHINE\Software\Microsoft\Windows\Windows Error Reporting]  
Disabled=dword:0
```

```
[HKEY_LOCAL_MACHINE\Software\Microsoft\Windows\Windows Error Reporting\LocalDumps\  
collector.exe]  
DumpFolder="<path to folder where you store collector dumps>"  
DumpCount=dword:10  
DumpType=dword:2
```

3. Save this file as **collector-wer.reg** .
4. Double click on it in the Windows Explorer and say yes to question of Windows Registry Editor to add data to Registry.
5. Now, if Collector crashes, full memory dump of Collector will appear in the specified folder.
6. If you need to submit this memory dump file to Genesys:
 - a. Install freeware **7-Zip** archiver if you don't already have it. You may download from this web

How do I capture Pulse Collector memory dumps?

site <http://www.7-zip.org>

- b. Open folder where memory dump resides in the Windows Explorer.
- c. Right-click on the dump file and choose menu item **7-Zip->Add to archive...**
- d. Adjust following parameters in the **Add to Archive** dialog:
 - i. Archive format: 7z
 - ii. Compression level: Ultra
 - iii. Compression method: LZMA
- e. Press OK and wait for compression to finish.
- f. Submit resulting 7-Zip Archive file to the location specified by the Genesys Technical Support.

Suggested Additional Reading

1. WER Settings (Windows) [https://msdn.microsoft.com/en-us/library/windows/desktop/bb513638\(v=vs.85\).aspx](https://msdn.microsoft.com/en-us/library/windows/desktop/bb513638(v=vs.85).aspx)
2. core - coredump file <http://linux.die.net/man/5/core>
3. limits.conf - configuration file for the pam_limits module <http://linux.die.net/man/5/limits.conf>
4. bash ulimit command in the bash man page <http://linux.die.net/man/1/bash>