GENESYS™

Genesys Pulse Deployment Guide

Aeron Media Driver

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Aeron Media Driver

Overview

The `Aeron Media Driver` is a separate process that provides buffers of data for Aeron to process from various transmission media. It decouples the means of data transmission from protocol processing.

Microservices require the driver to operate with Aeron. The `Aeron Media Driver` is not deployed as a separate package. It is included as a part of each microservice that has to work with the Aeron. The `Aeron Media Driver` executable is located inside the `StatServer Data Provider` directory (microservices/StatServerDataProvider/aeron-driver/bin/) or inside the `Formula Processor` directory (microservices/FormulaProcessor/aeron-driver/bin/). Despite the fact that the driver is a part of each service, only one driver instance is required for each host.

The `Aeron Media Driver` is implemented in Java and requires Java version 1.8.0 or newer.

How to Run Aeron Media Driver

To run the `Aeron Media Driver` as a foreground process, use the script provided with the driver. The script uses the default configuration for the driver.

[+] 9.0.001+ release

Stating with the `Aeron Media Driver`, included in Genesys Pulse Collector 9.0.001 release, you can provide your own configuration parameters via the AERON_DRIVER_OPTS environment variable in the -D*parameter*=*value* form.

Below is the list of parameters supported by the `Aeron Media Driver`:

- **aeron.dir**
     The path to the directory where the `Aeron Media Driver` needs to store its files. On Linux, the directory inside the /dev/shm/ is recommended. If you provide your own path, make it the same for the driver and any microservice that operates with this driver. If it is not specified, then the default value provided by the `Aeron Media Driver` is used.

- **aeron.socket.so_sndbuf**
     aeron.socket.so_rcvbuf

     The size, in bytes, of the send and receive socket buffers. The length of the buffer must be a power of two.

     On Linux, it must not exceed the kernel configuration parameters:

  - `net.core.wmem_max`

  - `net.core.rmem_max`

- **aeron.term.buffer.length**
  aeron.publication.term.window.length

  The size, in bytes, of the Term (a section of data within a stream) buffer. The length of the buffer must be a power of two and must be the same length on both ends.

- **aeron.mtu.length**
  The length of MTU, in bytes.

For example, to specify the directory to store Aeron Media Driver files, set the AERON_DRIVER_OPTS environment variable to -Daeron.dir=path/to/directory.

[+] 9.0.000 release

You can provide your own configuration via environment variables:

- **AERON_DIR**
  The path to the directory where the Aeron Media Driver needs to store its files. On Linux, the directory inside /dev/shm/ is recommended. If you provide your own path, make it the same for the driver and any microservice that operates with this driver.

  If it is not specified then the default value provided by the Aeron is used.

- **AERON_SO_BUFFER**
  The size in bytes of the send and receive socket buffers. The length of the buffer must be a power of two. On Linux, it must not exceed the kernel configuration parameters:

  - net.core.wmem_max

  - net.core.rmem_max

    The default value is 4194304.

- **AERON_TERM_BUFFER**
  The size in bytes of the Term (a section of data within a stream) buffer. The length of the buffer must be a power of two and must be the same length on both ends.

  The default value is 67108864.

- **AERON_MTU**
  The length of MTU in bytes.

  The default value is 65504.

Run as a Service on Windows

To create a Windows service, perform the following steps:

1. Navigate to the aeron-driver installation directory, which contains the aeron_driver_service.ini and aeron_driver_service.exe files.

2. Edit the aeron_driver_service.ini service configuration file:
   - Replace the JVMPath value with the absolute path to the jvm.dll file in your host environment.

   - Replace the -Daeron.dir value with the absolute path to the folder for Aeron Media Driver files. If it

is not specified, the System-specific directory is created. For example, `C:\Windows\Temp\aeron-hostname`.

3. To start the service, run the following command in the Windows command prompt:

```
sc.exe create aeron-driver start=auto binPath="\"<path_to_aeron_driver_service.exe>\"
 -service aeron-driver -immediate"
```

where *<path_to_aeron_driver_service.exe>* is the full path to the aeron_driver_service.exe file.

4. If needed, you can manage the service using the SC command in the Windows command prompt:

```
sc.exe start aeron-driver
sc.exe stop aeron-driver
```

Run as a Service on Linux

Create a separate `systemd` service configuration file for the `Aeron Media Driver` service.
For example, create `systemd` service configuration file `/etc/systemd/system/pulse-aeron-media-driver.service` with the following content:

9.0.001+ release:

```
[Unit]
Description=Pulse Aeron Media Driver
[Service]
ExecStart=/path/to/installation/aeron-driver/bin/aeron-driver
[Install]
WantedBy=multi-user.target
```

9.0.000 release:

```
[Unit]
Description=Pulse Aeron Media Driver
[Service]
ExecStart=/path/to/installation/run-aeron-driver
[Install]
WantedBy=multi-user.target
```

You can use `systemctl(1)` to manage these services. Type `man systemctl` for more information.