v|m|s Software

HAProxy for OpenVMS x86-64

March 2022

Note: This release of HAProxy for VSI OpenVMS 9.2 x86-64 is provided for field test and evaluation purposes only. Requirements specific to operation of the software (if any) in the VSI OpenVMS 9.2 x86-64 environment are identified and described in this document.

1.   Introduction

Thank your for your interest in this port of HAProxy to OpenVMS. The current release of HAProxy for OpenVMS is based on the HAProxy 1.7.9 distribution.

HAProxy (http://www.haproxy.org/) is a free (Open Source), fast and reliable solution offering high availability, load balancing, and proxying for TCP and HTTP-based applications. It is particularly suited for high traffic web sites and powers quite a number of the world's most popular sites. It is arguably the de-facto standard Open Source load balancer, shipping with most mainstream Linux distributions, and often deployed by default in cloud platforms. HAProxy's easy-to-use and highly flexible mode of operation makes its integration into existing environments straightforward and low-risk.

This OpenVMS port of the HAProxy includes all core functionality provided by the Open Source release, including SSL/TLS support. Additional information about HAProxy can be found at http://www.haproxy.org/.

2.   Acknowledgements

VMS Software Inc. would like to acknowledge the work of the HAProxy development team for their ongoing efforts in developing and supporting this software.

3.   What's new in this release

For a detailed description of the features and bug fixes included in this release, please read http://www.haproxy.org/download/1.7/src/CHANGELOG.

SSL/TLS support is statically linked into the HAProxy image and uses OpenSSL 1.0.2u.

4.   Requirements

The kit you are receiving has been compiled and built using the operating system and compiler versions listed below. While it is highly likely that you will have no problems installing and using the kit on systems running higher versions of the operating system or products listed, we cannot say for sure that you will be so lucky if your system is running older versions.

- VSI OpenVMS Version 9.2 x86-64 or higher

- VSI TCP/IP

In addition to the above requirements, it is recommended that the software is installed on an ODS-5-enabled file system.

5.   Recommended reading

Before using HAProxy, it is recommended that users review the documentation available at http://www.haproxy.org/#docs in order to better understand how to configure and manage the HAProxy software.

6.   Installing the kit

The kit is provided as an OpenVMS PCSI kit (`VSI-X86VMS-HAPROXY-V0107-9A-1.PCSI`) that can be installed by a suitably privileged user using the following command:

```
$ PRODUCT INSTALL HAPROXY
```

The installation will then proceed as follows (output may differ slightly from that shown):

```
Performing product kit validation of signed kits ...

The following product has been selected:
    VSI X86VMS HAPROXY V1.7-9A              Layered Product

Do you want to continue? [YES]

Configuration phase starting ...

You will be asked to choose options, if any, for each selected
product and for any products that may be installed to satisfy
software dependency requirements.

Configuring VSI X86VMS HAPROXY V1.7-9A: HAProxy for OpenVMS is based
on HAProxy Version 1.7.9

    © Copyright 2022 VMS Software Inc.

    VSI Software Inc.

* This product does not have any configuration options.

Execution phase starting ...

The following product will be installed to destination:
    VSI X86VMS HAPROXY V1.7-9A
DISK$SYS_HERMOD:[VMS$COMMON.]

Portion done: 0%...90%...100%

The following product has been installed:
    VSI X86VMS HAPROXY V1.7-9A              Layered Product

VSI X86VMS HAPROXY V1.7-9A: HAProxy for OpenVMS is based on HAProxy
Version 1.7.9

    Post-installation tasks are required.

    To start HAProxy at system boot time, modify the HAProxy
    configuration file as necessary and add the following lines
    to SYS$MANAGER:SYSTARTUP_VMS.COM:

        $ file := SYS$STARTUP:HAPROXY$STARTUP.COM
```

```
        $ if f$search("''file'") .nes. "" then @'file'

    To shutdown HAProxy at system shutdown, add the following lines
    to SYS$MANAGER:SYSHUTDWN.COM:

        $ file := SYS$STARTUP:HAPROXY$SHUTDOWN.COM
        $ if f$search("''file'") .nes. "" then @'file'

    To shutdown HAProxy at system shutdown, add the following lines
    to SYS$MANAGER:SYSHUTDWN.COM:

        $ file := SYS$STARTUP:HAPROXY$SHUTDOWN.COM
        $ if f$search("''file'") .nes. "" then @'file'
```

6.1.   Post-installation steps

After the installation has successfully completed, include the commands displayed at the end of the installation procedure into `SYSTARTUP_VMS.COM` and `SYSHUTDWN.COM` to ensure that the HAProxy process is started and stopped when OpenVMS is booted and shutdown.

Before attempting to start HAProxy, be sure to edit the supplied configuration file (or create a new one) as appropriate for your requirements. The basic configuration file supplied with the kit (`sys$startup:haproxy.cfg`) may be used as a starting point; however it should be kept in mind that this is a trivial example, and most configurations will be considerably more complicated. The documentation at http://www.haproxy.org/#docs includes detailed information of configuring HAProxy, and numerous sample configurations and tutorials can be found by searching the Internet. Be aware that the format of the configuration file has changed over time, and information in some tutorials may not pertain to current HAProxy versions.

6.2.   Privileges and quotas

The privileges `TMPMBX`, `NETMBX`, `BYPASS`, `SYSPRV`, and `DETACH` are required in order to run the HAProxy start-up and shutdown scripts, and the HAProxy process (run as a detached process) will inherit the default privileges for the username under which it is started.

The HAProxy process can require considerable resources in order to operate efficiently, depending on specific workload requirements. The following quotas should be adequate for most purposes; however resource usage should be carefully monitored, and quotas adjusted as necessary.

```
Maxjobs:         0  Fillm:      256  Bytlm:      128000
Maxacctjobs:     0  Shrfillm:     0  Pbytlm:          0
Maxdetach:       0  BIOlm:      150  JTquota:      4096
Prclm:          50  DIOlm:      150  WSdef:        4096
Prio:            4  ASTlm:      300  WSquo:        8192
Queprio:         4  TQElm:      100  WSextent:    16384
CPU:        (none)  Enqlm:     4000  Pgflquo:    256000
```

If HAProxy is expected to support large numbers of connections then it may also be necessary to increase the `CHANNELCNT` system parameter (this parameter can usually be safely set to its maximum value of 65535).

7. What's missing?

The supplied kit for OpenVMS includes all core functionality supported by version 1.7.9 of the Open Source HAProxy release.

The kit does not currently include support for the creation of custom modules or for Lua scripting (a higher version of Lua is required than that currently available for OpenVMS). It is hoped that these facilities will be supported in future releases.

8. Known problems

Using HAProxy with IPv6 on OpenVMS may not work correctly in some environments. It is hoped that such matters will be resolved in future releases.