**Flux Installation Steps for Sunfish Near-Node-Flash**

1. #> yum install git
2. #> cd /opt
3. #> git clone <https://github.com/flux-framework/flux-core.git>
4. #> cd /opt/flux-core
5. #> yum install python3.9 python3.9-devel
6. #> yum install libtool
7. #> yum install lua lua-devel lua-posix
8. #> yum install zeromq zeromq-devel
9. #> yum install lz4 lz4-devel
10. #> yum install sqlite sqlite-devel libuuid-devel libcurses-devel ncurses-devel libarchive-devel
11. #> yum install cmake systemd-devel
12. #> ./autogen.sh
13. #> ./configure PYTHON\_VERSION=3.9 --with-systemdsystemunitdir=/usr/lib/systemd/system
14. #> make && make install
15. #> echo ‘PATH=$PATH:$HOME/bin:/usr/local/libexec/flux/cmd; export PATH’ >> ~/.bash\_profile
16. #> mkdir -p /usr/local/etc/flux/imp/conf.d
17. #> cat /usr/local/etc/flux/imp/conf.d/imp.toml

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| [exec]allowed-users = [ "flux" ]allowed-shells = [ "/usr/libexec/flux/flux-shell" ]pam-support = true[run.prolog]allowed-users = [ "flux" ]allowed-environment = [ "FLUX\_\*" ].path = "/etc/flux/system/prolog"[run.epilog]allowed-users = [ "flux" ]allowed-environment = [ "FLUX\_\*" ].path = "/etc/flux/system/epilog"[run.housekeeping]allowed-users = [ "flux" ]allowed-environment = [ "FLUX\_\*" ].path = "/usr/libexec/flux/cmd/flux-run-housekeeping" |

1. #> mkdir -p /usr/local/etc/flux/system/conf.d
2. #> cat /usr/local/etc/flux/system/conf.d/bootstrap.toml

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| [bootstrap]curve\_cert = "/etc/flux/system/curve.cert"default\_port = 8050default\_bind = "tcp://etc:%p"default\_connect = "tcp://%h:%p"hosts = [{ host = "ofmfserv", bind = "tcp://199.19.74.175:%p", connect = "tcp://ofmfserv:%p" },{ host = "nvmeoftarget" },] |

1. #> cat /usr/local/etc/flux/system/conf.d/resource.toml

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| [resource]norestrict=true[[resources.config]]hosts = "ofmfserv"cores = 2[[resources.config]]hosts = "nvmeoftarget"cores = 2 |

1. #> cat /usr/local/etc/flux/system/conf.d/system.toml

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| # Enable the sdbus and sdexec broker modules[systemd]enable = true# Flux needs to know the path to the IMP executable[exec]imp = "/usr/libexec/flux/flux-imp"# Run jobs in a systemd user instanceservice = "sdexec"# Limit jobs to a percentage of physical memory[exec.sdexec-properties]MemoryMax = "95%"# Allow users other than the instance owner (guests) to connect to Flux# Optionally, root may be given "owner privileges" for convenience[access]allow-guest-user = trueallow-root-owner = true# Point to shared network certificate generated flux-keygen(1).# Define the network endpoints for Flux's tree based overlay network# and inform Flux of the hostnames that will start flux-broker(1).[bootstrap]curve\_cert = "/etc/flux/system/curve.cert"default\_port = 8050default\_bind = "tcp://eth0:%p"default\_connect = "tcp://%h:%p"# Rank 0 is the TBON parent of all brokers unless explicitly set with# parent directives.hosts = [{ host = "nvmeoftarget" },]# Speed up detection of crashed network peers (system default is around 20m)[tbon]tcp\_user\_timeout = "2m"# Uncomment 'norestrict' if flux broker is constrained to system cores by# systemd or other site policy. This allows jobs to run on assigned cores.# Uncomment 'exclude' to avoid scheduling jobs on certain nodes (e.g. login,# management, or service nodes).[resource]#norestrict = true#exclude = "test[1-2]"[[resource.config]]hosts = "nvmeoftarget"cores = "0-1"gpus = "0"[[resource.config]]hosts = "ofmfserv"cores = "0-1"gpus = "0"properties = ["fatnode"]# Store the kvs root hash in sqlite periodically in case of broker crash.# Recommend offline KVS garbage collection when commit threshold is reached.[kvs]checkpoint-period = "30m"gc-threshold = 100000# Immediately reject jobs with invalid jobspec or unsatisfiable resources[ingest.validator]plugins = [ "jobspec", "feasibility" ]# Remove inactive jobs from the KVS after one week.[job-manager]inactive-age-limit = "7d"# Jobs submitted without duration get a very short one[policy.jobspec.defaults.system]duration = "1m"# Jobs that explicitly request more than the following limits are rejected[policy.limits]duration = "2h"job-size.max.nnodes = 8job-size.max.ncores = 32# Configure the flux-sched (fluxion) scheduler policies# The 'lonodex' match policy selects node-exclusive scheduling, and can be# commented out if jobs may share nodes.[sched-fluxion-qmanager]queue-policy = "easy"[sched-fluxion-resource]match-policy = "lonodex"match-format = "rv1\_nosched" |

1. #> flux-keygen /etc/flux/system/curve.cert
2. #> systemctl enable flux
3. #> systemctl start flux