**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 = 8050  default\_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 instance  service = "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 = true  allow-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 = 8050  default\_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 = 8  job-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