

Linux on System z Documentation

The s390-tools package (1.33.0)

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The s390-tools package

The s390-tools package contains the source tree of a set of user space utilities that should to be used together with the z Systems (s390) Linux kernel and device drivers. Currently the source code is hosted on the IBM Developer Works web page ([IBM_DEVWORKS]): <http://www.ibm.com/developerworks/linux/linux390/s390-tools.html>

Overview

Standard install dependencies

In s390-tools bash and perl scripts the following “standard” tools are used and therefore the packages are install dependencies for the s390-tools package:

Package	Tools
coreutils	basename cat date df dirname echo expr mkdir rm sleep sort tail tr uniq wc
gawk	awk
grep	grep
procps_ng (RHEL7) / procps (SLES12)	ps sysctl
sed	sed
util-linux	getopt kill
systemd (RHEL7) / udev (SLES12)	udevadm udevsettle
perl (RHEL7) / perl-base (SLES12)	perl
bash	bash

Tools sorted by topics

CIO

Tool	Files	Build dependencies	Install dependencies
cio_ignore	/sbin/cio_ignore		bash
ls/chchp	/sbin/chchp /sbin/lshp		bash
lscss	/sbin/lscss		bash
chccwdev	/sbin/chccwdev		bash

DASD

Tool	Files	Build dependencies	Install dependencies
fdasd	/sbin/fdasd	glibc-devel	glibc
tunedasd	/sbin/tunedasd	glibc-devel	glibc
dasdfmt	/sbin/dasdfmt	glibc-devel	glibc
dasdinfo	/sbin/dasdinfo	glibc-devel	glibc
dasdstat	/sbin/dasdstat	glibc-devel	glibc

dasdview	/sbin/dasdview	glibc-devel	glibc
lsdasd	/sbin/lsdasd		bash
DASD udev	/etc/udev/rules.d/59-dasd.rules /etc/udev/rules.d/60-readahead.rules		

SCSI

Tool	Files	Build dependencies	Install dependencies
lszfc	/sbin/lszfc		bash
lsluns	/usr/sbin/lsluns		perl sg3_utils
zfcplib	/sbin/zfcplib		perl
scsi_logging_level	/sbin/scsi_logging_level		bash
ziomon	/usr/sbin/ziomon /usr/sbin/ziomon_fcpcnf /usr/sbin/ziomon_mgr /usr/sbin/ziomon_util /usr/sbin/ziomon_zfcpcdd /usr/sbin/ziorep_config /usr/sbin/ziorep_traffic /usr/sbin/ziorep_utilization	glibc-devel libstdc++-devel	glibc libstdc++ blktrace perl tar

Tape

Tool	Files	Build dependencies	Install dependencies
lstape	/sbin/lstape		bash
tape390_crypt	/sbin/tape390_crypt	glibc-devel	glibc
tape390_display	/sbin/tape390_display	glibc-devel	glibc

Network

Tool	Files	Build dependencies	Install dependencies
znetconf	/sbin/znetconf /lib/s390-tools/lsznet.raw /lib/s390-tools/znetcontrolunits		bash modprobe (kmod) vmcp (s390-tools)
qethconf	/sbin/qethconf		bash
lsqeth	/sbin/lsqeth		bash ethtool (ethtool) modprobe (kmod) vmcp (s390-tools)
qethqoat	/sbin/qethqoat	glibc-devel	glibc
qetharp	/sbin/qetharp	glibc-devel	glibc
ip_watcher	/usr/sbin/ip_watcher.pl /usr/sbin/xcec-bridge /usr/sbin/start_hsnr.sh	glibc-devel	glibc perl
osasnmpd	/usr/sbin/osasnmpd /etc/udev/rules.d/57-osasnmpd.rules	net-snmp-devel	net-snmp net-snmp-agent-libs net-snmp-libs

Crypto

Tool	Files	Build dependencies	Install dependencies
chzcrypt	/sbin/chzcrypt		bash
lszcrypt	/sbin/lszcrypt		bash
cpacfstats	/usr/bin/cpacfstats /usr/sbin/cpacfstatsd /usr/lib/systemd/system/cpacfstatsd.service	glibc-devel libpfm-devel > 4.4.0	glibc libpfm > 4.4.0

Cryptop udev	/etc/udev/rules.d/40-z90crypt.rules		
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CIO/DASD/SCSI/Network

Tool	Files	Build dependencies	Install dependencies
ls/chzdev	/sbin/liszdev /sbin/chzdev /lib/s390-tools/zdev-root-update	glibc-devel	glibc modprobe udevadm Optional: lsblk (util-linux) findmnt (util-linux) vmcp (s390-tools) ip (iproute2)

CPU/Memory

Tool	Files	Build dependencies	Install dependencies
cpuplugd	/etc/init.d/cpuplugd /etc/sysconfig/cpuplugd /usr/sbin/cpuplugd	glibc-devel	glibc redhat-lsb
ls/chmem	/usr/sbin/chmem /usr/sbin/lsmem		perl

IPL/shutdown/dump

Tool	Files	Build dependencies	Install dependencies
zipl	/sbin/zipl /lib/s390-tools/zipl_helper.device-mapper /lib/s390-tools/zfcpdump/zfcpdump_part.rd	glibc-devel glibc-devel-static	glibc bash
ls/chreipl	/usr/sbin/chreipl /usr/sbin/l sreipl /lib/s390-tools/chreipl_helper.device-mapper	glibc-devel	glibc bash
ls/chshut	/usr/sbin/chshut /usr/sbin/lsshut	glibc-devel	glibc
zgetdump	/sbin/zgetdump	glibc-devel fuse-devel	glibc fuse
dumpconf	/sbin/dumpconf /etc/init.d/dumpconf /etc/sysconfig/dumpconf /usr/lib/systemd/system/dumpconf.service		redhat-lsb bash

z/OS

Tool	Files	Build dependencies	Install dependencies
zdsfs	/usr/bin/zdsfs	glibc-devel fuse-devel	glibc fuse

z/VM

Tool	Files	Build dependencies	Install dependencies
vmur	/usr/sbin/vmur	glibc-devel libstdc++-devel	glibc libstdc++
vmconvert	/usr/bin/vmconvert	glibc-devel libstdc++-devel	glibc libstdc++
cmsfs-fuse	/usr/bin/cmsfs-fuse /etc/cmsfs-fuse/filetypes.conf	glibc-devel fuse-devel	glibc fuse
vmcp	/sbin/vmcp	glibc-devel	glibc
iucvterm	/usr/sbin/chuicvallow /usr/sbin/l siucvallow	glibc-devel	glibc sh

	/usr/bin/iucvconn /usr/bin/iucvtty /usr/bin/ts-shell /sbin/ttyrun /etc/iucvterm/ts-audit-systems.conf /etc/iucvterm/ts-authorization.conf /etc/iucvterm/ts-shell.conf /etc/iucvterm/unrestricted.conf /usr/lib/systemd/system/iucvtty-login@.service /usr/lib/systemd/system/ttyrun-getty@.service		perl
mon_statd	/etc/init.d/mon_statd /etc/sysconfig/mon_statd /usr/lib/systemd/system/mon_fsstatd.service /usr/lib/systemd/system/mon_procd.service /usr/sbin/mon_fsstatd /usr/sbin/mon_procd	glibc-devel	glibc redhat-lsb

LPAR

Tool	Files	Build dependencies	Install dependencies
lsscm	/sbin/lsscm		bash
ls/chcpumf	/usr/sbin/chcpumf /usr/bin/lscpumf /lib/s390-tools/cpumf_helper		perl

LPAR and z/VM

Tool	Files	Build dependencies	Install dependencies
hyptop	/usr/sbin/hyptop	glibc-devel ncurses-devel	glibc
hmcdrvfs	/usr/bin/hmcdrvfs /usr/sbin/lshmc	glibc-devel fuse-devel	glibc fuse

Service

Tool	Files	Build dependencies	Install dependencies
dbginfo.sh	/sbin/dbginfo.sh		bash tar

Daemons and services

Tool	Files
cpuplugd	/etc/init.d/cpuplugd /etc/sysconfig/cpuplugd /usr/sbin/cpuplugd
dumpconf	/sbin/dumpconf /etc/init.d/dumpconf /etc/sysconfig/dumpconf /usr/lib/systemd/system/dumpconf.service
mon_statd	/etc/init.d/mon_statd /etc/sysconfig/mon_statd /usr/lib/systemd/system/mon_fsstatd.service /usr/lib/systemd/system/mon_procd.service /usr/sbin/mon_fsstatd /usr/sbin/mon_procd
cpacfstatd	/usr/sbin/cpacfstatsd /usr/lib/systemd/system/cpacfstatsd.service
osasnmpd	/usr/sbin/osasnmpd

Udev rules

/etc/udev/rules.d/40-z90crypt.rules

/etc/udev/rules.d/57-osasmpd.rules

/etc/udev/rules.d/59-dasd.rules

/etc/udev/rules.d/60-readahead.rules

Library dependencies

The following libraries are required for building s390-tools:

- glibc
- glibc-static:
 - zfcpdump_part.rd
- libstdc++:
 - vmur
 - vmconvert
- fuse:
 - cmsfs-fuse
 - hmcdrvfs
 - zdsfs
 - zgetdump
- ncurses:
 - hyptop
- netsmp:
 - osasmpd

The following table shows all tools that have a build dependency:

Tool	glibc	glibc-static	stdc++	fuse	ncurses	netsmp	libpfm
/sbin/zgetdump	x			x			
/usr/bin/cmsfs-fuse	x			x			
/usr/bin/hmcdrvfs	x			x			
/usr/bin/zdsfs	x			x			
/usr/bin/vmconvert	x		x				
/usr/sbin/vmur	x		x				
/usr/sbin/osasmpd	x					x	
/usr/sbin/cpacfstatsd	x						x
/usr/sbin/hyptop	x				x		
/lib/s390-tools/zfcpdump/zfcpdump_part.rd		x					
/sbin/dasdfmt	x						
/sbin/dasdinfo	x						
/sbin/dasdstat	x						
/sbin/dasdview	x						
/sbin/fdasd	x						
/sbin/qetharp	x						
/sbin/qethqoat	x						
/sbin/tape390_crypt	x						

/sbin/tape390_display	x						
/sbin/tunedasd	x						
/sbin/vmcp	x						
/sbin/zipl	x						
/usr/bin/cpacfstats	x						
/usr/bin/iucvttty	x						
/usr/sbin/chreipl	x						
/usr/sbin/chshut	x						
/usr/sbin/cpuplugd	x						
/usr/sbin/lsreipl	x						
/usr/sbin/lsshut	x						
/usr/sbin/mon_fsstatd	x						
/usr/sbin/mon_procd	x						
/usr/sbin/xcec-bridge	x						
/usr/sbin/ziomon_mgr	x						
/usr/sbin/ziomon_util	x						
/usr/sbin/ziomon_zfcpdd	x						
/usr/sbin/ziorep_traffic	x						
/usr/sbin/ziorep_utilization	x						

Packaging

Distributors

SUSE

For SLES the s390-tools package is named “s390-tools”. SUSE has one big monolithic s390-tools package and two subpackages “osasnmpd” and “s390-tools-zdsfs” (since SLES12). Currently SLES12 contains the following s390-tools packages:

Default install:

- s390-tools-1.24.1-38.17.s390x

Optional install:

- s390-tools-zdsfs-1.24.1-38.17.s390x
- osasnmpd-1.24.1-38.17.s390x

Red Hat

For RHEL the s390-tools package is named “s390utils”. For RHEL5 one monolithic s390utils package has been used. With RHEL6.0 we introduced subpackages. For RHEL6 libzfcphbaapi was part of s390utils. This has been moved to a separate package for RHEL7.

Currently RHEL7.1 contains the following s390-tools packages:

Default install:

- s390utils-1.23.0-17.el7.s390x (meta package)
 - s390utils-base-1.23.0-17.el7.s390x
 - s390utils-cmsfs-1.23.0-17.el7.s390x (non IBM addon)
 - s390utils-cpuplugd-1.23.0-17.el7.s390x
 - s390utils-iucvterm-1.23.0-17.el7.s390x
 - s390utils-mon_statd-1.23.0-17.el7.s390x
 - s390utils-osasnmpd-1.23.0-17.el7.s390x
 - s390utils-ziomon-1.23.0-17.el7.s390x

Optional install:

- s390utils-cmsfs-fuse-1.23.0-17.el7.s390x
- s390utils-devel-1.23.0-17.el7.s390x
- s390utils-zdsfs-1.23.0-17.el7.s390x

Debian

Debian has one monolithic package called s390-tools: <https://packages.debian.org/sid/s390-tools>

Bibliography

[IBM_DEVWORKS] s390-tools web page, <http://www.ibm.com/developerworks/linux/linux390/s390-tools.html>

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