

Moxa Industrial Linux

Software Life Cycle Policy

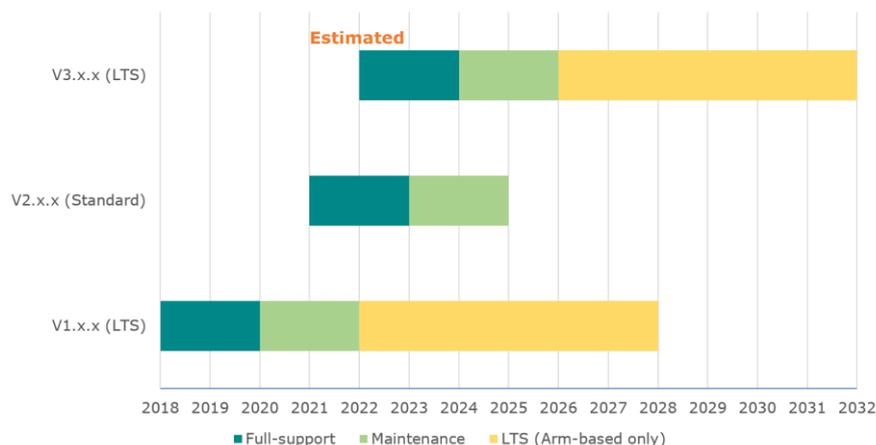
31 March 2021

Introduction

Moxa Industrial Linux (hereinafter referred to as MIL) is an industrial-grade Linux distribution developed by Moxa and released for Moxa computer platforms since 2018. The mission of MIL is to address the long-term system needs of industries, such as power, water, oil and gas, transportation, or factory automation, making industrial projects secure and sustainable. MIL is based on the Debian distribution and the standard Linux kernel and hence makes it easy to deploy applications on multiple systems. Moxa is working with industry leaders to create a reliable and secure Linux-based embedded software platform. Moxa is a member of The Linux Foundation® and is part of its Civil Infrastructure Platform (CIP) project that aims to create an open-source platform to make industrial projects secure, reliable, scalable, and sustainable.

MIL Releases

MIL is based on the Debian distribution and the standard Linux kernel. Debian announces its new stable release on a regular basis (see the [Debian Releases](#) and [Debian LTS](#) Wiki pages for details). The illustration and table below provide information on MIL standard and long-term support (LTS) releases. The support duration for a LTS release can be divided into three periods: full-support, maintenance, and LTS. Only MIL eligible products in the Arm-based computing platform family are covered in the LTS period. The support duration for a standard release can be divided into the full-support and maintenance periods.



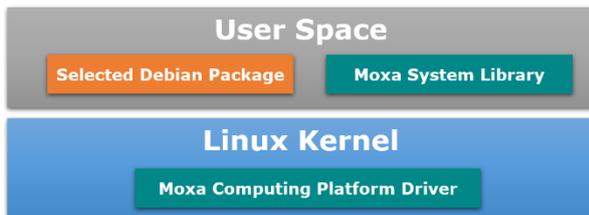
Version	Based on Debian	Release	Full Support	Maintenance	LTS*
V1.x.x (LTS)	9	2018	until 2019	2020 to 2021	2022 to 2027
V2.x.x (Standard)	10	2021	until 2022	2023 to 2024	-
V3.x.x (LTS)	11	2022	until 2023	2024 to 2025	2026 to 2031
		(estimated)	(estimated)	(estimated)	(estimated)

* Note: Only MIL eligible products in the Arm-based computing platform family are covered in the LTS period.

Revisions

MIL releases use versions in the X.Y.Z format where X represents the MIL generation release, Y represents the major release, and Z represents the minor release. Software changes can be released individually on an as-needed basis or aggregated into a minor release, which may contain security and bug fixes. Between major releases, all software changes (including new feature enhancements, updates/fixes released as part of a minor release, and any patch sets) will be cumulatively applied to the latest MIL release.

Security fixes and bug fixes* could be released for:



- The Linux Kernel
- Linux device driver (used in Moxa computing platforms)
- Selected Debian packages in the user space (refer to the supplement **Debian LTS Package List**)
- Moxa system library

**Note: Unless the bootloader has a critical bug or security vulnerability, no patch will include a bootloader upgrade.*

Release cadence of each MIL generation is once or twice per year. All released software changes will be available in the Moxa Debian repository throughout the MIL lifecycle.

Full Support Period

The full support period starts when a MIL generation version is released, and ends two years thereafter. Moxa provides the following services during the full support period.

- Qualified, critical, and important security fixes and selected high-priority bug fixes will be released as they become available.
- Moxa may provide new or improved hardware-enablement functionality and selected software functionality enhancements as major or minor releases at its sole discretion.
 - The releases are cumulative and include the contents of previously released updates. The focus for the releases during this phase will be on resolving defects that are of high and medium priority.
- Hardware-enablement functionalities that do not require substantial software changes may be provided independent of minor releases at Moxa's sole discretion.

Maintenance Period

The maintenance period starts when the full support period ends, and ends two years thereafter. Moxa provides the following services during the maintenance period.

- Additional software changes may be delivered as minor releases as needed.
 - The minor releases will also include available and qualified software changes for security vulnerabilities.
 - Minor releases are cumulative and include the contents of previously released updates. The focus of the minor releases during this phase will be on resolving defects that are of high or medium priority.
- New software functionalities will not be available during this phase.

LTS Period

The LTS period starts when the maintenance period ends, and ends six years thereafter. Moxa may at its sole discretion provide the following services only for MIL eligible products of the Arm-based computing platform family during the LTS period.

- The same services provided during the maintenance period.
- New software functionalities will not be available during this phase.

After the Support Period Ends

The support period ends when the maintenance period of Standard Releases ends or the LTS period of LTS Releases ends. No technical support will be provided. In no event will bug fixes, security fixes, hardware enablement, or root-cause analysis be available during this phase. Please contact your local sales representative if you would like to avail services beyond the support scope defined herein. A support fee may apply based on the support scope to be defined in a service contract with Moxa.

Support Policy

Standard Releases

Moxa provides 4-year support for MIL standard releases, including a 2-year full support period and a 2-year maintenance period.

LTS Releases

Moxa provides 10-year support for MIL LTS releases, including a 2-year full support period, a 2-year maintenance period, and a 6-year LTS period.

Fixes to Vulnerabilities

If the CVSS (Common Vulnerability Scoring System) score of a vulnerability is equal or higher than 9.0, or a vulnerability is reported by a customer, Moxa will respond to the vulnerability within 45 days. The response may be via one of the following methods but not limited to these.

- Information that describes the vulnerability, workaround, solutions, and/or installation instructions disclosed in [Security Advisories](#) available on the Moxa official website.
- Patches available in Moxa Debian repository for all affected products.
- In some exceptional and unexpected circumstances, Moxa may not be able to release patches for vulnerabilities within 45 days. Moxa reserves the right to extend the response time.

If the CVSS score of a vulnerability is equal or higher than 7.0, Moxa will provide patches in the next major or minor release. Moxa provides [RSS feed](#) of Security Advisories for all Moxa products. Please subscribe to these feeds and receive new patch notification via your RSS reader. Moxa also provides a process for customers to report security vulnerabilities. If you are concerned about a potential security vulnerability in a MIL release, please report it via this [website](#).

Reference

1. Debian website ([Link](#))
2. Debian Package Management ([Link](#))
3. Debian Security Bug Tracker ([Link](#))
4. The Linux Foundation ([Link](#))
5. Common Vulnerability Scoring System ([Link](#))

Supplement—Debian LTS Package List

MIL v1.0 Selected Debian Packages

Source Package	Binary Package		
acl	acl	libacl1-dev	libacl1
adduser	adduser		
apt	apt	libapt-pkg5.0	libapt-inst2.0
	apt-doc	libapt-pkg-dev	libapt-pkg-doc
	apt-utils	apt-transport-https	
audit	auditd	libauparse0	libauparse-dev
	libaudit1	libaudit-common	libaudit-dev
	python-audit	python3-audit	golang-redhat-audit-dev
	audispd-plugins		
avahi	avahi-daemon	avahi-dnssconfd	avahi-autoipd
	python-avahi	avahi-utils	avahi-discover
	libavahi-common3	libavahi-common-data	libavahi-common-dev
	libavahi-core7	libavahi-core-dev	libavahi-client3
	libavahi-client-dev	libavahi-glib1	libavahi-glib-dev
	libavahi-gobject0	libavahi-gobject-dev	libavahi-qt4-1
	libavahi-qt4-dev	libavahi-compatible-libdnssd1	libavahi-compatible-libdnssd-dev
	libavahi-ui0	libavahi-ui-dev	libavahi-ui-gtk3-0
	libavahi-ui-gtk3-dev	avahi-ui-utils	
base-files	base-files		
base-passwd	base-passwd		
bash	bash	bash-static	bash-builtins
	bash-doc		
bind9	bind9	bind9utils	bind9-doc
	host	bind9-host	libbind-dev
	libbind9-140	libdns162	libirs141
	libisc160	liblwres141	libisccc140
	libiscfg140	dnsutils	lwresd
	libbind-export-dev	libdns-export162	libisc-export160
	libiscfg-export140	libisccc-export140	libirs-export141
binutils	binutils	binutils-dev	binutils-multiarch

Source Package	Binary Package		
	binutils-multiarch-dev	binutils-doc	binutils-source
bsdmainutils	bsdmainutils		
busybox	busybox	busybox-static	busybox-syslogd
	udhcpd	udhcpd	
bzip2	libbz2-1.0	libbz2-dev	bzip2
	bzip2-doc		
ca-certificates	ca-certificates		
cgmanager	cgmanager	cgmanager-tests	libcgmanager0
	libcgmanager-dev	libpam-cgm	
coreutils	coreutils	mktemp	realpath
cpio	cpio	cpio-win32	
cron	cron		
cryptsetup	cryptsetup	cryptsetup-bin	libcryptsetup4
	libcryptsetup-dev		
curl	curl	libcurl3	libcurl3-gnutls
	libcurl3-nss	libcurl4-openssl-dev	libcurl4-gnutls-dev
	libcurl4-nss-dev	libcurl3-dbg	libcurl4-doc
cyrus-sasl2	sasl2-bin	cyrus-sasl2-doc	libsasl2-2
	libsasl2-modules	libsasl2-modules-db	libsasl2-modules-ldap
	libsasl2-modules-otp	libsasl2-modules-sql	libsasl2-modules-gssapi-mit
	libsasl2-dev	libsasl2-modules-gssapi-heimdal	
dash	dash	ash	
db5.3	db5.3-doc	libdb5.3-dev	libdb5.3
	db5.3-util	db5.3-sql-util	libdb5.3++
	libdb5.3++-dev	libdb5.3-tcl	libdb5.3-dbg
	libdb5.3-java-jni	libdb5.3-java	libdb5.3-java-gcj
	libdb5.3-java-dev	libdb5.3-sql-dev	libdb5.3-sql
	libdb5.3-stl-dev	libdb5.3-stl	
dbus	dbus	dbus-1-dbg	dbus-1-doc
	dbus-tests	dbus-user-session	dbus-x11
	libdbus-1-3	libdbus-1-dev	
dpkg	dpkg	libdpkg-dev	dpkg-dev
	libdpkg-perl	dselect	
dropbear	dropbear-bin	dropbear-run	dropbear-initramfs
	dropbear		
e2fsprogs	fuse2fs	e2fsck-static	libcomerr2
	comerr-dev	libss2	ss-dev
	e2fslibs	e2fslibs-dev	e2fsprogs
elfutils	elfutils	libelf1	libelf-dev
	libdw-dev	libdw1	libasm1
	libasm-dev		

Source Package	Binary Package		
expat	libexpat1-dev	libexpat1	expat
file	file	libmagic1	libmagic-mgc
	libmagic-dev	python-magic	python3-magic
filter	filter		
findutils	findutils	locate	
fuse	fuse	fuse-dbg	libfuse2
	libfuse-dev		
gcc-6	gcc-6-base	libgcc1	libgcc1-dbg
	libgcc-6-dev	gcc-6	gcc-6-test-results
	gcc-6-plugin-dev	cpp-6	gcc-6-locales
	g++-6	libgomp1	libgomp1-dbg
	libatomic1	libatomic1-dbg	libasan3
	libasan3-dbg		
geoip	libgeoip1	libgeoip-dev	geoip-bin
	geoip-dbg		
gettext	gettext-base	gettext	gettext-el
	gettext-doc	autopoint	libgettextpo0
	libasprintf0v5	libgettextpo-dev	libasprintf-dev
glib2.0	libglib2.0-0	libglib2.0-tests	libglib2.0-bin
	libglib2.0-dev	libglib2.0-0-dbg	libglib2.0-data
	libglib2.0-doc		
glibc	libc-bin	libc-dev-bin	libc-l10n
	glibc-doc	glibc-source	locales
	locales-all	nscd	multiarch-support
	libc6	libc6-dev	libc6-dbg
	libc6-pic	libc6.1	libc6.1-dev
	libc6.1-pic	libc0.3	libc0.3-dev
	libc0.3-pic	libc0.1	libc0.1-dev
	libc0.1-pic	libc6-i386	
gnupg2	gnupg-agent	scdaemon	gpgsm
	gnupg	gnupg2	gpgv
	gpgv2	dirmngr	gpgv-static
	gpgv-win32	gnupg-l10n	
gnutls28	libgnutls28-dev	libgnutls30	gnutls-bin
	gnutls-doc	libgnutlsxx28	libgnutls-openssl27
	libgnutls-dane0		
grep	grep		
groff	groff-base	groff	
gzip	gzip	gzip-win32	
htop	htop		
icu	libicu57	libicu57-dbg	libicu-dev

Source Package	Binary Package		
	icu-devtools	icu-devtools-dbg	icu-doc
init-system-helpers	init-system-helpers	init	
iperf3	iperf3	libiperf0	libiperf-dev
iptables	iptables	iptables-dev	libxtables12
	libxtables-dev	libiptc0	libiptc-dev
	libip4tc0	libip4tc-dev	libip6tc0
	libip6tc-dev	iptables-nftables-compat	
iputils	iputils-ping	iputils-tracepath	iputils-arping
	iputils-clockdiff		
isc-dhcp	isc-dhcp-server	isc-dhcp-server-ldap	isc-dhcp-common
	isc-dhcp-dev		
	isc-dhcp-client	isc-dhcp-client-ddns	isc-dhcp-relay
jq	jq	libjq1	libjq-dev
json-c	libjson-c3	libjson-c-dev	libjson-c-doc
kbd	kbd		
krb5	krb5-user	krb5-kdc	krb5-kdc-ldap
	krb5-admin-server	krb5-kpropd	krb5-multidev
	libkrb5-dev	libkrb5-dbg	krb5-pkinit
	krb5-otp	krb5-k5tls	krb5-doc
	libkrb5-3	libgssapi-krb5-2	libgssrpc4
	libkadm5srv-mit11	libkadm5clnt-mit11	libk5crypto3
	libkdb5-8	libkrb5support0	libkrad0
	krb5-gss-samples	krb5-locales	libkrad-dev
less	less		
libbsd	libbsd-dev	libbsd0	
libcap2	libcap2-bin	libcap2	libcap-dev
	libpam-cap		
libdbi-perl	libdbi-perl		
libev	libev-dev	libev-libevent-dev	libev4
libevent	libevent-dev	libevent-dbg	libevent-2.0-5
	libevent-core-2.0-5	libevent-extra-2.0-5	libevent-pthreads-2.0-5
	libevent-openssl-2.0-5		
libffi	libffi-dev	libffi6	libffi6-dbg
libgcrypt20	libgcrypt20-doc	libgcrypt20-dev	libgcrypt20
	libgcrypt11-dev	libgcrypt-mingw-w64-dev	
libidn	idn	libidn11-dev	libidn11
	libidn11-java		
libidn2-0	libidn2-0	libidn2-0-dev	libidn2-0-dbg
	idn2		
libnih	libnih1	libnih-dev	libnih-dbus1
	libnih-dbus-dev	nih-dbus-tool	

Source Package	Binary Package		
libpcap	libpcap-dev	libpcap0.8-dev	libpcap0.8
	libpcap0.8-dbg		
libssh2	libssh2-1	libssh2-1-dev	libssh2-1-dbg
libtasn1-6	libtasn1-6-dev	libtasn1-doc	libtasn1-6
	libtasn1-bin	libtasn1-3-bin	
libtool	libtool	libtool-bin	libtool-doc
	libltdl7	libltdl-dev	
libuv1	libuv1-dev	libuv1	libuv1-dbg
libwebsockets	libwebsockets8	libwebsockets-dev	libwebsockets-test-server
	libwebsockets-test-server-common		
libxml2	libxml2	libxml2-utils	libxml2-utils-dbg
	libxml2-dev	libxml2-dbg	libxml2-doc
	python-libxml2	python-libxml2-dbg	python3-libxml2
	python3-libxml2-dbg		
libxslt	libxslt1.1	libxslt1-dev	libxslt1-dbg
	xsltproc	python-libxslt1	python-libxslt1-dbg
lldpd	lldpd	liblldpctl-dev	
lm-sensors	lm-sensors	libsensors4	libsensors4-dev
	fancontrol		
logrotate	logrotate		
lvm2	lvm2	clvm	libdevmapper-dev
	libdevmapper1.02.1	dmsetup	libdevmapper-event1.02.1
	dmeventd	liblvm2app2.2	liblvm2cmd2.02
	liblvm2-dev	python-lvm2	python3-lvm2
mime-support	mime-support		
mosquitto	mosquitto	mosquitto-dev	libmosquitto1
	libmosquitto-dev		
	libmosquittopp1	libmosquittopp-dev	mosquitto-clients
	mosquitto-dbg	libmosquitto1-dbg	libmosquittopp1-dbg
nano	nano	nano-tiny	
ncurses	libtinfo5	libncurses5	libtinfo-dev
	libtinfo5-dbg	libncurses5-dev	libncurses5-dbg
	libncursesw5	libncursesw5-dev	libncursesw5-dbg
	ncurses-bin	ncurses-base	ncurses-term
	ncurses-examples	ncurses-doc	
net-snmp	snmpd	snmptrapd	snmp
	libsnmp-base	libsnmp30	libsnmp30-dbg
	libsnmp-dev	libsnmp-perl	python-netsnmp
	tkmib		
nettle	libnettle6	libhogweed4	nettle-dev
	nettle-bin	nettle-dbg	

Source Package	Binary Package		
net-tools	net-tools		
newt	libnewt-dev	libnewt-pic	newt-tcl
	python-newt	python3-newt	libnewt0.52
	whiptail		
nginx	nginx	nginx-doc	nginx-common
	nginx-full	nginx-light	nginx-extras
	libnginx-mod-http-geoip	libnginx-mod-http-image-filter	libnginx-mod-http-xslt-filter
	libnginx-mod-mail	libnginx-mod-stream	libnginx-mod-http-perl
	libnginx-mod-http-auth-pam	libnginx-mod-http-lua	libnginx-mod-http-ndk
	libnginx-mod-nchan	libnginx-mod-http-echo	libnginx-mod-http-upstream-fair
	libnginx-mod-http-headers-more-filter	libnginx-mod-http-cache-purge	libnginx-mod-http-fancyindex
	libnginx-mod-http-uploadprogress	libnginx-mod-http-subst-filter	libnginx-mod-http-dav-ext
nspr	libnspr4	libnspr4-dev	libnspr4-dbg
nss	libnss3	libnss3-tools	libnss3-dev
	libnss3-dbg		
ntp	ntp	ntpdate	ntp-doc
openldap	slapd	slapd-smbk5pwd	ldap-utils
	libldap-2.4-2	libldap-common	libldap-2.4-2-dbg
	libldap2-dev	slapd-dbg	
openssh	openssh-client	openssh-client-ssh1	openssh-server
	openssh-sftp-server	ssh	ssh-krb5
	ssh-askpass-gnome		
openssl	openssl	libssl1.1	libssl-dev
	libssl-doc		
pam	libpam0g	libpam-modules	libpam-modules-bin
	libpam-runtime	libpam0g-dev	libpam-cracklib
	libpam-doc		
patch	patch		
pcre3	libpcre3	libpcrecpp0v5	libpcre3-dev
	libpcre3-dbg	pcregrep	libpcre16-3
	libpcre32-3		
perl	perl-base	perl-doc	perl-debug
	libperl5.24	libperl-dev	perl-modules-5.24
	perl		
pinentry	pinentry-curses	pinentry-tty	pinentry-qt
	pinentry-qt4	pinentry-gtk2	pinentry-gnome3
	pinentry-doc		
ppp	ppp	ppp-dev	
procps	procps	libprocps6	libprocps-dev
pwgen	pwgen		
python2.7	python2.7	libpython2.7-stdlib	python2.7-minimal

Source Package	Binary Package		
	libpython2.7-minimal	libpython2.7	python2.7-examples
	python2.7-dev	libpython2.7-dev	libpython2.7-testsuite
	idle-python2.7	python2.7-doc	python2.7-dbg
	libpython2.7-dbg		
python-defaults	python	python-minimal	python-examples
	python-dev	libpython-dev	libpython-stdlib
	idle	python-doc	python-dbg
	libpython-dbg	python-all	python-all-dev
	python-all-dbg	libpython-all-dev	libpython-all-dbg
rc	rc		
redis	redis-server	redis-tools	redis-sentinel
rsync	rsync		
rsyslog	rsyslog	rsyslog-mysql	rsyslog-pgsql
	rsyslog-mongodb	rsyslog-elasticsearch	rsyslog-kafka
	rsyslog-gssapi	rsyslog-gnutls	rsyslog-relp
	rsyslog-czmq	rsyslog-hiredis	
rtmpdump	rtmpdump	librtmp1	librtmp-dev
runit	runit	runit-systemd	runit-sysv
	getty-run		
sensible-utils	sensible-utils		
shadow	passwd	login	uidmap
sqlite3	lemon	sqlite3	sqlite3-doc
	libsqlite3-0-dbg	libsqlite3-0	libsqlite3-dev
	libsqlite3-tcl		
sudo	sudo	sudo-ldap	
systemd	systemd	systemd-sysv	systemd-container
	systemd-journal-remote	systemd-coredump	libpam-systemd
	libnss-myhostname	libnss-mymachines	libnss-resolve
	libnss-systemd	libsystemd0	libsystemd-dev
	udev	libudev1	libudev-dev
systemd-shim	systemd-shim		
sysvinit	sysvinit-core	sysvinit-utils	sysv-rc
	initscripts		
tar	bootlogd	tar	tar-scripts
tcpdump	tcpdump		
tcp-wrappers	tcpd	libwrap0	libwrap0-dev
tiff	libtiff5	libtiffxx5	libtiff5-dev
	libtiff-tools	libtiff-opengl	libtiff-doc
udisks2	udisks2	udisks2-doc	libudisks2-0
	libudisks2-dev	gir1.2-udisks-2.0	
util-linux	util-linux	util-linux-locales	mount

Source Package	Binary Package		
	bsdutils	libblkid1	libblkid-dev
	libfdisk1	libfdisk-dev	libmount1
	libmount-dev	libsmartcols1	libsmartcols-dev
	libuuid1	uuid-runtime	uuid-dev
	setpriv		
vim	vim-common	vim-gui-common	vim-runtime
	vim-doc	vim-tiny	vim
	vim-gtk	vim-gtk3	vim-nox
	vim-athena	vim-gnome	xxd
wget	wget		
xz-utils	liblzma5	xz-utils	xzdec
	liblzma-dev	liblzma-doc	
zlib	zlib1g	zlib1g-dev	zlib1g-dbg