

MOSEK Release notes
Release 11.0.26

MOSEK ApS

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Supported platforms

Below are the $minimal\ requirements$ for various MOSEK interfaces and operating systems. In some cases using MOSEK with older versions of the software will be possible, but is neither actively supported nor tested.

Operating systems

Table 1.1: Operating systems

Platform	Minimal OS version	Specific library dependencies			
linux64x86	RHEL 8, Ubuntu 20.04 or compatible	GLIBC 2.17, GLIBCXX 3.4.21			
win64x86	Windows 10, Server 2016				
linuxaarch64	Ubuntu 20.04 or compatible	GLIBC 2.29, GLIBCXX 3.4.26			
osxaarch64	macOS 11				

Optimizer API and Fusion API

Table 1.2: Optimizer API and Fusion API (where available).

Platform	С	C++(Fusion)	Java	.NET	.NET Core	Python	Julia	Rust
linux64x86	Yes	C++11	1.8	_	${\it netstandard 2.0}$	3.9-3.13	1.6	1.59
win64x86	Yes	C++11	1.8	4.5	netstandard 2.0	3.9 - 3.13	1.6	1.59
linuxaarch64	Yes	C++11	1.8	_	netstandard 2.0	3.9 - 3.13	1.6	1.59
osxaarch64	Yes	C++11	17	_	${\it netstandard } 2.0$	3.9 - 3.13	1.6	1.59

API for MATLAB, Rmosek and other MOSEK tools

Table 1.3: Other APIs and tools.

Platform	API for MATLAB	Rmosek	OptServer	OptServerLight	Imgrd	Toolbox (old)
linux64x86	R2021a	3.6	Yes	Yes	Yes	R2019b
win64x86	R2021a	3.6	Yes	Yes	Yes	R2019b
linuxaarch64	_	_	_	Yes	Yes	_
osxaarch64	R2023b	4.1	-	Yes	Yes	R2022b

Other distribution channels

- pip package. https://pypi.org/project/Mosek/
- $\bullet \ \ NuGet \ package. \ https://www.nuget.org/packages/Mosek/$
- Julia package. https://github.com/MOSEK/Mosek.jl
- \bullet Rust package. https://lib.rs/crates/mosek

Other remarks

 $\bullet\,$ Numpy is required in Python Fusion.

Major changes

Specific information regarding particular APIs, parameters and portability of code from version 10 can be found in the section *Interface changes* towards the end of the respective manual. This section lists general changes throughout **MOSEK**.

2.1 Release notes for 11.0

2.1.1 New features

Mixed-integer optimizer

- Major performance improvement of the mixed-integer optimizer.
- Restarts can now be initiated at any point during the solution process if the solver estimates the remaining search space to be large (MSK_IPAR_MIO_MAX_NUM_RESTARTS).
- If a problem can be split into independent components the solver can exploit this structure by solving them in parallel (MSK_IPAR_MIO_INDEPENDENT_BLOCK_LEVEL).
- Improved separator for clique cuts
- Enhanced large neighborhood search heuristics and new rounding heuristics
- Increased presolve speed, particularly for large problems

New API for MATLAB

- A new MOSEK API for MATLAB, which supports linear and conic problems and their mixed-integer versions.
- The new API has a convenient syntax and allows for building the optimization problem in chunks in an intuitive way.
- See https://docs.mosek.com/11.0/matlabapi/index.html

Optimizers

• The interior-point optimizer can exploit folding for linear problems to reduce problem size.

Interface

• Introduced an option to write the dual of the current problem to a file (command-line tool, Optimizer API).

Platform support

• Python support is now 3.9-3.13.

Licensing

• FLEXIm is at version 11.19.6. Upgrade of floating license servers is required to use clients from MOSEK 10.1 or older.

2.1.2 Deprecations

- Conic constraints restricted to $x \in \mathcal{K}$ for a variable x are deprecated and will be removed in a future major version. Use affine conic constraints instead. This affects mainly the Optimizer API.
- The OPF file format for conic problems is deprecated in favor of PTF.
- The old **MOSEK** Optimization Toolbox for MATLAB remains supported, but will eventually be phased out and replaced by the new API.
- The conda package is deprecated and may be dropped in a future release. Consider pip instead.

2.1.3 Removed features

Platform support

- Dropped support for osx64x86 (Apple Intel).
- Dropped support for win32x86 (Windows 32bit).

Known issues

Bug fixes

11.0.26

- Fixed a bug that could trigger an assert on some power cone problems.
- Some improvements in documentation.

11.0.25

• Further efficiency improvements of the new MATLAB API, especially for models including many domain objects.

11.0.24

• Fixed a bug that could trigger an assert on some exponential cone problems.

11.0.23

- Bug fixing upgrade of mimalloc potentially improving memory release management.
- Fixed a bug that in rare cases can cause the install.py script on osxaarch64 to fail on *. mexmaca64 files.
- Improved efficiency of the new MATLAB API, especially for models including many domain objects.

11.0.22

• Fixed a bug that could trigger a memory overwrite when solving an semi-definite optimization problem.

11.0.21

- Improved peak memory usage for problems with symmetry and block-decomposable in the MIP solver.
- Fixed possible leaks in the MIP solver.
- Fixed a bug in presolve on conic MIP problems.
- Fixed an issue where incorrect solution could be returned if problem was detected infeasible in the root cut loop.

11.0.20

- Internal license related updates.
- Fixed an issue leading to excessive memory consumption in the mixed-integer symmetry detection.
- Fixed a minor issue in a get function.

11.0.19

• Internal license related updates.

11.0.18

- Fixed an ignored parameter when writing LP files.
- Fixes related to numerical stability in the mixed-integer optimizer.

11.0.17

- Fixed a bug in the post solve that could cause an invalid dual solution to be reported.
- Fixed a bug causing an issue for some problems containing exponential cone constraints.
- Fixed some issues related to block decomposition in the mixed-integer optimizer.
- Fixed an issue related to perspective reformulation in the mixed-integer optimizer.

11.0.16

- Fixed a block decomposition bug in the mixed-integer optimizer.
- Fixed incorrect behavior when filenames are passed as string parameters.

11.0.14

- Fixed a bug in the MPS reader handling *INTORG* sections incorrectly (the manual recommends not to use this feature).
- Fixed a block decomposition bug in the mixed-integer optimizer.

11.0.13

• Fixed a bug causing a crash in the mixed-integer optimizer.

11.0.12

• Fixed a rare bug in the infeasibility report printer.

11.0.11

- Improved efficiency of updating parameterized problems in Python Fusion.
- Added a missing error for unsupported problem type combinations.

11.0.10

- Dropped redundant execstack flag.
- Fixed a log leak in the mixed-integer optimizer.

11.0.9

• Fixed an issue leading to an internal error in the mixed-integer optimizer.

11.0.8

• Fixed an issue with converting solution formats by OptServer and OptServerLight.

11.0.7

• Fixed a bug causing a crash in the mixed-integer optimizer.

11.0.6

- Fixed an issue causing crashes in the post solve in rare cases.
- Fixed a log issue.

11.0.5

- Internal updates.
- Fixed an issue causing crashes in the latest MATLAB R2024b.

11.0.4

- First stable release.
- Fixed a memory leak in Python writedatastream.

11.0.3(BETA)

- Fixed a rare bug caused by constraint removals in Fusion.
- Fixed a bug in the retrieving the infeasible subproblem.
- Fixed minor bugs in the conic optimizer.
- Fixes and improvements in the new API for MATLAB.
- Fixed an issue with comments in parameter files.

11.0.2(BETA)

- Fixes in remote optimization, simplified client protocol, fixes in OptServerLight.
- Removed unneeded library dependencies on Windows.
- Fixed bug that incorrectly triggered an assert on some ill-posed conic problems.
- Fixes in the Optimzier API for Rust.
- Syntax change in Var.repeat in Fusion.
- Fixed a bug in task file reader.

11.0.1(BETA)

- Fixed an issue with an assert.
- OptServer upgrade, reorganization and documentation.
- $\bullet\,$ Various small updates.
- \bullet Fixed an error allowing incorrect names in LP files.

11.0.0(BETA)

• First beta release.