

## FAQ - System Requirements

The information on this page refers to CineSat release 4.16.

### Hardware

Which server hardware is recommended?

See [CineSat Server Specification V4.82](#) for details.

Can I use a non-DELL system?

Of course. You can use any high-performance physical or virtual Linux server to run CineSat.

**Some reasons to consider Dell hardware:**

The CineSat Team recommends validated Dell systems in order to provide a full care package - including exceptional support for hardware, operating system, and the application.

Dell delivers their servers pre-configured and validated with current RedHat operating systems. In case of incompatibilities to be solved, it has helped tremendously to have a good relationship to a long-term supplier, and to benefit from the strategic partnership between RedHat and Dell.

We have best experiences with Dell servers and workstations at meteorological centers over the past 15 years. In addition, we use Dell servers inhouse for development, virtualization, and as office backbone, and therefore, can provide you with favourable retail conditions and consultant support.

Using the same hardware as the developers and major meteorological centers makes it far more easier and faster to track down problems.

**A note on hardware quality:** We and several customers have operated Dell servers 24/7 for more than 10 years (using up spares for disks and power supply), although the official support time is 5 years.

What about IBM hardware ?

Great systems.

**And more important:** RedHat had been acquired by IBM in October, 2018.

You can hope for seamless operation and great support of RedHat operating systems on IBM servers in the future.

We do not have practical experience with IBM hardware.

Which client/workstation hardware is recommended?

CineSat customers successfully use a broad range of CineSat client platforms from high-performance Dell Precision Workstations (with RedHat Enterprise Linux OS) to Virtual RedHat machines under Windows 7.

Please contact us to find the appropriate solution for your needs.

#### Is virtualization supported?

Yes. CineSat has been especially optimized for high-performance in virtualized environments. Current applications include **Xen** and **KVM** virtual servers on RedHat Enterprise Linux hosts, and **VMware** workstations on Windows desktops. The CineSat Team has very good experience with these platforms for over 10 years and has even moved all CineSat development to virtualized platforms.

To our knowledge, CineSat performs exceptionally well as long as you provide a fast and stable virtual environment with the specified operating system and the specified computer resources (processor and memory assignment, ...).

Of course, bare metal installations will always out-perform any virtualized system. Typical CineSat setups for real-time processing, analysing, and nowcasting of huge and frequent satellite data require a fast performing platform to run on.

On the other hand, do virtual servers offer a great deal of flexibility. And with some extra spending in CPU frequency, number of CPU cores, memory, and SSD disks, you can easily compete with physical server installations.

For operational weather services we recommend bare-metal servers for real-time processing and production of customer data, and virtualized installations for product development and research.

## Software

### Operating System:

Can I use older RedHat/CentOS releases prior to release 8.x ?

As of 2021, CineSat still runs

- as 32-bit application on RHEL 3, 4, 5, and
- in 64-bit on RHEL 5, 6, 7 and 8.

Support for old platforms will be dropped by end of 2020, since RedHat has dropped support already years ago (⇒ [RedHat Lifecycle](#)), and some required new technical features and interfaces now require libraries and tools that are not available on older platforms.

If you should need extended support of outdated operating systems for a limited migration period, please contact the CineSat Support for [Extended Lifecycle Support](#) options.

CineSat supports new major OS releases, like RHEL 8, as soon as and as long as all necessary software libraries and tools are consistent and up-to-date.

Typical support times for RedHat versions are 3-5 years, in case of RedHat 3, [CineSat supported the platform for 17 years\(!\)](#).

Support cycles are driven by external data interface requirements.

64- or 32-bit Systems?

Current baseline is 64-bit hardware and 64-bit software.

32-bit installations are deprecated and will no longer be supported in 2021.

As of 2021, CineSat still runs on

- RHEL 3 32-bit architecture, and on the
- RHEL 4 and 5 32-/64-bit bi-architectures
- RHEL 5, 6 and 7 64-bit architectures
- RHEL 8 64-bit architectures.
- If using a 32-bit CineSat, Java must be 32-bit, too.

There is an [easy migration path](#) from 32 to 64 bit on RHEL 5:

Just update to the special 64-bit compilation of CineSat for RHEL 5.

No changes in hardware, operating system, or configurations are required.

You will happily recognize that your new 64-bit CineSat is 20-30% faster than your previous 32-bit version.

For RHEL 7 and later, only the 64-bit CineSat versions will be offered and supported.

Can I use Rocky Linux?

Yes - Rocky Linux 8 - release 8.5 or higher.

Rocky Linux is a 100% compatible compilation of the RedHat sources. Therefore, technically it will work, but please consider, there is no Rocky Linux business support for enterprises.

For [operational applications](#) we recommend to use the RedHat distribution and the related

update subscription options for the duration of your hardware's life-time, to be on the safe side.

#### Can I use CentOS?

No, since December 2021 CentOS 8 is no longer an operational platform. Please switch to Rocky Linux 8, which is 100% compatible to RedHat Enterprise Linux.

#### What about other Linux distributions?

CineSat is also successfully operated under Debian, Ubuntu, and SuSE Enterprise Linux at some sites. But there is neither a supplier support nor a guarantee that CineSat or its future updates will be fully compatible to run on other platforms.

The reason is that CineSat has to integrate matching versions of dozens of 3rd party libraries and tools to satisfy continuously expanding and rapidly changing data interface requirements. Even within one distribution (like RedHat), the internal management of new hardware architectures, of highly concurrent processes, of new networking options, and - most striking - even the changes in standard Linux libraries may introduce issues from release to release of the OS. Some of the major issues encountered in the past 3 years:

- changed stack/heap memory assignment
- changed process management (of highly concurrent applications)
- different library versions are necessary for different file format interfaces; this sometimes interferes with libraries and updates of the OS

These issues required a series of system re-designs, major implementation works, and exhaustive tests on too many different hard- and software platforms, to be compatible with your existing CineSat installations; in order to fight back compatibility for the functionality we already had. These works lead to significant delays and changes in the CineSat release roadmap.

Nevertheless, we are prepared to provide customers with the need for another Linux distribution with the necessary support. Please contact the CineSat Support for pricing and details.

### Java:

#### Which Java release should I use?

- We recommend the default [Java 8](#) (OpenJDK) installation on RHEL-8/CentOS-8 systems.
- Java 4, 5, and 6 are still working but no longer supported.
- Java 7 has some security issues (in particular Java 7u10) and does not yet work with CineSat native libraries
- Use 64-bit Java machines for a 64-bit CineSat installation, and
- Use 32-bit Java for a 32-bit CineSat installation

You can download a tested Java release from the links provided on our [Download page](#).

#### What if another Java version is installed with the Operating System?

Java for CineSat is local to the CineSat software and is therefore independent from the Java

machine that comes bundled with the operating system, i.e. CineSat can safely run with a local Java 8 directory even if the operating system comes with e.g. Java 11.

### MPlayer / Mencoder for Movie Production:

Are certain versions of MPlayer recommended?

Use MPlayer 1.1 or higher.

MPlayer is not only a video player. It includes the mencoder tool used by CineSat to convert still images to a movie sequence.

MPlayer versions lower than V1.1 do not run stable, or maybe not at all, on various RedHat 5.x releases. Therefore, only MPlayer 1.1 or higher is being supported.

Can I use other movie software?

Yes. CineSat is not bundled with MPlayer, it's just a recommendation.

The used video software must be able to:

- run in batch mode (from shell scripts)
- allow to convert a directory full of JPEGs and GIFs
  - to AVI and MPEG movies and animated GIFs
  - with pre-defined movie speed (frames per second), and
  - be compatible to Linux and Windows media players
- display movies under Linux

CineSat comes pre-configured with a tested MPlayer interface and can be customized for other video production software.

### Other Software:

Do I need to install Adobe Acrobat Reader?

No. Its just a recommendation.

We found that PDFs look better under Linux if rendered by Adobe Reader (compared to pre-installed Linux PDF readers).

You can download a tested Adobe Acrobat Reader version from the links on our [Download Page](#).

Any other software required?

You may need format converters for special data sources and formats, and various standard Unix applications and libraries.

See the [Server Software Specification](#) for more details.

## Satellite Receiver

### Does CineSat include a satellite receiver?

No. CineSat is a highly configurable data processor that can be connected to different data sources independent from suppliers and technologies.

CineSat basically and simply requires that there are somewhere in your network pools of data files (images, raw EUMETCast data, ...) that can be retrieved by CineSat using standard or user-supplied network tools (NFS mounts, Windows shares, scp, ftp, ...)

In case of fast network links, you can even use the data provisioning directory of a remote satellite receiver (e.g. EUMETCast) as primary or backup input to CineSat.

### Which satellite receivers are supported?

CineSat is available in different editions that include a default set of pre-configured interfaces. Some of the realized interfaces to satellite receivers are:

- EUMETCast receivers
- GOES receivers
- HRPT receivers

### What do I need to process EUMETCast data?

- a local EUMETCast receiver or
- at least a fast transmission to a remote EUMETCast data pool, e.g. at your National Weather Service (only recommended for subsidiaries, small airports, or as backup option, ...)
- optional: one or more backup receivers
- Fast GBit network
- high-performance servers; see [CineSat Server Specification V4.82](#)
- optional: backup servers
- CineSat client workstations for visualization, forecasting, research
- CineSat MSG Edition Site License or Corporate License
- optional: CineSat POLAR module
- EUMETSAT license and software for Wavelet Decompression