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Actran Productline Installation

Preliminary Note

This document contains all relevant instructions regarding the Actran software installation. Following this procedure ensures that you will easily have a working installation. Furthermore, this is the most efficient way for the FFT Support Team to help you solving any issue. It is thus strongly advised to strictly follow the guidelines below step by step. However, in some special occasions, the guidelines cannot be followed (specific parallel installation, etc). In these situations, you can contact the FFT Support (<http://www.fft.be/page/technical-support-related-enquiries>) that will help you to choose the best option.

Supported Platforms

Actran has been compiled and tested for several platforms. Platforms are defined by the processor, the operating system, the runtime environment, etc. A Productline is a set of executables and libraries that correspond to a specific version of Actran for a specific platform.

Refer to the platform definitions document available here (<https://www.fft.be/Actran-platform-definitions>) to know which platforms are supported. Please contact FFT Support (<http://www.fft.be/page/technical-support-related-enquiries>) if your environment is not in this list.

Download Actran

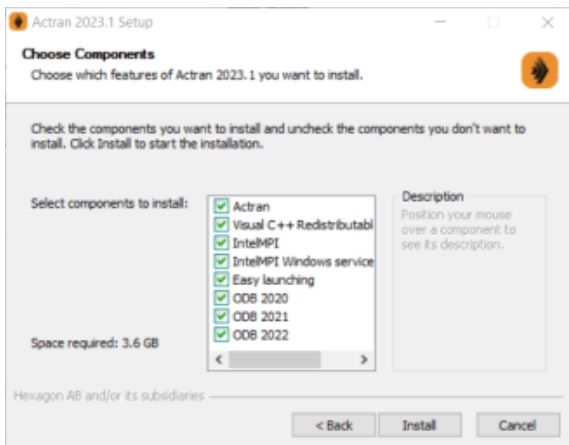
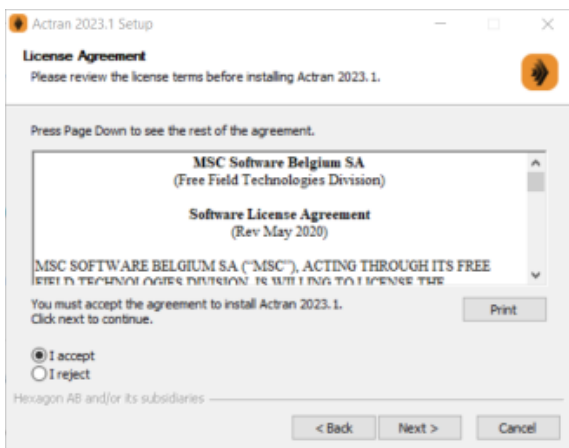
The installers related to the different platforms can be downloaded from the MSC Download center (<https://mscsoftware.flexnetoperations.com/> (<https://mscsoftware.flexnetoperations.com/>))

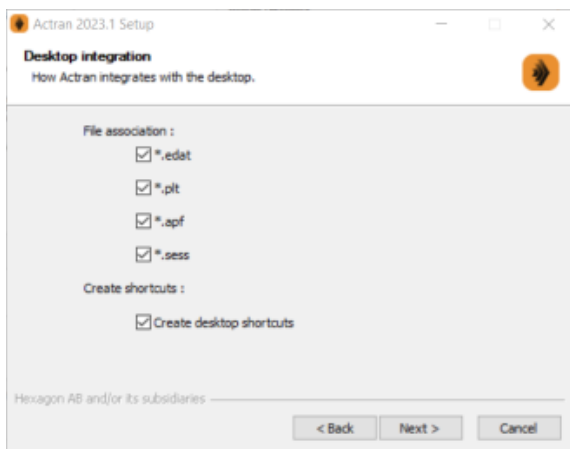
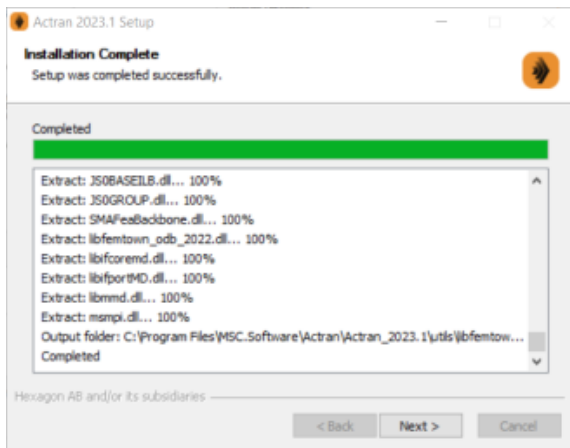
After downloading the Actran installer, please access to the Installation Section related to your platform by clicking:

- [here for Windows Users](#)
- [here for Linux/Unix Users](#)

Installation on Windows Platforms

To set up Actran, please launch the .exe installer and follow the instructions.

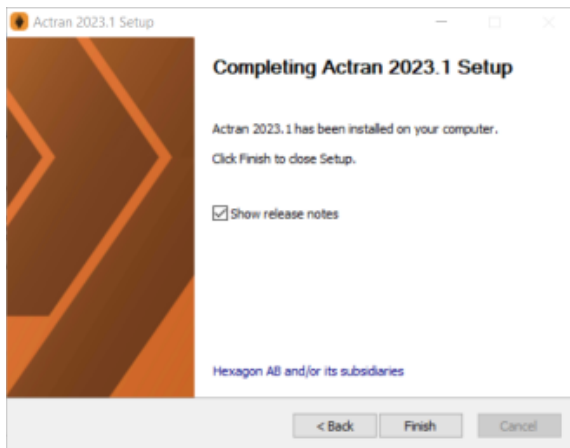




During the first installation of any Actran product, the installer defines the environment variable `%ACTRAN_PATH%` based on the installation directory. For next installations, the installer will automatically install the productline into the existing `ACTRAN_PATH` directory. The `%ACTRAN_PATH%` will be automatically added to the environment variable `%PATH%`.

WARNING

Windows Firewall may block some features of `intelmpi pmi_proxy.exe` on all public and private networks. If a *Windows Security Alert* pop-up appears, please press the button *Allow* access to allow `pmi_proxy.exe` to communicate on these networks.



Installation on Linux Platforms

To set up Actran, please launch the `.run` installer and follow the instructions. As an example, the installer related to the platform `linux-libc212-x86-64` can be launched in a terminal using the following command:

```
sh linux-libc212-x86-64_Actran_2023.1.run
```

PREREQUISITES DETECTION

Before launching the installation process, the installer automatically detects prerequisites.

```
Verifying archive integrity... 100% Done.
Uncompressing Actran_2023 100%

Warning: This computer program is protected by copyright law and international treaties. Unauthorized
reproduction or distribution in any form or by any means, in severe civil and criminal penalties.
Copyright © 2023 Hexagon AB and/or its subsidiaries. All rights reserved.

Press 'Return' to continue...

Detecting prerequisites
linux           [ yes ]
x86_64         [ yes ]
libc-2.17      [ yes ] (2.17)

Detecting architecture on host begui-hpc-main.eu.hexagonmetrology.com
Intel Scalable (2nd Gen) Bronze/Silver/Gold/Platinum (Cascade Lake B1/L1/R1) (Skylake), 14nm (GenuineIn
tel)
mmx sse sse2 sse3 sse3_1 sse4_1 sse4_2 avx avx2 avx512 3dnow

Displaying license
Press 'Return' to continue...
```

AGREEMENTS

You should accept the FFT agreements by typing `accept` to continue the installation.

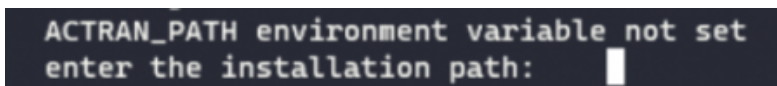
```
4.8 By confirmed facsimile transmission. Notices shall be effective upon receipt. If notice is sent to a
4.9 Customer acknowledges and agrees that any and all consulting services performed or to be performe
4.10 The English language version of this Agreement is legally binding in case of any inconsistencies
Type "accept" to continue or "reject" to cancel the installation: accept
```

ACTRAN_PATH ENVIRONMENT VARIABLE DEFINITION

During the installation of any Actran product, the installer will first detect if the `$ACTRAN_PATH` environment variable is already set. If it does not exist, the `$ACTRAN_PATH` must be defined in the `.bashrc` and/or `.profile` files. For example:

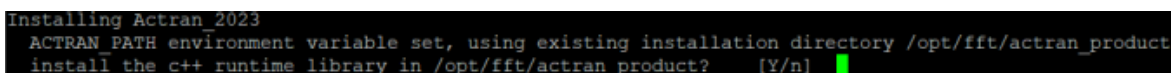
```
export ACTRAN_PATH=/opt/fft
```

The suggested installation patch can be accepted or rejected by typing another installation path.



```
ACTRAN_PATH environment variable not set
enter the installation path: |
```

If not provided, the `$ACTRAN_PATH` can be specified directly during the installation.



```
Installing Actran_2023
ACTRAN_PATH environment variable set, using existing installation directory /opt/fft/actran_product
install the c++ runtime library in /opt/fft/actran product? [Y/n] |
```

For later installations, the installer will automatically install the productline into the existing `$ACTRAN_PATH` directory.

INTEL MPI

At the end of the installation, an embedded version of Intel MPI (information (<https://software.intel.com/en-us/intel-mpi-library>)) for parallel computations will be installed. This embedded version can be directly used for parallel computations after proper sourcing of the productline.

Licensing

The MSC licensing tool can be downloaded from the MSC Download center (<https://mscsoftware.flexnetoperations.com/> (<https://mscsoftware.flexnetoperations.com/>)).

To setup the Actran licensing, execute the installer downloaded and follow the given instructions. Then, to correctly pursue the installation, please refer to the Licensing Document (PDF) (<https://www.fft.be/Licensing-installation>).

Productline Tree

After the installation, the productline can be seen in the `ACTRAN_PATH` directory.

First of all, the `ACTRAN_PATH` directory contains:

- The `bin` directory which contains the script launched in background by Actran when executing the application.
- The `conf` directory which contains the configuration file for initialization. This file can be edited by the user.
- The productline directory described below.

The productline directory contains the following:

- The `bin` directory contains all the executables and shell scripts callable by the user;
- The `doc` directory contains all the Actran User's guides;
- The `etc` directory contains the sourcing shell script (backward compatibility with versions prior to Actran 2021);
- The `lib` directory contains all the required runtime libraries;
- The `mpi` directory contains the embedded version of Intel MPI;
- The `user` directory contains user defined data such as the materials library;
- The `utils` directory contains the `odb2act` utility;
- All the other subdirectories are used to launch at least one of the previous callable files (executables, shell scripts, Python scripts, etc).

For **releases prior to Actran 2021**, the productline tree is the following:


- A sourcing shell script which has the name of the productline (`actran_2020`) and comes with each productline. It is placed at the top level of the tree.
- The only other object at the top level of the tree is the root directory containing the productline itself (`Actran_2020`). The name of this directory is very important and cannot be modified (see afterwards).
- Inside the root directory of the productline, the `bin` directory contains all the executables and shell scripts callable by the user;
- Inside the root directory of the productline, the `doc` directory contains all the Actran User's guides;
- Inside the root directory of the productline, the `lib` directory contains all the required runtime libraries;
- Inside the root directory of the productline, the `mpi` directory contains the embedded version of Intel MPI;
- Inside the root directory of the productline, the `user` directory contains user defined data such as the materials library;
- Inside the root directory of the productline, the `utils` directory contains the `odb2act` utility;
- All the other subdirectories are used to launch at least one of the previous callable files (executables, shell scripts, Python scripts, etc).

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