



OFFLOAD CALCULATION SERVER (SUPERBOX) HARDWARE-SOFTWARE REQUIREMENTS

Release Note

3DXpert 15

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Introduction

The **Offload Calculation Server** (also known as **SuperBox**) enables the automatic offloading of toolpath, scan path or build simulation calculation tasks from all 3DXpert seats in a network, thereby freeing up resources of individual work stations. The calculations may also be accelerated, depending on the hardware of the individual work stations.

The typical types of calculations that are offloaded, are as follows:

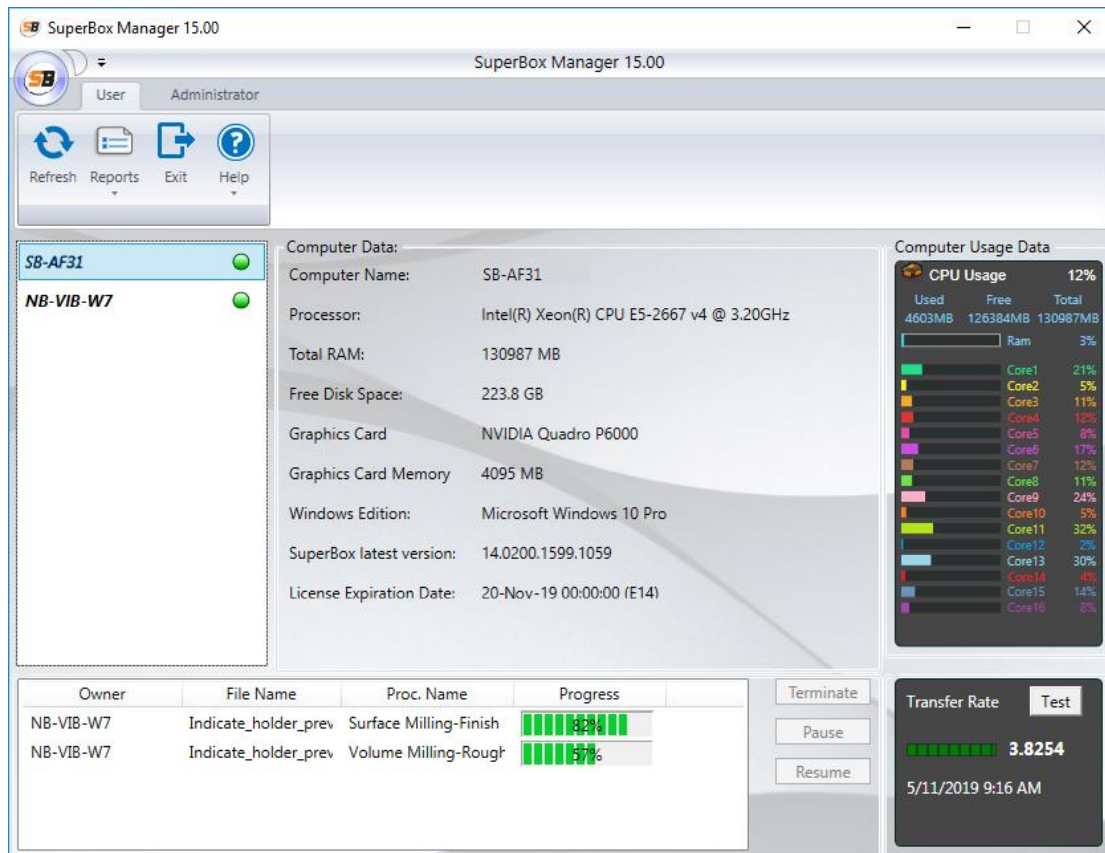
- **NC Toolpath Calculations:** A toolpath is a sequence of one or more machining procedures, performed in a given set of milling axes. A toolpath may consist of 2, 2.5, 3, 4 or 5 axis procedures.
- **Slicing Calculations:** When an object is ready for 3D printing, software called a "slicer" converts the object into a series of thin horizontal layers and produces a scanpath containing printing instructions tailored to the specific pre-defined type of 3D printer.
- **Build Simulation:** Build Simulation enables the accurate verification and optimization of parts for additive manufacturing. In 3DXpert, the Offload Calculation Server is an essential prerequisite for performing Build Simulations, as all simulations are automatically offloaded.

Calculation tasks are offloaded to the computer where the Offload Calculation Server is installed, allowing programmers to perform other tasks on their individual computers without any delays.

The Offload Calculation Server cannot be installed on a computer where 3DXpert is installed, and vice versa.

The SuperBox Manager is an interface to connect your computer to one or more Offload Calculation Servers. You may use the SuperBox Manager either as a User or as an Administrator, depending on your permissions.

An example **SuperBox Manager** dialog is displayed below showing the Offload Calculation Server in operation. In this example, NB-VIB-W7 is the local PC where 3DXpert is installed and SB-AF31 is the name of the Offload Calculation Server.



Installation of Offload Calculation Server

The hardware / software requirements for the Offload Calculation Server are detailed below:

Hardware Requirements

Memory (RAM) / Processor & Graphics Card

	Memory (RAM) / Processor *	Graphics Card **
Client PC:		
Minimum:	64 GB RAM, 6 cores i9 CPU	4 GB
Recommended:	128 GB RAM, 10 cores i9 CPU	8 GB
OffLoad Calc. Seat:		
Recommended:	256 GB RAM, 2 x 8 cores i9 CPU	Built-in GPU ***
Best:	512 GB RAM, 2 x 12 cores i9 CPU	Built-in GPU ***
OffLoad Calc. Seat for Simulation:		
Recommended:	256 GB RAM, 2 x 8 cores i9 CPU	24 GB
Best:	512 GB RAM, 2 x 12 cores i9 CPU	24 GB

* To gain better I/O performance, it is recommended using a solid state hard Drive (SSD). Windows and 3DXpert should be installed on the SSD. The file management should be configured on a different hard drive, local or network based.

** Quadro cards from Nvidia and FirePro/Radeon Pro cards from AMD are the most recommended cards for CAD/CAM software.
The performance of graphics cards is tightly related to driver version and memory size. The newer the driver and the greater the memory, the better the graphics card performance.
The graphics card must support OpenGL 3.3.
For recommended graphics cards see the following website:
<https://cimgraphics.3dsystems.com/>

*** The Offload Calculation Seat is only used for CPU based calculations, so the GPU is not relevant.

Additional

- Free Hard disk space: 20 GB; important for the machine swap file.
- Internet connection and no blocking firewall.

Software Requirements

The software requirements for this product are detailed below.

Recommended:

- Windows Server 2008, 2012, 2016 or 2019.
- Windows 10, Professional/Ultimate Edition.

Not Supported:

- Windows 7, 8 and 8.1 are no longer supported, however, the system will still run on them.
- Windows versions older than Windows 7 are not supported.
- **.NET Framework 4.6.2** is an installation prerequisite. If this is not installed, you are prompted to download it from the internet. If you have no internet connection, install the .NET Framework 4.6.2 from the 3DXpert DVD under the appropriate folder:
3DXpert: ...\\DVD2\\3DXpert\\Disk1\\ISetupPrerequisites\\
If the Offload Calculation Server is installed on Windows 8, a message is displayed enabling you to activate the .NET Framework 4.6.2 component.

Power Options

As the Offload Calculation Server has to be continually powered up and running (cannot timeout and go to sleep), the **Power Options** are set during the installation to: **Power Plan = High Performance** and all timeout settings for the **Display** and **Sleep = Never**. The Power Options (under the system Control Panel) are a collection of hardware and system settings that manage how the computer uses power.