Prerequisites

This document is provided as a guideline regarding hardware configurations, operating system and operating system patches recommended for the use with this level of Abaqus products. Consult the [platform support policy](#) for definitions of support terms. For additional details on test configurations, graphics devices, performance, and selected products' compatibility matrices, go to the Dassault Systèmes Home Page ([www.3ds.com](#)) and select **Support Prerequisites** ? **Certified Hardware** ? **(Brand Specific Certifications) SIMULIA.**

Important notices:

- For Windows platforms, Internet Explorer 10 or greater is required for installation and for operation of the 2016 products
- Abaqus 2016 is the last release to be supported on the Red Hat 5 platform.
- fe-safe 6.5 is the last release to be supported on the Windows 32-bit platform.

Supported Platforms

The distribution includes the platforms shown below.

OS	Windows 7, 8, 10 Professional and Enterprise	Windows Server 2008 R2 SP1, 2012, 2012 R2 (with or without HPC Pack)	Red Hat Enterprise Linux 5, 6, 7	SuSE Linux Enterprise Server 11, 12
Processor	x86-64 Intel or AMD	x86-64 Intel or AMD	x86-64 Intel or AMD	x86-64 Intel or AMD
C++ Compiler	Visual Studio 2012 Update 4	Visual Studio 2012 Update 4	GCC	GCC
FORTRAN Compiler	Intel® Fortran Composer XE 2011 Update 6	Intel® Fortran Composer XE 2011 Update 6	Intel® Fortran Composer XE 2011 Update 6	Intel® Fortran Composer XE 2011 Update 6
MPI and Interconnects	Microsoft MPI	Microsoft MPI and supported interconnects	IBM Platform MPI (supplied) and supported interconnects	IBM Platform MPI (supplied) and supported interconnects
Workload Manager		Windows HPC	IBM Platform LSF	IBM Platform LSF
GPGPU	Select NVIDIA and AMD	Select NVIDIA and AMD	Select NVIDIA and AMD	Select NVIDIA and AMD
Required OS Components (see Notes below)	Internet Explorer 10 or greater	Internet Explorer 10 or greater	Runtime libraries as listed in Notes below	Runtime libraries as listed in Notes below

Platform Support Policy

Definitions of the terms related to the platform support policy are available [here](#).

Support Policy for Operating Systems

- Windows
  - Windows 7 Professional SP1 is a Qualified platform
  - Windows 7 Professional SPx, where x>1, is a Compatible platform
  - Windows 8.1 is a Qualified platform
  - Windows 10 is a Validated platform
- Windows Server
  - Windows Server 2008 R2 SP1 is a Qualified platform
  - Windows Server 2008 R2 SPx, where x>1, is a Compatible platform
  - Windows Server 2012 is a Validated platform
  - Windows Server 2012 R2 is a Validated platform
- Linux*:
  - Red Hat Enterprise Linux
    - Red Hat Enterprise Linux 5.5 is a Qualified platform
    - Red Hat Enterprise Linux 5.x, where x>5, is a Compatible platform
    - Red Hat Enterprise Linux 6.2 is a Validated platform
    - Red Hat Enterprise Linux 6.x, where x>2, is a Compatible platform
    - Red Hat Enterprise Linux 7.0 is a Validated platform
    - Red Hat Enterprise Linux 7.x, where x>0, is a Compatible platform
  - SuSE Linux Enterprise Server
    - SuSE Linux Enterprise Server 11 SP2 is a Validated platform
    - SuSE Linux Enterprise Server 11 SP3 is a Validated platform
    - SuSE Linux Enterprise Server 11 SPx, where x>3, is a Compatible platform
    - SuSE Linux Enterprise Server 12 is a Validated Platform

      * Linux platform notes:

      - The Abaqus CAD Associative Interfaces for CATIA v5, Pro/ENGINEER, and Solidworks are not supported on the Linux platform.
      - For Haswell and newer processors a kernel update may be required. Please see bug number BR10000165399.

Support Policy for MPI and Interconnects

- MPI:
  - Windows (user-supplied):
    - MS MPI 3.x, where x>=0, is Compatible
    - MS MPI 4.x, where x>=0, is Compatible
    - MS MPI 4.2 is Validated
    - MS MPI 5.0 is Validated
    - Note: If MS MPI is not present on a system, 5.0 will be automatically installed
  - Linux (supplied with the application):
    - IBM Platform MPI 9.1.2 is Qualified
    - Any version of IBM Platform MPI > 9.1.2 is Compatible
    - Intel® MPI 5.0 is Validated
    - Any version of Intel® MPI > 5.1 is Compatible
  - Linux (user-supplied):
    - Cray MPT v7.0.0 and later is Compatible due to binary compatibility with Intel MPI (www.mpich.org/abi). Support is not provided for MPICH as there is no commercial support for this MPI.
- Interconnects:
  - Windows:
    - Infiniband: Mellanox ConnectX VPI (MT26428) - PCIe 2.0 5GT/s, IB QDR / 10GigE Network Adapter with Mellanox driver version 2.1.3.7290 is Qualified
    - GigE, 10GigE with TCP/IP Ethernet driver is Validated

- On Windows HPC systems, any interconnect solution supported by MS MPI is Compatible
- See [Support for Distributed Memory Parallel Analyses on Windows Platforms](#) for more information on availability of DMP on Windows/X86-64
  - Linux:
    - Infiniband: Mellanox Technologies MT26428 [ConnectX VPI PCIe 2.0 5GT/s - IB QDR] with OFED 1.5.1 is Qualified
    - GigE, 10GigE with TCP/IP Ethernet Driver are Validated
    - Any interconnect solution supported by IBM Platform MPI 9.1.2 is Compatible. See the IBM Platform MPI release notes for more information.
    - Any interconnect solution supported by Intel MPI is Compatible. See the Intel MPI release notes for more information.

Support Policy for Workload Managers

- Windows:
  - Windows HPC Server 2008 R2 SP1 is Qualified
  - All other Microsoft-supported versions of Windows HPC are Compatible
- Linux:
  - IBM Platform LSF 9.1.1.1 is Qualified
  - All other IBM-supported versions of Platform LSF are Compatible

Support Policy for FSI Co-simulation using MpCCI

- MpCCI version 4.2 is Qualified. See [Fraunhofer SCAI](#) for more information

Support Policy for GPGPUs

- Windows
  - NVIDIA:
    - GPUs that support CUDA compute level 2.0 or greater are Compatible devices
    - Any driver version that supports CUDA 5.0 or greater is Compatible
    - Sample Validated devices and drivers:
      - Tesla C2070 with driver 9.18.13.794
      - Quadro 6000 with driver 9.18.13.679
  - AMD - Sample Validated device and driver:
    - AMD FirePro W9100 with driver 13.350.1012.0
- Linux
  - NVIDIA:
    - GPUs that support CUDA compute level 2.0 or greater are Compatible devices
    - Any driver version that supports CUDA 5.0 or greater is Compatible
    - Sample Validated devices and drivers:
      - Tesla K20C with driver 310.32
      - Tesla K20XM with driver 340.29
      - Tesla K40M with driver 340.29
      - Tesla M2090 with driver 340.29
      - Tesla C2075 with driver 319.82
      - Quadro 6000 with driver 340.29
  - AMD - Sample Validated device and driver:
    - AMD FirePro S9100 with driver 13.352.1014

Support Policy for Viewing Online Documentation

- To view HTML documentation
  - Internet Explorer 11 is a Validated platform
  - Internet Explorer 10 is a Compatible platform
  - Firefox 38 ESR is a Validated platform
  - Firefox x ESR, with x>38, is a Compatible platform
- To view PDF documentation
  - Adobe Reader 9.0, 10.0 are Validated platforms
  - Adobe Reader x, where x > 10 is a Compatible platform

Notes:

- Runtime Libraries
  - The Intel® MKL 11.0 runtime math library is included with Abaqus.
  - Windows:
    - For Windows platforms, Internet Explorer 10 or greater is required for installation and for operation of the products
  - Linux: Abaqus requires the following additional libraries that may not be installed with your distribution.
    - libjpeg 6.2 32-bit and 64-bit
    - libstdc++ 3.3 32-bit and 64-bit
    - libstdc++ 4.7 64-bit
    - libtermcap 32-bit
    - glibc 32-bit
    - compat-libstdc++-33 (Red Hat)
    - openmotif 2.3 64-bit (Red Hat and SLES 11)
    - libXm4 (SLES 12)
    - ksh
- Disk Space
  - On Windows 64-bit, a total of 5.5 GB is needed (3.0 GB for the product and 2.5 GB for the HTML and PDF documentation).
  - On Linux 64-bit, approximately a total of 6.0 GB is needed (3.4 GB for the product and 2.4 GB for the HTML and PDF documentation).
- Memory
  - A minimum of 1 GB of free physical memory is required to run Abaqus.
- Graphics
  - For Abaqus/CAE and Abaqus/Viewer, X-Windows is required on Linux platforms. The OpenGL shared library is required on the computer where these products are run.
- Compilers:
  - A C++ or FORTRAN compiler is needed for compiling user subroutines or for building post processing applications (Abaqus make utility).
  - User-written post processing programs created with the A**baqus make** utility should be compiled using the compiler for the program language and linked using a C++ compiler. Therefore, both a FORTRAN and C++ compiler are required for user-written FORTRAN programs.
  - User-written programs that were compiled and linked with the A**baqus make** utility in a previous release of Abaqus (before Abaqus 2016) and processing only the results (`.fil`) file can still be used with an Abaqus 2016 results file without any change. In these instances no C++ compiler is required.

    - Windows:
      - Intel® Fortran Composer on Windows requires the Microsoft Visual Studio development environment. See the [Intel Visual Fortran Pre-requisites](#) for more information.
      - Intel® Fortran Composer XE 2011 Update 6 with Microsoft Visual Studio C++ 2012 Update 4 is a Qualified Platform
      - Notes:

The following Hotfixes are recommended for Microsoft Visual Studio C++ 2012 Update 4: KB2929731, KB 2957527, and KB 2969618

- Intel® Composer 2011 does not officially support integration with Microsoft Visual Studio 2012. The Microsoft 2012 development environment should be applied separately after the Intel Fortran Composer 2011 environment.

- Linux:
  - Intel® Fortran Composer XE 2011 Update 6 is a Qualified Platform
  - C++ on Linux:
    - GCC 4.1.2 is a Qualified platform
    - GCC 4.3.4 is a Compatible platform
    - GCC 4.4.5 is a Compatible platform
    - GCC 4.4.7 is a Compatible platform
    - GCC 4.x where x>4 is a Compatible platform

- Input Devices
  - Abaqus/CAE/Viewer provides support for 3DConnexion input devices such as SpacePilot, SpaceExplorer, and SpaceNavigator. Both Windows and Linux platforms are included. For best compatibility, please install the latest 3DConnexion driver and software.