20/11/2015

INSTRUCTION
for MUFITS installation on Windows 64-bit and running SPE1 problem

1. MPI installation

a. Verify, that your Windows account is administrator and has a passphrase. This passphrase need to be incorporated in the Windows registry when installing MPICH2. If you do not want to save the passphrase in registry, then create a new account with a passphrase.
b. Verify, that the name of your computer and the name of your account are in English letters only. This can be checked by typing "set" in the command line. In the output, the variables USERNAME, USERDOMAIN and COMPUTERNAME must contain only English letters.
c. Download through the Internet MPICH2 installation package. You can use the link: www.mufits.imec.msu.ru/tmp/mpich2-1.3.2p1-win-x86-64.msi.
d. Run **with Windows administrator rights** the MPICH2 installation package (E.g., Start->…->Standard programs. Right click on the Command line, and run the Command line as Administrator. In terminal type the path to the package and press Enter).
e. Then follow MPICH2 installation guide (1. Next. 2. Next. 3. I agree, Next. 4. Next. 5. **Everyone**, Next. 6. Next. 7. Allow access).
f. Execute: Start->Programs->MPICH2->wmpiregister.exe.
g. In the window type the name of your Windows account and the passphrase. Click on Register (if necessary: Allow access) and OK.
h. MPICH2is installed now. More information you can find on the Internet.

2. ParaView installation

a. In your browser go to www.paraview.org .
b. Click on Download ParaView.
c. If necessary change the ParaView version and click on Download.
d. After the download has finished double click on the installation package, and further follow instruction in the dropout window.

3. MUFITS installation

a. On the D drive create the folder SIMULATIONS.
b. In SIMULATIONS create the folder BIN.
c. Copy into this folder the MUFITS executable for Windows-64bit (H64.EXE). You can download it from the page www.mufits.imec.msu.ru/download.html .

4. Running SPE1 problem

a. In SIMULATIONS create the folder SPE1, and in SPE1 create the folder MYSIM;

b. Download input data to the SPE1 problem from the page www.mufits.imec.msu.ru/example-spe1.html. The name of the input file is SPE1.RUN. Copy this file to the folder SIMULATIONS/SPE1/MYSIM. If necessary open this file in a text editor to edit it.
c. Download the command file under the link: www.mufits.imec.msu.ru/tmp/H64.BAT and copy it into SIMULATIONS/SPE1/MYSIM.
d. If necessary open H64.BAT in a text editor and change the paths to the simulator or MPICH2, or change the number of processes.
e. Execute the file H64.BAT by double-clicking on it. In the folder SIMULATIONS/SPE1/MYSIM. The files with simulation results must appear.

5. Loading simulation results into ParaView.

a. Download ParaView state file for the SPE1 problem from the page www.mufits.imec.msu.ru/example-spe1.html. The file name is SPE1.pvsm. Copy this file into the folder SIMULATIONS/SPE1/MYSIM.
b. Open ParaView (Start->Programs->ParaView4.%.%->ParaView).
c. In ParaView open the file SPE1.pvsm. (File->Load State and find the file SPE1.pvsm.)
d. In the drop-out window change the paths to the simulation results. In particular, replace F:\SIMULATIONS\TESTING\SPE1\SPE1.pvd by D:\SIMULATIONS\SPE1\MYSIM\SPE1.pvd; F:\SIMULATIONS\TESTING\SPE1\SPE1.WELL.vtu replace by D:\SIMULATIONS\SPE1\MYSIM\SPE1.WELL.vtu, etc. for all files in the list.
e. Then press OK.
f. The simulation results are loaded. For example, select the Layout #1 to see the domain and wells.