NEWS ABOUT SALOME

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Journée des utilisateurs SALOME
SALOME users day
27/03/2018
PRESENTATION OF SALOME PLATFORM

- Offer generic functions for numerical simulations

- Allow the construction of specific applications
  - Provide tools for:
    - Uncertainties treatment
    - Automatic calibration
    - Data setting
  - Manage data with MED format

SALOME 8.4.0

Geometry → Meshing → Computation workflow → Visualization

Openturns

Uranie
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MODELING WITH SHAPER

- Standard CAD building for geometries:
  - Build a sketch:
    - Interactive definition of all edges
    - Add constraints
  - Continue with a feature: extrusion, revolution, etc.

- Build multi-dimensional geometry

- Edit a feature through the building tree

- Add a new feature anywhere in the history construction thanks to history line

- Parametric building:
  - Define a set of numerical parameters
  - Each value can be an expression

- Add a new feature with a C++/Python plugin
MODELING WITH SHAPER

- A set of **primitives**:
  - 3D: parallelepiped, sphere, cylinder, cone, torus
  - 0D, 1D, 2D: vertex, edge, 3D curve, 3D face, plane

- A set of **features**:
  - Union, difference, intersection, smash, partition
  - Translation, rotation, symmetries
  - Pipe, fillet
  - Group, field

- **Files**:
  - Save & load the building tree (XML, Python)
  - Import & export in several formats (STEP, XAO, etc.)

- **Applicative Programming Interface**:
  - Parametric API (C++, Python)
  - Geometric API (C++, Python)
AND WHAT ABOUT GEOM?

Maintenance and support if necessary

Roadmap for GEOM
- 2019 : GEOM with GUI and TUI
- 2020 : GEOM with only TUI
- 2021 : Bye bye GEOM
MESHING

SMESH

- Better dialog box to choose algorithms

SET OF UPDATED TOOLS FOR SALOME 8.5

- Commercial tool: MeshGems 2.6-5 (www.distene.com)
  - MG-CADSurf
    - is now multithread
    - compute a mesh using an already existing mesh
  - MeshGems-Hybrid is available
    - with also the option “Cartesian core”

- Open-source tools
  - NETGEN 5.3.1
  - GMSH 3.0.5

HIGHLIGHT: SMESH PERFORMANCE

- Speedup 15%
- 25% of saved memory
VISUALIZATION WITH PARAVIS / PARAVIEW

- Paraview 5.4.0+
  - Memory optimization
    - no mesh replication if static meshes

- Data analysis plots
VISUALIZATION WITH PARAVIS / PARAVIEW

- Uses GPU nodes of clusters to extend visualization capabilities
- Automatic recognition of your account on clusters
DEDICATED VISUALIZATION FOR APPLICATIONS

- Provides Paraview filters suited for specific applications
  - Simplifies post-processing for users

- Capability to insert 3D view in theses applications
  - SMESH view
  - Paraview view
VALIDATION AND VERIFICATION

MCO SALOME QUALIFICATION DONE BY OPENCASCADE
- 266 automatic tests daily done (make test)
- 2315 automatic test daily done (salome python test)
- 141 user graphic tests done at each beta phase

EDF QUALIFICATION
- 340 automatic tests daily done (make test)
- 332 automatic tests daily done (salome python test)
- 39 user graphic tests done at each beta phase

CEA QUALIFICATION
- 435 automatic tests daily done (salome python test)
- 170 manual graphic tests done at each beta phase
Traffic on www.salome-plaform.org in 2017

- Visits : 209 550
- Downloads : 122 300

Development Team

- 30 regular developers
- with a CEA-EDF core team of 10 persons
SALOME ROADMAP

- **SALOME 8.5**
  - June 2018
  - Industrial version

- **SALOME 8.5S**
  - With SHAPER in beta version

- **SALOME 9.2**
  - December 2018
  - First public version
  - Python 3
THANK YOU