Overview
Open CASCADE Technology 7.7.0 provides about 250 improvements and corrections over the previous release 7.6.0.

Highlights

General
- Improved compatibility with C++17/C++20 compilers
- Dropped support of pre-C++11 compilers

Modeling
- New functionality is implemented, which could verify the input shape to be placed on a canonical geometry with the given tolerance. If the input shape is a
face or a shell, it could be verified to be close enough to Plane, Cylinder, Cone or Sphere. If the input shape is an edge or a wire, it could be verified to be close to Line, Circle or Ellipse as well as lying on one of the analytical surfaces above.

- Introduced new tool BRepLib_PointCloudShape generating a point set for a topological shape.
- New option in BRepOffsetAPI_MakeOffset - approximation of input contours by ones consisting of 2D circular arcs and 2D linear segments only, it provides more stable work of 2D offset algorithm.

**Visualization**
- Introduced new interface for creating V3d_View as subviews of another V3d_View.
- Added smoothing to row interlaced stereoscopic output.
- Added word-wrapping option to Font_TextFormatter.
- Added support of a wide color window buffer format (10bit per component / 30bit RGB).
- Added MSAA anti-aliasing support when using WebGL 2.0.
- Introduced skydome generation feature V3d_View::BackgroundSkydome().

**Mesh**
- BRepMesh works too long and produces many free nodes on a valid face problems are resolved.
- Meshing the shape no longer takes too long and visualization problems are corrected.
- Wrong shading display of thrusections is fixed.
- Rendering issue when using deviation coefficient of low value is resolved.
- Mesher no longer produce 'bad' result for extruded spline with given deviation coefficient.
- Holes in triangulation with large linear deflection are removed.
- Broken triangulation on pipe shape is fixed.

**Data Exchange**
- STEP translator now supports tessellated presentations.
- Transformation tools BRepBuilderAPI_Transform/BRepBuilderAPI_Copy now handle properly tessellated presentations.
- glTF Writer - added support of Draco compression.
- Introduced DEWrapper - a unified interface to Data Exchange connectors.
- Introduced tool XCAFDoc_Editor::RescaleGeometry() for scaling geometry in XCAF document.

**Configuration**
- SONAME is now configurable in CMake and includes minor version in addition to major by default.
Documentation

- Improved samples / tutorials documentation.
- Introduced new “AIS: Custom Presentation” tutorial.

New Features

Visualization - improved multi-view support
V3d_View implementation has been extended with a new interface allowing to define views as subviews of another V3d_View serving as a composer. This interface provides multi-view support to platforms that do not support creation of multiple native windows or disallow/restrict sharing of OpenGL resources between them (like Android or WebAssembly). It also simplifies implementing features like thumbnail/split views on any platforms.

Upgrade
Added a new chapter “Upgrade to OCCT 7.7.0” (see OCCT html documentation: “Build, Debug and Upgrade / Upgrade from older OCCT versions / Upgrade to OCCT 7.7.0”).

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