

EnSight Lite Limitations

EnSight Lite is a very capable visualization and post processing tool. But as the name suggests, it is a less capable product than standard EnSight on which it is based. This document lists the limitations of Lite as compared to the standard release. See also www.ensight.com/product-comparison-chart.html for a comparison table on all of the EnSight configurations.

Standalone only

The standard release supports a client/server mode to access datasets on remote machines and to take advantage of remote compute resources. The Lite version does not have this capability.

Boundary Layer Variables

Standard EnSight can compute a number of boundary layer variables such as boundary layer thickness, displacement thickness, momentum thickness, etc. in a single calculation taking advantage of the velocity gradient tensor. EnSight Lite can still compute these variables but must do so through the calculator one at a time. See User Manual, [Section 7.18, Boundary Layer Variables Create/Update](#)

Particle Traces

The following particle trace features are available in the standard release (see User Manual, [Section 7.11, Particle Trace Create/Update](#)) but not in Lite:

- Pathlines - the ability to integrate the path of a particle in a transient flow field
- Massed Particles - the ability to integrate a particle path taking into account drag, gravity, buoyancy, pressure effects, and rebound.
- Surface restricted - the ability to create particle traces that simulate “oil flows” on a surface

Frame Mode

Standard EnSight has the ability to create new coordinate frames. Parts can then be assigned to the frames and transformed (such as “exploded views”). This allows parts to be transformed relative to one another as well as the ability to specify actions in terms of the modified frame coordinate system. EnSight Lite does not have this ability. See User Manual, [Section 8.5, Frame Mode](#)

Cases

Standard EnSight has the ability to read multiple datasets and merge them during the visualization process. The variables can be mapped from one case to another to compute differences. EnSight Lite is limited to viewing a single dataset at a time. See User Manual, [Section 6.7, Case Menu Functions](#)

Detail Editors

Standard EnSight incorporates a user interface with detail editors with further attributes not normally exposed at the top level of the user interface. EnSight Lite does not have access to these dialogs. Some (but not all) limitations in Lite due to this are (a) can't compute isovolumes, (b) can't compute certain clips of a clip, (c) can't “swap” parent parts, (d) can't “freeze” a part on a particular time step, (e) can't “shrink” the elements of a part.

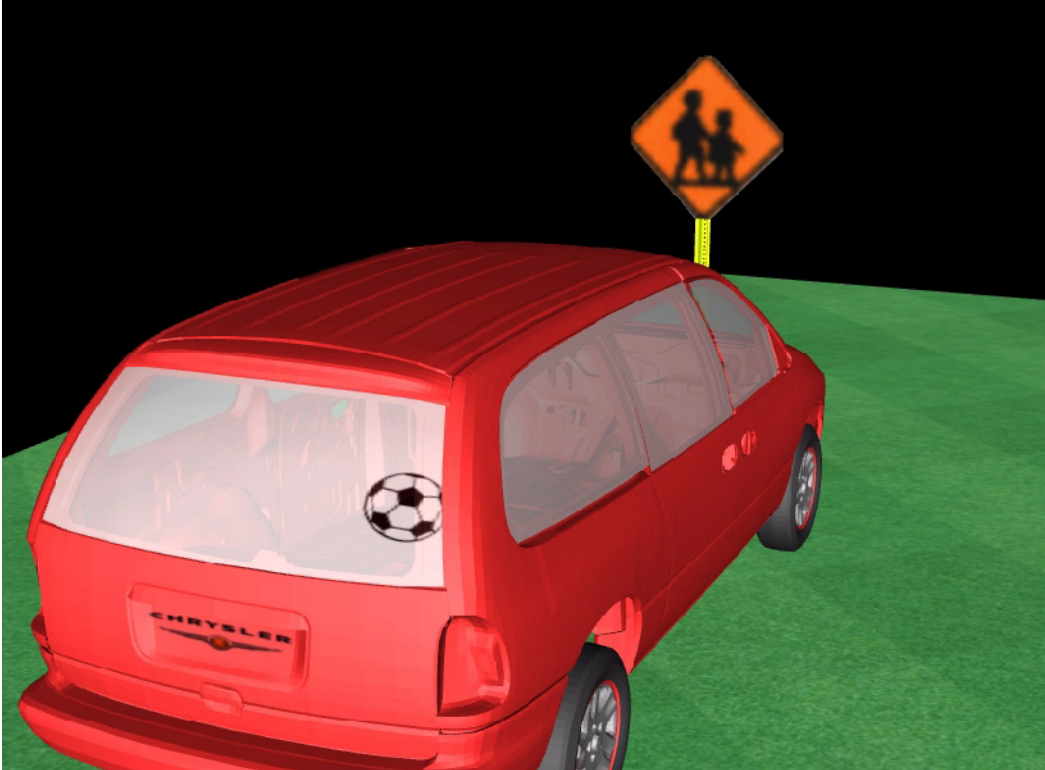
Context Files

Context files allow you to set up a “template” to duplicate the same visualizations on a number of different datasets. EnSight Lite does not have this ability but can use EnSight command files to do similar. See User Manual, Section 6.1 [Context](#)

Archive Files

Archive files allow the user to set a “checkpoint” and restart from this point at a later time in a very efficient manner. EnSight Lite does not have this ability but can use EnSight command files to do similar but with significantly lower performance. See User Manual, Section 6.1 [Archive](#)

Textures

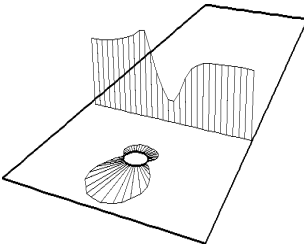
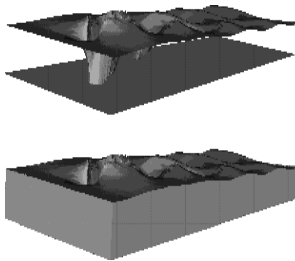
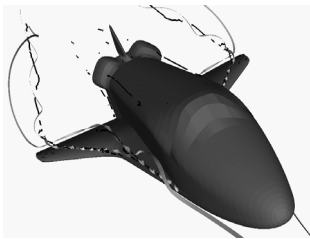
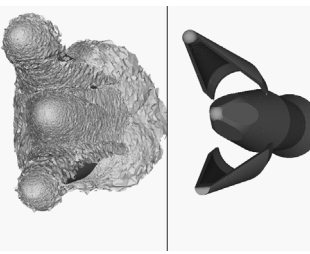
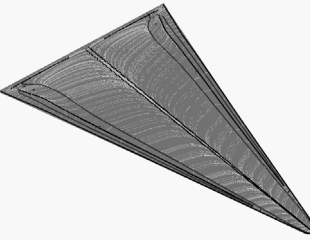


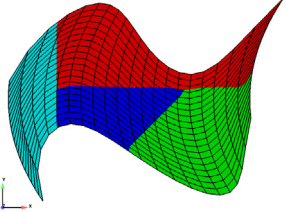

Standard EnSight has the ability to shade an object according to a 2D texture in order to add realism or point of reference to a part. EnSight Lite does not have texture map capability. See [How To Map Textures](#).

Threads

EnSight standard can use multiple threads to take advantage of multi-core or multi-cpu architectures. EnSight Lite is limited to a single thread.

EnSight Standard can compute several new part types that Lite can not. Specifically:

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| Profile Parts |  | <p>A profile visualizes values of a variable along a 1D part by creating a new Profile part. See User Manual, Section 7.13, Profile Create/Update</p> |
| Elevated Surface Parts |  | <p>An elevated surface visualizes the values of a 2D part by projecting the 2D part in the surface normal direction proportionally to the variable values. See User Manual, Section 7.14, Elevated Surface Create/Update</p> |
| Vortex Cores |  | <p>A vortex core visualizes the centers of swirling flow in a flow field by examining the velocity gradient tensor. See User Manual, Section 7.15, Vortex Core Create/Update</p> |
| Shock Surfaces/Region |  | <p>A shock surface/region visualizes shock waves in a 3D flow field characterized by an abrupt increase in density, energy, and pressure gradients and decrease in the velocity gradient. See User Manual, Section 7.16, Shock Surface/Region Create/Update</p> |
| Separation/Attachment Lines |  | <p>Separation/Attachment lines exist on 2D surfaces where flow abruptly leaves or returns to the surface in a 3D flow field. See User Manual, Section 7.17, Separation/Attachment Lines Create/Update</p> |

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| <p>Material interfaces/regions</p> |  | <p>A material interface/region visualizes the boundary or region of a material given a material fraction on a per element basis. See User Manual, Section 7.19, Material Parts Create/Update</p> |
| <p>Tensor glyphs</p> |  | <p>A tensor glyph visualizes a tensor eigenvector tension/compression and direction. See User Manual, Section 7.20, Tensor Glyph Parts Create/Update</p> |