



Product Information

"ASFALIS" is a highly sophisticated integrated system for digital engineering from design, analysis, prototyping, process planning, to fabrication.

It includes the Elysium geometry interoperability technology as components.

Combining necessary features effectively, the ASFALIS provides each user the optimum system for their 3D design management and manufacturing process.

Smooth data conversion between different 3D-CAD systems and between different phases of manufacturing is achieved through Elysium Neutral File (ENF; unique3D data format) in the ASFALIS.



1. Widely Applicable

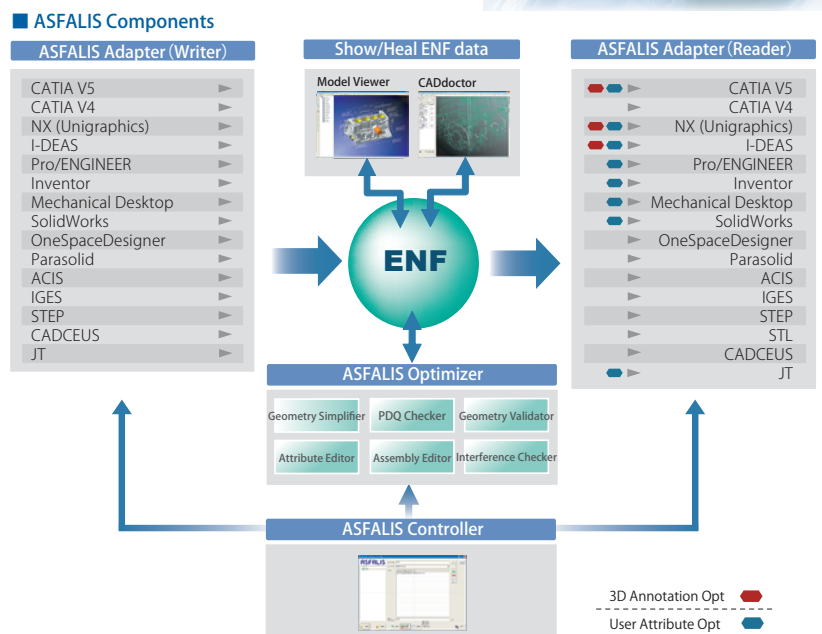
ENF holds not only geometry information but 3D annotation and attribute information, as they are indispensable for utilization for 3D data in the manufacturing.

CAD users will get relief from troubles concerning translation.

2. Optimization for your purpose

Based on longstanding experience in data translation, Elysium makes it possible to automate preparation of 3D data for various purposes. Thanks to the automation of a series of complex process, seamless interoperability is achieved.

ASFALIS, that helps utilization of 3D data from an internal use in a small business to a large-scale project, will bolster the economic growth and competitiveness of your company.



Control the process flow and assist cooperation

The ASFALIS offers the interface that enables cooperation with various 3D tools, web systems, and each ASFALIS component. It also provides the script language that controls the processing flow. Because an existing system and various tools cooperate with the ASFALIS component by describing the processing flow in the script language, the user can control data processing.

Advantage

1. Control flow written in ASFALIS unique script

The ASFALIS not only executes specified sequential processing but execute original logic described by a user such as a condition branching corresponding to the processing result.

2. Execute as scheduled

It is easy to construct the system that does the batch conversion during the night.

3. Flexible cooperation with other tools / systems

The ASFALIS components can easily cooperate with the existing data base system and the Web service.

Example :

Remove fillets in CATIA V5 data for analysis and translate to Parasolid format

```
# Define component
cad2enf = session.create_component('catiaV52enf')
simp = session.create_component('simp')
dek = session.create_component('dek')
enf2cad = session.create_component('enf2Para')

# Define mapping of input-output data
to components and set options
cad2enf['inputfile'] = ARGV[0]
simp['inputfile'] = cad2enf['outputfile']
simp['Process'].add 'RemoveFillet', {
  'FilletMax' => '5.0'
}
dek['inputfile'] = simp['outputfile']
dek['to_cad'] = 'Parasolid'
enf2cad['inputfile'] = dek['outputfile']

# Execute processing
session.start
```



Automatic 3D data Preparation for CAE

The ASFALIS improve the efficiency of the analysis tasks with various components that helps preparation of data for CAE from CAD data.

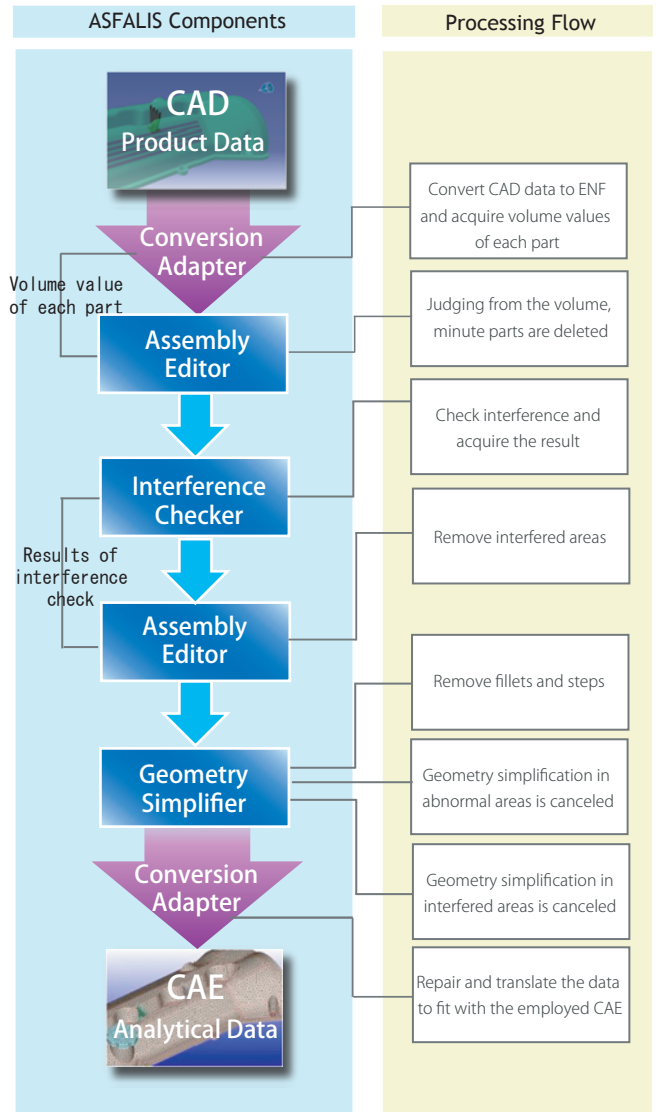
With the ASFALIS components, interference between parts that cause failure in the analysis are detected and removed. Likewise, unnecessary minute parts are told by the attribute and the volume and deleted.

Moreover, an unnecessary, improper shape like a fillet or a step can be simplified for the analysis. Sometimes the simplified parts interferes with each other, but such an interference can be avoided by a failsafe function of the ASFALIS's Geometry Simplifier.

This series of processing flow is described by the script of ASFALIS. To do a series of data processing including deleting minute parts, checking interference, removing unnecessary parts, and simplifying improper shape seamlessly, the user only has to execute the script from her/his own system. Thus, the automation of the data preparation can be achieved.

```
# Define Component
cad2enf = session.create_component('catiaV52enf')
asmedit1=session.create.component('asmedit')
Intrchk=session.create.component('intrchk')
asmedit2=session.create.component('asmedit')
simp = session.create_component('simp')
dek = session.create_component('dek')
enf2cad = session.create_component('enf2Para')

# Define mapping of input-output data to components
and set options
cad2enf['inputfile'] = ARGV[0]
asmedit1 ['inputfile'] = cad2enf ['outputfile']
intrchk['inputfile'] = asmedit1 ['outputfile']
simp['inputfile'] = asmedit2['outputfile']
dek['inputfile'] = simp['outputfile']
....
```



Scalable Architecture



ASFALIS Adapter

ASFALIS Adapter	Data conversion between various CAD data and ENF format
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ASFALIS Optimizer

Geometry Simplifier	Simplify the models ('remove fillet', 'remove hole' for example)
PDQ Checker	PDQ validation and adding Quality Stamp
Geometry Validator	Compare geometry information between 2 different ENF models
Attribute Editor	Edit attribute information (merge, substitute, remove)
Assembly Editor	Remove unnecessary parts from an assembly by specifying them in the external file
Interference Checker	Check interference and contact between parts

ASFALIS Viewer

Model Viewer	Viewer for 3D drawing display that have the measurement function, interference check function, multi CAD assembly function(via ENF), and BOM edit functions etc.
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ASFALIS Controller

ASFALIS Controller	GUI tool to executes the script that describes the control flow
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