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What is Autodesk® Navisworks® 2011 All About?

Recently I read a discussion group thread where someone was trying to get some help aggregating multiple 3D model files into Revit. The goal was to bring in the structural, mechanical, electrical, and civil models into Revit; the intent wasn't to produce a set of construction documents with this aggregated model, but to visualize all disciplines as one 3D model to help visualize the whole project.

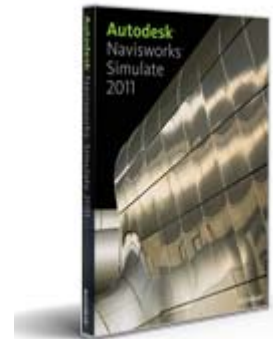
The problem was that all of the disciplines (structural, MEP, & civil) were not done in Revit; the trouble was then trying to get those 3D models into Revit to 'visualize' the whole model.

As Jeff Hanson of Autodesk® explained in another thread, "...3d information can be passed from AutoCAD Architecture to Revit as "intelligent" objects by exporting to IFC."

He also said, "This will transfer walls, windows, doors etc... but it will be at a pretty basic level. I would not depend on this workflow except in specific situations. Modeling in Revit or AutoCAD Architecture and keeping the model native to its own application will be far easier to manage and will produce better results over all as opposed to switching the model back and forth VIA IFC imports and exports."

With import / export not being an option, this person seemed unable to accomplish his task; he needed a way to aggregate all disciplines into one 3D model file.

The solution to this type of problem is **Autodesk® Navisworks® Simulate 2011**. You can take multi-disciplinary design data created in building information modeling (BIM), digital prototype (DP), and process plant design applications (like AutoCAD Architecture, AutoCAD Civil 3D and the Revit suite of products) and combine it into a single integrated project model. In Navisworks Simulate, you can also build a 4D simulation, animations, and photorealistic views of your model, and you have a tool that allows you to demonstrate design intent and simulate construction, giving you insight and predictability.

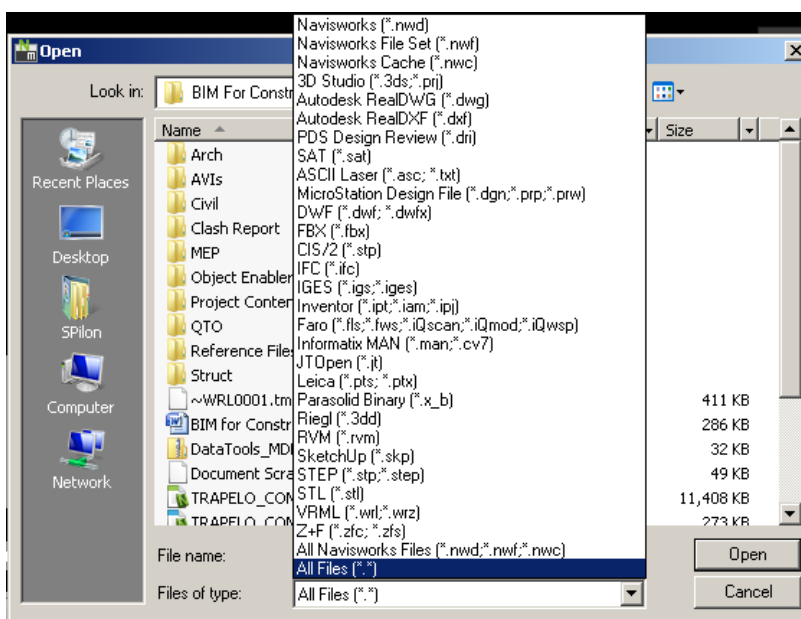


With Simulate the whole model can be built from multiple file formats and then you can navigate in real-time. This ability to navigate the model supports collaboration among the project team... exactly what our person seeking help in the discussion group needed. Navigating in real-time means walking through your building, getting a real feel for the model as a whole before it's actually built! Autodesk Navisworks 3D project review software products deliver an innovative technology that compresses files for interactive visualization and smooth real-time walk-through, so you can navigate, explore, and review even the largest and most complex 3D models on standard PCs.

With Navisworks® Simulate when you select *File > Open* and expand the Files of Type, you'll be amazed at the number of different file formats that Navisworks® accepts! (See

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the following image as well as the following link for more comprehensive supported file format information - [Supported File Formats and Applications](#) .

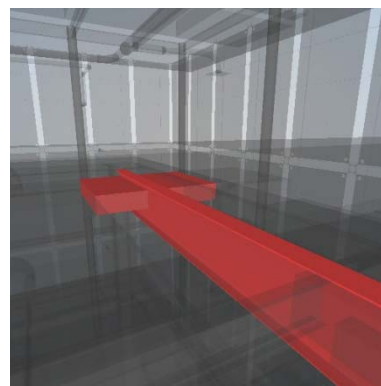


Navisworks® comes as a line of products. Simulate is only one of a line of the three Navisworks products (**Freedom®**, **Simulate®**, and **Manage®**).

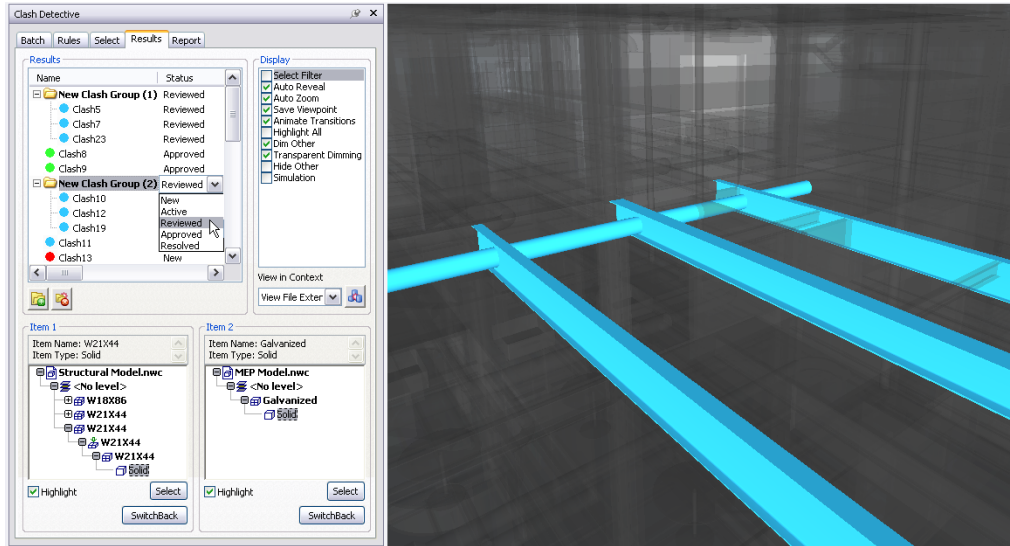
If all you need to do is view a 3D model, use Navisworks® Freedom, free software from Autodesk®. Use Navisworks Freedom to view your models before construction. Just publish your entire project model as either an NWD or 3D DWF™ file format to view it in Navisworks Freedom. A free export utility is available free of charge which can be used to create the needed NWD or 3D DWF™ file format. [Click this Link for the Export Utility](#)

So we've reviewed Navisworks® Simulate and Navisworks® Freedom. Autodesk's premiere product however for project review is **Autodesk® Navisworks® Manage**. Just as with Simulate®, Manage® also provides for aggregation of multi-disciplinary design data, as well as the ability to build a 4D simulation, animations, and photorealistic views of your model.

What you gain by purchasing Autodesk® Navisworks® Manage is interference management and clash detection tools that help you anticipate and avoid potential problems before construction, minimizing expensive delays and rework. Purchasing Navisworks Manage gives you all of the Simulate® functionality but also offers design and construction professionals the most comprehensive project review solution, providing advanced tools for interference analysis and spatial coordination.



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Navisworks Manages gives you effective identification, inspection, and reporting of interferences in a 3D project model, which means that you can help ensure your design will have much less change orders.

So if you need to:

- be proactive about coordination by finding and fixing design clashes prior to construction
- walk-through and experience your design in real-time before it is real
- rapidly validate and present intent at the early bid/tender stage as a 3D interactive proposal
- easily share your whole 3 dimensional design intent with the whole project team
- gain design insight and construction/operational predictability
- get full value from existing construction planning software and to simulate time or planning schedules with your 3D model to create a 4D construction sequence (3D video of the construction of the project) to highlight and resolve on-site issues, consider including the Navisworks line of products as part of your software inventory.

| | Autodesk® Navisworks® Manage | Autodesk® Navisworks® Simulate | Autodesk® Navisworks® Freedom |
|----------------------------------|------------------------------------|--------------------------------------|-------------------------------------|
| Project Viewing | • | • | • |
| Project Review | • | • | |
| Simulation and Analysis | • | • | |
| Coordination/ Clash Detection | • | | |

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