

How Pro/ENGINEER Wildfire Eases the Transition from 2D CAD to 3D Solid Modeling

Moving from 2D CAD to 3D solid modeling?

The best approach is to evaluate 3D software in terms of learning curve, legacy data re-use, total cost including software, training and support and future scalability. More than likely, answering these questions will point you to Pro/ENGINEER® Wildfire™.

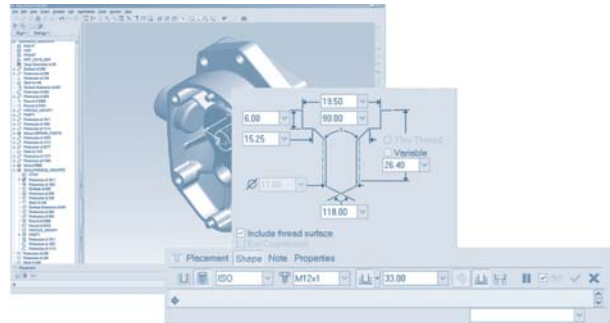
Each year, tens of thousands of CAD users migrate from two-dimensional drafting to the world of 3D solid modeling.

Their reasons may vary – manufacturing may demand 3D handoffs, or their companies (or clients) may demand the faster time-to-market that 3D models provide. In any case, product designers, engineers, and managers then face a dilemma: what's the best path to take?

All 3D modeling systems are not alike, although they may seem similar at first glance. At PTC, we've helped thousands of users make the 2D to 3D transition, so we can offer the benefit of substantial experience. We've found that the key to success comes down to evaluating how effectively a 3D modeling system addresses four fundamental transition concerns:

- 1 **How steep is the 2D to 3D learning curve?**
- 2 **How challenging is it to re-use existing 2D data?**
- 3 **What's the total cost of transition, including software and associated training?**
- 4 **Can the 3D system grow with my business needs?**

By addressing these concerns in detail, the engineering manager can compile a shortlist of 3D software candidates that will represent the best choice in a 2D to 3D transition strategy.



Pro/ENGINEER Wildfire delivers an unmatched set of complete 3D solid modeling capabilities in a simple-to-use product. It's the only completely scalable solution, so as your requirements change, it can scale to fit your business needs.

1) How steep is the 2D to 3D learning curve?

Every product designer knows that designing in 3D solid modeling requires a very different approach from that of 2D CAD design. To ease this transition, the 3D software itself should help wherever possible, it should be simple to use and understand, and make extensive use of automated training and tutorials. Pro/ENGINEER Wildfire more than satisfies each of these criteria.

In creating Pro/ENGINEER Wildfire, PTC worked for two years to simplify menus, command structures, and interface characteristics to streamline workflow. For example, feature commands were consolidated from 76 to 23, making the software much easier to use – and learn. Also, the redesigned user interface employs a “lead or follow” philosophy that lets more experienced users “lead” the process, while less experienced users are guided by wizard-like menus throughout their operations.

Built-in Tutorials and Training

Pro/ENGINEER Wildfire also features comprehensive, built-in tutorials and online training options that allow users to learn various topics at their own pace. Additionally, PTC and its extensive partner network offer highly effective, instructor-led training in a wide range of design fields.

2) How Challenging is it to Re-Use Existing 2D Data?

With some 3D systems, 2D users are forced to transfer their legacy data to the new system by translating files from one industry-standard format to another. As engineering managers know, this translation introduces substantial data inaccuracy, and often wastes valuable design engineering time. Since this neutral format carries forward a minimum of useful information, the design engineer must spend hours repairing the translated files.

By contrast, Pro/ENGINEER Wildfire includes native translators for AutoCAD® DXF/DWG files, and supports a range of industry standards including STEP, IGES, CGM, VDA, SET, VRML, TIFF, and JPEG, as well as direct translators to CATIA®, Parasolid™, ACIS, MEDUSA™, STHENO™/Pro, CADD5, and CADAM®. This means that the data translation issue is no issue at all.

Additionally, Pro/ENGINEER Wildfire features a unique automation data translation aid called AutobuildZ™, a user-friendly approach to leveraging or reusing legacy 2D data. With AutobuildZ, 2D designers first select geometry from their 2D drawings, then AutobuildZ automatically creates the corresponding 3D features, which, at the same time provides the user with simple training on how to use a 3D system. Conversely, designers can reverse the process, creating 2D drawings from their 3D models. And while other 3D CAD systems provide limited 2D to 3D transitional aids, AutobuildZ is more intelligent than the “black-box” wizards of these systems. While these products do perform 2D to 3D translation, they don’t make the process visible to the user, which may result in poorly constructed model geometry. With AutobuildZ, the conversion process is totally visible, so users can check – or modify – their work as it is being converted.

3) What’s the Total Cost of Transition, including Software and Associated Training?

Cost is a key factor in upgrading from 2D to 3D CAD software. But the typical cost of an entry-level 3D software can be misleading, since the more important issue is total cost of ownership. Cost of ownership takes into account the cost of software, training and customization, plus the cost and quality of support.

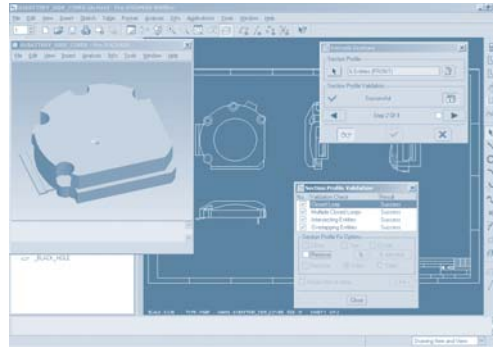
Take Pro/E Wildfire’s entry-level system, the Foundation Advantage package, as an example. It’s priced at under \$5,000 (US)– typical for an entry-level 3D CAD system. But because of the software’s simplicity, Pro/E Wildfire reduces other costs as well. For instance, users can now be productive on this 3D system in no time at all.

And customization – that is, building user-specific interface functions and other system preferences – is easy enough for end users to do. This is in sharp contrast to systems that require third-party assistance.

Finally, Pro/E Wildfire users have direct access to PTC’s Technical Support, contrast that with other CAD companies who provide support through 3rd parties. The result: Pro/E Wildfire users spend less time waiting for proper support, and more time using their systems. Since time is money, time saved waiting for answers means money saved in product development.

4) Can the 3D System Grow with My Business Needs?

Although entry-level 3D CAD systems are not usually considered appropriate for “high-end” modeling work, over time users may bump up against the limits of their technologies. For instance, a designer may want to work with more complex geometries, or manage 3D assemblies. When this happens, the reason for the fourth concern – the need for a scalable 3D growth path – becomes clear.



AutobuildZ Protusion Feature Wizard with dynamic 3D preview and integrated section validation and repair tools

Most entry-level 3D CAD systems do not offer such a scalable growth path. To move to the next-higher product class, users are forced to migrate their files through a neutral format, such as IGES, to another 3D system. Since these formats cannot carry forward certain types of information, users face severe limitations – and have to spend frustrating hours, days, sometimes weeks repairing their files.

In other cases, entry-level 3D CAD systems may support third-party applications as higher-level add-ons, but such architectures introduce substantial complexity into an already complex endeavor. For instance, the users must now coordinate new-product installs and version upgrades by themselves with a multiplicity of other software vendors.

Pro/E Wildfire offers a much easier approach. PTC believes that designers would prefer to spend their time developing products rather than integrating separate software applications. That’s why Pro/E Wildfire Foundation Advantage package, the most powerful entry-level 3D CAD system, is the best choice. Because when your business requirements grow you will be able to easily add an entire suite of industry-specific native applications that all seamlessly integrate with the system you originally invested in.

Making the Move to 3D

For those companies that have decided to make the transition, there’s never been a better time than now. Today’s entry-level 3D CAD systems are well within reach of even smaller companies. And by selecting Pro/ENGINEER Wildfire, product designers, engineers and managers can achieve a solution that’s easy to learn, easy to leverage 2D legacy, and easy to afford. Finally, 2D users can enjoy the benefits that thousands of other 2D users are enjoying by ‘going 3D’.

For more information about PTC products and services, visit www.ptc.com or contact PTC at 1-888-782-3776 and mention offer code 201

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