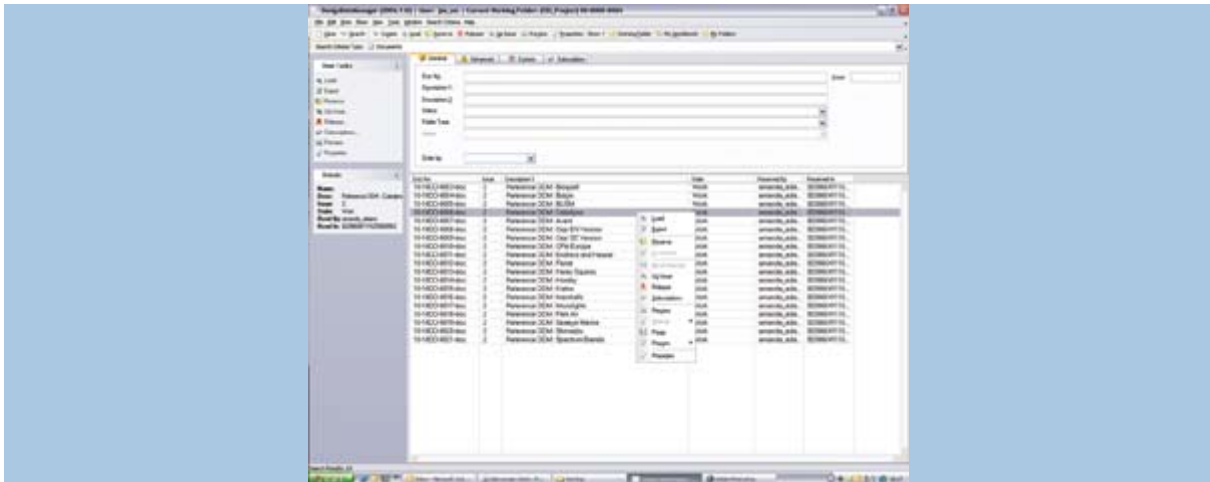


MCAD Software Review: DDM 2006.1

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From its roots as a cost effective alternative to Pro/Intralink, DesignDataManager has grown as a product and AI Dean finds out exactly how much with a look at the 2006 release.



The Windows XP Style DesigDataManager interface ensure that every user is immediately familiar with how it operates, hence reducing training costs.



The DDM Release Manager interface shows how you can manage a product's lifecycle, from conceptualisation through to release to manufacture and subsequent iteration.

DesignDataManager (DDM) was one of the first data management systems I really looked at and understood when I first started at MCAD. Its background is through former Pro/Engineer VAR, Definitive Applications, who developed the system as a workgroup solution for managing Pro/Engineer data in a very efficient and cost effective manner – back in the days when the other alternative was Pro/Intralink. In the intervening years, the system was sold off as Definitive Apps extended its focus away from Pro/E and was then given a new lease of life by the team at CSI. Since the company took over the reins, the system has expanded beyond the Pro/Engineer realm and is now one of the very few Data Management systems that allow an organisation to work with multiple CAD systems in a controlled and efficient manner. So, let's take a look at what it does, how it does it and of course, the benefits it can bring to your business.

As we've already been discussing, the first thing to note is that DDM is a multi-CAD system, supporting all the latest releases of SolidWorks, Solid Edge, Inventor, Pro/Engineer, IronCAD, as well as AutoCAD and ME10. While DDM can do a good job if you're using a single system, perhaps maintaining legacy 2D

data, where DDM comes into its own is when you have several workhorse 3D CAD systems in use, you still do some work in AutoCAD, and you also have some legacy data to handle.

Now, whereas a system targeting a single CAD system should always attempt to mimic the working methods and workflows of that host system, when a data management application is designed to work in a mixed environment of 3D modelling apps, it's more advisable to have a user interface and working methodology that is unified across all integrations. So, with this in mind, DDM has been redesigned for the forthcoming 2006 release and much of the work done is intended to enhance the experience for all the users, whichever CAD system (or systems) they're using.

The new UI has been developed to replicate the same Window XP Explorer look and feel – with the concept being that, if you can use Windows Explorer, then you're half way there with DDM. After you've logged in, you're presented with a screen layout that's immediately familiar, but, of course, is tailored towards the data management process. The majority of the screen is taken up with the information search and viewing areas and to the left hand side of the screen is the Task Panel, which you'd find in any Windows XP explorer window. While within Windows, this deals with both folders and tasks, within DDM it provides you with quick access to all the commonly used features and functions, which are context sensitive. So, if you have a part, assembly, drawing or document, the tasks available will differ. For example, if you are looking at a drawing record the object task options would be Load, Reserve, Up-issue and Release.

But, while interface changes and XP-style working assist with the user familiarity, what you're really interested in is the ability to control your product development data. As with most Data management systems, DDM is database-driven and is deployed in a server/client configuration. With the recent changes to the way in which the system is licensed and maintained, DDM's initial implementation process is pretty painless. Once the server is set up, the administrator can access the floating licensing tools and install the client software from the server straight away. This makes both the initial set-up and on-going maintenance much more efficient, rather than trailing around with a CD or USB-drive from machine to machine.

The core level of the system is DDM Pro. This provides all of the data management functionality you'd expect from a PDM system, in terms of version/revision and lifecycle control. The manner in which the 3D data is fed into the system is through a series of integration add-ins that create the same options within each of your local CAD applications. Interestingly, a single license of DDM Pro allows a single user to have as many of the CAD integrations functioning as they like – ideal if you're working with multiple CAD systems on one workstation. There's no split out fee for each – buy a DDM Pro license and you get them all.

CAD integration

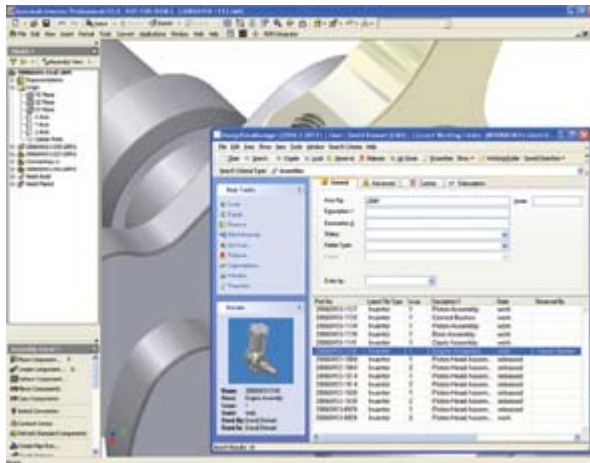
Each CAD system has a new pull down menu which allows them to link to DDM, send and retrieve data, load and export data and of course, perform those very important searches. DDM has all the powerful searching facilities you'd expect from any data management system. You can search by any of the properties stored in each Metadata field, whether that's by name, description, file type (part, assembly, drawing, office doc etc.), date created etc. The system also includes classification tools, so you can assign more meaningful metadata to your parts to assist with the search and retrieval process. Where data management also pays dividends (irrespective of the system you're using) is with the ability to study the child and parent structure of an assembly, part or drawing and discover the links that are associated to that entity – something which is never particularly apparent from the generating CAD system. For example, while you might have several distinct projects within your database, the fact is that these days, component re-use and standardisation means the interlinking between various projects could be incredibly complex. DDM supports this method of working, allowing you to cross reference components and sub-assemblies between projects, but perhaps just as importantly, the system also allows you to dive in and inspect the relationships that you've created. This allows you to make informed decisions, particularly when looking to retire or transition away from a particular part or sub-assembly, as you can see exactly what the impact is going to be, in terms of data rework, invalidation of assemblies, and drawings etc. DDM also streamlines the process of managing Bills of Materials by providing the designer with the ability to leverage the BOM direct from the data structure within their chosen 3D application including the addition of non drawn parts.

Lifecycle control

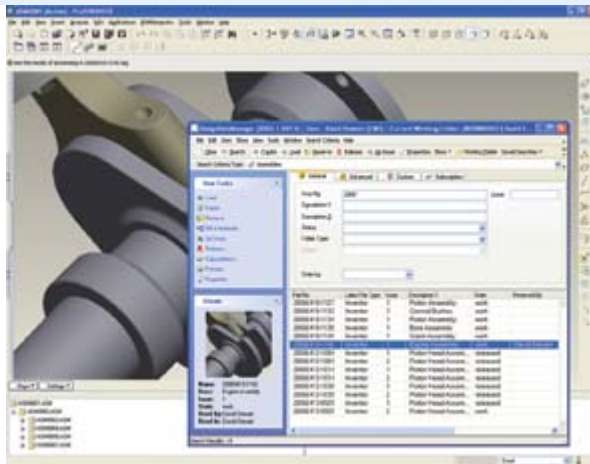
The system retains the links between your CAD data and the record and, as you'd expect, controls versions. The link between the CAD integration and the database is live, so modifications can be saved when needed and updated to the server. Of course, while versions are useful during a design or redesign process, what most manufacturing organisations need is the ability to control the release and ECO process.

Integration

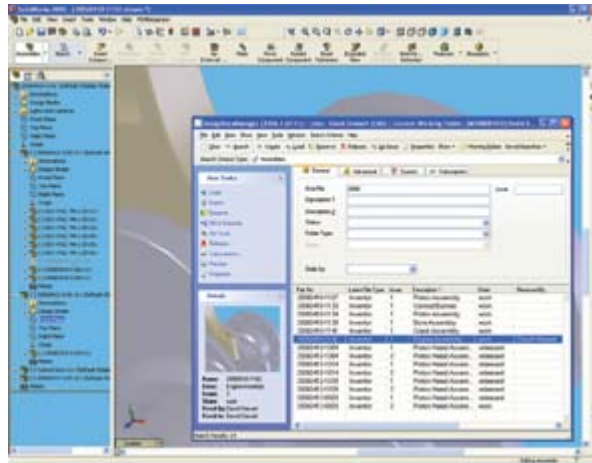
DesignDataManager integrates with many of today's leading product development systems.



Inventor



Pro/Engineer Wildfire 2



SolidWorks 2006

DDM includes an Up-Issue/Version and Release State Manager. These tools greatly automate the engineering change processes and ensure that your release workflows are supported (rather than adapted to the way the system works) and that should always ensure that the data is in a controlled state. The system includes a workbench for each user, data can be sent between users in an informal or formal manner, with discreet messages and email notifications. The system also has the ability to manage concurrent working, so when a user checks out (or in DDM speak, reserves) a part, assembly etc, other users are made aware, but can still use that data for reference purposes. Users can also register their own email notifications and subscriptions to ensure they are kept informed of changes even if they are not logged into DDM.

Extended enterprise

As we've discussed, DDM is deliverable in two configurations, DDM Pro and DDM Office, with the difference between the two (apart from price) being that the Office version doesn't have the CAD integrations included and is more geared towards Office users for document management. These two applications offer the full range of tools that both the technical user and manager are going to need – in other words, if you need to interact with the data, or are involved in the release sign-off or approval process, then these are the licenses for you. But of course, while there are always a specific number of people that need full access, there are many more people within an organisation that need to gain access to that managed data in a controlled and secure, but efficient manner. So, how do you do that? The answer is the DDM Web client. This is a server-based add-on module that allows your organisation to distribute controlled and managed access to anyone within your organisation or supply chain using a web-browser. The client offers full search and viewing functionality, but of course you have precise control over exactly what the users can see and gain access to – presumably, just released data, rather than work in progress information. Also on the subject of integrating DDM into your business processes and workflows, there is a new ERP Update Manager that provides the ad-hoc or automatic export of Part and BOM data in an industry standard XML data transfer format so it can be read into your business systems, whether that's ERP or MRP based.

Multi-locations

While the core DDM tools allow an organisation to effectively manage their development data, it does have the limitation that this is done through a single server and can only be deployed in a single location. If you're looking to have the same system in work at multiple locations (which, with the geographically dispersed nature of many of today's design teams, is likely) then CSI offers the DDM Remote Intelligent File Servers module. This allows you to do exactly that, share 2D and 3D CAD data and the associated documentation between users on each site. While the metadata is stored in a central master database, the part, assembly, documentation data is shared intelligently. Essentially, while each location is aware of the nature and lifecycle status of every entity, the physical files remain on each server, until requested, when they are transferred to the other local database. This makes the whole process much more efficient than trying to federate each metadata server and the associated database on a constant basis. The good news is that it is transparent to the users and designed to reduce the Wide Area Network traffic to a minimum.

In conclusion

I've always liked DDM. Even when it was a Pro/Engineer specific workgroup data management system it had two vital qualities often missing in Data Management system – simplicity and efficiency. Having seen the system grow over the past few years, I was quite surprised to find that it was nearly two years since I'd seen it last. In those two years, many things have changed. CSI was just introducing support for SolidWorks, but now the system supports all of the major 3D product definition systems. The scalability of the system has also increased; it can do more with the data, whether that's CAD geometry, 2D drawings or office documents and the ability to extend the reach of that data to outside of the design office and into the rest of the enterprise is always going to be of interest to many organisations. But perhaps the real strength of DDM comes down to two factors. The first is flexibility. By this I'm referring to the ability to integrate DDM into each of the CAD systems you have in house, whether they are still in production use or whether they are now transitioning in legacy concerns. Either way, the ability to work with your CAD tool (or indeed, tools) of choice and still be able to manage the output data in the same, unified system is going to be a massive benefit to anyone that finds themselves in that often fraught situation.

The second factor is of course, cost. DDM Office (full functionality but no CAD integration) available for £600 per license and DDM Pro is £1,000 per license and remember, that includes all of the CAD integrations. If you want to extend things further, the DDM Web server costs £2,250 and that allows you to grant access to unlimited numbers of users through a web-browser and if you're working on multiple locations, each RIFS server is £1,800. The ability to implement quickly and efficiently a single data management system that can handle all of your CAD systems and their output data, means that you're not only reducing capital and on-going maintenance fees, but you're only paying for one implementation and set of training. On the subject of training, the fact that the system has been redesigned to make it generically familiar to anyone that's used Windows XP makes that argument much stronger – training is reduced to the specific data management process, rather than UI navigation, which is going to save you time – which always relates to money.

In summary, DDM has always impressed and the work done in the last two years shows that this is a system with a bright future. The adoption of multiple CAD systems within single organisations shows no sign of abating yet - so it's going to find itself in demand. DDM has been designed as a deliverable product that can be configured to meet with business needs instead of dictating the way you should work avoiding the high consulting costs that are often associated with PDM systems. On the face of it, DDM seems to be very scaleable, flexible and generic in a way that allows you to work in the way you want to work. You can download a trial version of the system and I'm told that the first license is free, so even if you just have a quick look, you'll find something of interest, even if it's a glimpse of how Data Management systems should work.