|  |
| --- |
| **catia-community.jpg**  **Enterprise Open Source PLM, How Can This Be Possible?** http://www.catiacommunity.com/news\_full.php?cpfeatureid=33757 |

|  |
| --- |
| [Delicious](http://del.icio.us/post?url=http://www.catiacommunity.com/feature_full.php?cpfeatureid=33759)  [Digg](http://digg.com/submit?url=http://www.catiacommunity.com/feature_full.php?cpfeatureid=33759)  [reddit](http://reddit.com/submit?url=http://www.catiacommunity.com/feature_full.php?cpfeatureid=33759)  [Facebook](http://www.facebook.com/sharer.php?u=http://www.catiacommunity.com/feature_full.php?cpfeatureid=33759)  [StumbleUpon](http://www.stumbleupon.com/submit?url=http://www.catiacommunity.com/feature_full.php?cpfeatureid=33759)  [Yahoo](http://myweb2.search.yahoo.com/myresults/bookmark?t=&u=http://www.catiacommunity.com/feature_full.php?cpfeatureid=33759)  [Technorati](http://technorati.com/faves?add=http://www.catiacommunity.com/feature_full.php?cpfeatureid=33759)  [What are these?](http://www.ugscommunity.com/socialbookmarking.php)  *By Jeff Cope, Extensible CAD Technologies*  As I reviewed the Aras enterprise PLM solution suite I thought how is this possible? How can Aras have developed such a comprehensive solution? How have they avoided the pitfalls that plague other PLM systems? How come it’s so easy to use? And how can this suite of solutions be open source and free?   Peter Schroer, Aras President and Founder, explained to me that collective PLM experience through open source was the key. He started Aras in 2000 to create a next-generation advanced enterprise PLM platform having previously run Eigner’s North American operations (Eigner was a high-end PDM acquired by Agile, now Oracle’s Agile e6 PLM system) and had worked in engineering at ThermoElectron, Data General and IBM. Aras has always been and is comprised of leading executives and technologists from PTC, MatrixOne, Agile, and other PLM companies.   With a clean sheet of paper over eight years ago Aras was designed to use PLM industry best practices from the ground up. This meant accounting for the known deficiencies in all of the other major PLM systems on the market. Using Internet standards and proven platforms the real innovation in Aras is the model-based service-oriented architecture (SOA) which provides tremendous flexibility to configure and tailor the system to satisfy unique corporate requirements without complex programming.   Having completed dozens and dozens of PLM implementations over his career Schroer recognized that every company’s PLM implementation had different data requirements and workflows, however, the basic building blocks necessary were remarkably similar. The key to making PLM faster and less expensive to deploy was solution flexibility. Aras broke the conventional PLM wisdom of hard coding BOMs, parts, change control processes and instead creating general purpose services for items, lifecycles, workflows, and everything else. So, Aras included a broad suite of business ready solutions that are ready to use, as well as, a graphical solution studio that enables drag & drop configuration of forms, workflows, business rules, and more so the system can be quickly and easily fit to a company’s specific processes.   Aras then made the suite available as enterprise open source which is ideal for PLM because solutions can be freely shared and collaborative development drives greater innovation and faster advancement. Contributions are entirely optional, however, the more corporate community participation that occurs the better and broader the Aras solutions become which benefits everyone. Now, over 20,000 companies all over the world have downloaded Aras and are taking advantage of the Motorola development process best practices, the rigorous Lockheed Martin security structures, and numerous other solution enhancements contributed by global market leaders.   **Full Featured & Free**   Today, Aras Innovator is an advanced enterprise PLM solution suite that provides extensive functionality out-of-the-box. All of the essential PLM features are included in the Aras open source download such as:   **Bill of Materials** – Multi-level indented BOMs views as well as other views like part quantity roll-ups  **Item Management** – Parts, assemblies, components, materials including hardware, software, and firmware for complex electro-mechanical products  **Alternates & Substitutes** – Associated parts that can be used in place of the specified part while maintaining form, fit, and function  http://images.connect2communities.com/articles/30891/pic0_30891.jpg  **Product Structure Browser** – In addition to parts, includes drawings, specs, tools, suppliers, routings, and anything else associated with the configuration  **Classification** – Ability to categorize parts, documents or other items in the system and for each class have different fields on forms, different lifecycles, and different workflows depending on designation  **Part Numbering** – Configurable policies for part and document numbering such as sequential or company-specific and multiple different part numbering schemes can exist simultaneously  **Part Number Generation** – Auto-generate part numbers based on rules tied to part classification or metadata, enter manually, or pull part numbers from another system like the ERP  **Revision Control** – Revision and versioning that can be configured to support any scheme like A, B, C or 1.1, 1.2, 1.3 or letters for major revs and numbers for minors  **Redline** – Redline mark-ups that highlight differences between revisions with side-by-side compare  **Document Management** – Universal file vault manages all different file types including PDF, Office, multimedia & images such as TIF and MPEG, as well as, all the various CAD and EDA formats  http://images.connect2communities.com/articles/30891/pic1_30891.jpg  **Lifecycles & Workflows** – Lifecycles define state (draft, in review, released, obsolete) while workflows manage business processes routing activities and attachments  **Configuration Management** – 4 star CMII certified by the Institute of Configuration Management  **Product Costing** – Target, estimated, and actual costs with roll-ups for total product or assembly-level costing as well as standard costs and pricing  **Change Management** – Online workflows for ECR/ECN and ECO/MCO include capabilities for email notification, infinite looping, parallel paths, rules-based branching, dynamically assigned roles, and more  **Where-Used Impact Analysis** – Identifies all of the other places where a part or material is used to assure thorough assessment of a proposed change and the potential costs  **AVL / AML** – Approved Vendor List/Approved Manufacturer List on a part-by-part basis with supplier status such as ‘qualified’ or ‘on probation’  **Phase-Gate/Stage-Gate** – Multi-phase product development with deliverables and milestones where multiple different processes can be run concurrently in the system  **Project Collaboration** – Collaboration workspaces with gantt chart structure for schedule and activities   **PLM and Beyond**   Aras goes on to include many additional processes such as New Product Development & Introduction (NPDI), Quality Management, Environmental Compliance, Manufacturing Process Planning, and Equipment & Tooling Management functionality as well. In my previous product review article in this series on Aras I took a closer look at the Advanced Product Quality Planning (APQP) capabilities which are quite extensive. I don’t have space to cover everything Aras offers here, so will mention some of the other noteworthy aspects that I was impressed by like:  http://images.connect2communities.com/articles/30891/pic2_30891.jpg  **CAD Integrations** – Pre-packaged connectors for the major MCAD and ECAD systems including CATIA, NX, Pro/ENGINEER, SolidWorks, Solid Edge, Inventor, AutoCAD, PADS, OrCad, and others  **Viewing** – Ability to integrate any of the major viewers on the market and Aras recently announced a partnership with Actify to include SpinFire as the default viewer  **RoHS** – Restriction on Hazardous Substances for compliance to the environmental compliance regulations in the EU, China, Korea, Japan, and other regions  **Options & Variants** – Provides the ability to have one BOM with multiple assemblies as optional or different variant configurations of the same BOM  **Resource Management** – Ability to assign, track, and analyze project resources such as personnel and shared equipment for a single projects as well as across projects  **DFMEA / PFMEA / SFMEA** – Failure mode & effects analysis for design, process, and system-level product risk management  **Inspection & Test Control Plans** – Uses the product’s critical characteristics to define specific points in the production process for inspection & test and includes target, tolerance, measurement method, sample size, sample frequency, control method, and more  **CAPA / SCAR** – Corrective & Preventive Action process that includes Supplier Corrective Actions Requests for closed-loop issue resolution   **Additional ‘Must Have’ Capabilities**   The system is entirely Web browser-based which makes it particularly good for collaborating globally and interacting with suppliers and outsourced manufacturers. Aras has robust enterprise security that satisfies the most stringent requirements including ITAR compliance for Aerospace & Defense and FDA 21 CFR Part 11 for Medical Devices and Pharma. User permissions are in a hierarchical identity-based structure with roles and groups. This means that information can be exposed on a ‘need to know’ basis which is ideal for including suppliers, outsourcing partners, and even customers. People only see the information they are authorized to see, nothing else.   Aras includes advanced search capabilities which make finding information fast and easy. Sorting, filtering, parametric searching, and full text searching on data, documents and even images is remarkable. Aras also recently became the first PLM system to include search capabilities against the GlobalSpec database, the most comprehensive engineering part, product, and specification database on the Web. From within Aras you can perform parametric searches on GlobalSpec’s PartFinder and SpecSearch® which access a library of over 24,000 OEM and distributor product catalogs spanning more than 180 million parts in 2.3 million product families.   The internationalization capabilities in Aras are second to none. Multi-language internationalization capabilities support both the solution screens and end user data meaning users in the USA see the part master in English, users in Germany see the data in German, and users in China see the exact same part master in Chinese. A single system can simultaneously support an unlimited number of user languages and script sets including double byte support for the Chinese, Japanese, and Korean ideographs. A global corporate clock provides each user with a local time zone display, while the system records a user's actions in one defined corporate time zone for synchronization of time and date sensitive activities. This is important for collaborative processes such as electronic workflow signatures, development scheduling deadlines, and product release effectivity.   **Enterprise Capable at Every Level**   For companies that need a complete enterprise PLM system, Aras represents a comprehensive solution that can run end-to-end as a standalone application. Aras has internet scalability for tens of thousands of users, yet is light weight enough to deploy for a small workgroup. Open Web-services interfaces make connecting to other systems in the company particularly straightforward. Also, pre-packaged ERP connectors are available, including a SAP connector that is Netweaver certified.   The ability to easily integrate along with the enterprise open source format that eliminates user licenses means that Aras is also an excellent option for companies that currently have a legacy PLM system and can’t afford to extend data and functionality to a broad user base because of the user license costs. For example, you can integrate with your current PLM system to take advantage of the online change management workflows in Aras and enable thousands of users with no incremental license expense which makes smart business sense in these recessionary times.   Reporting and executive dashboards are also included in Aras. A set of standard reports and scorecards comes with the download and it’s easy to create specialized reports as well. In the next installment of the product review article series on Aras I will cover the underlying technology in-depth including reporting and business intelligence as well as a variety of other interesting technical aspects about Aras.   You can get a CIMdata solution evaluation white paper for more on the Aras enterprise PLM software at <http://www.aras.com/plm-software/100111.aspx>  For more information on Extensible CAD Technologies visit [http://extensiblecad.com/](http://extensiblecad.com/?page_id=69)  For more information on Aras visit <http://www.aras.com/> |