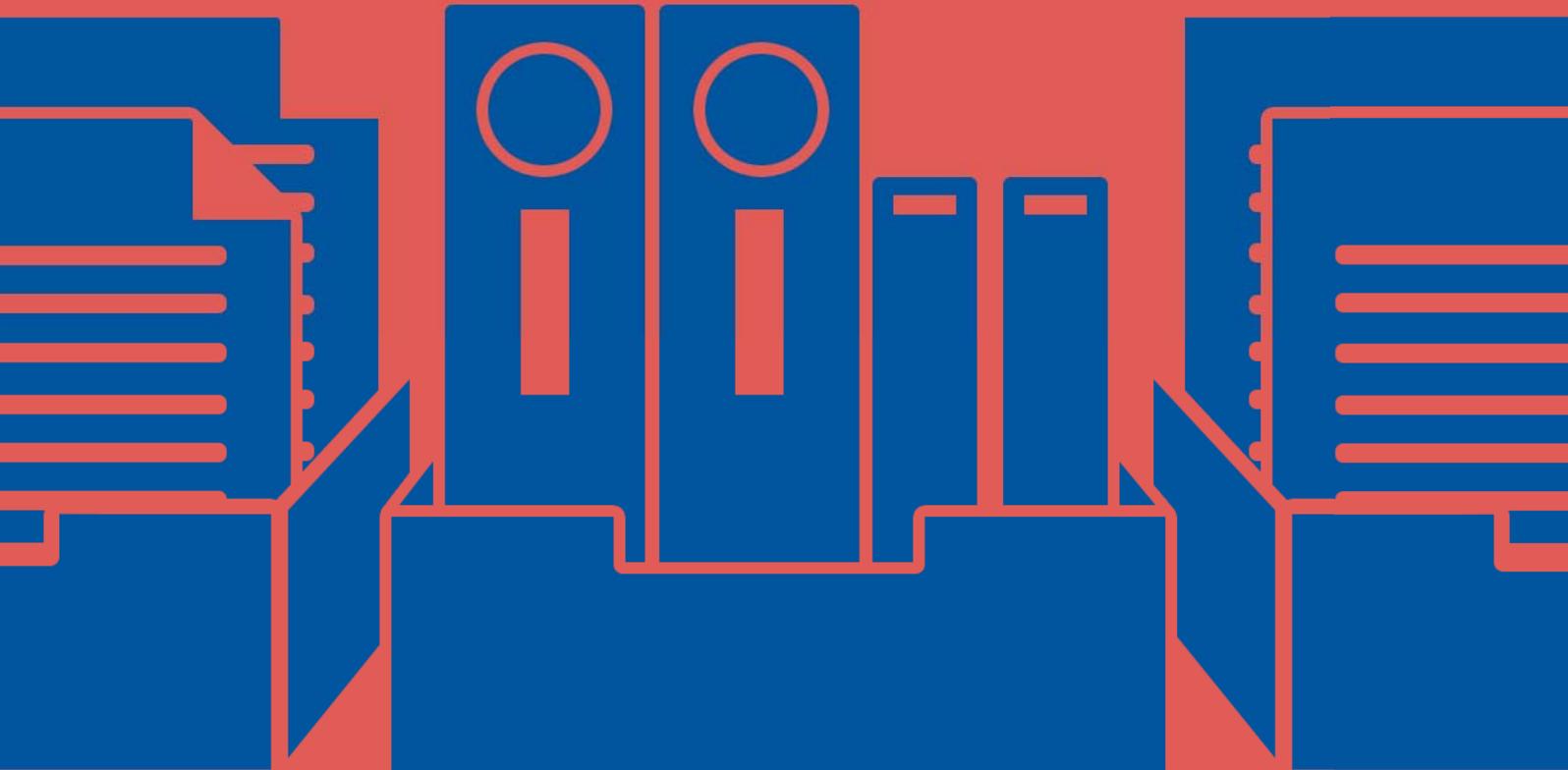




Adoptable, Adaptable and Agile: Key Factors in Successful ECAD to PLM Integration



Mark Hepburn

VP Products and Services, Perception Software

ADOPTABLE, ADAPTABLE AND AGILE...

EDACONNECT FOR ALTIUM DESIGNER

There's no question that sharing information between ECAD and PLM systems can be beneficial for both design engineers and product lifecycle managers. The question is how to enable effective collaboration between them without adding unnecessarily to engineering overhead. Engineers and designers typically do not want to enter information directly into the PLM environment as PLM is generally a solution intended for domains outside of design engineering. However, some of the most critical content in PLM is authored by design engineers via the ECAD design environment. This paper discusses the importance of an integrated solution that is adoptable by design engineers, adaptable to the process, and enables in an agile enterprise: EDAConnect for Altium Designer®

ADOPTABLE

For ECAD to PLM collaboration to be effective, it must be easily adoptable by the engineering community. This requires that the solution does not disrupt the current design flow. Engineers have many competing requirements to fulfill and needing to make major process or workflow changes can be disruptive, and can delay the adoption of the solution. Any solution for ECAD and PLM must enable the engineer to work virtually "business-as-usual" in the ECAD tool of choice, simplifying manual and non-design-related steps with useful validation and feedback to the engineer while automating the interface with PLM. The most adoptable solution to design engineering makes PLM integration a simple extension to the existing ECAD design process.

ADAPTABLE

Every engineering team has created and optimized their own way of working. Every enterprise has created their own workflow, and business process. These processes reflect the unique environment of every customer. For an ECAD to PLM collaborative process to thrive, it must be adoptable by engineering, it requires the solution be easily adaptable to each customer's environment.

Adaptable means that it can be adapted to the customer's workflow without custom coded applications, or complex software deployment projects. Adaptable means simple ways to configure and map the ECAD design process to the required business PLM process.

The solution must allow mapping BOMs, variants, manufacturing files, viewable files, and documentation into whatever product structure the enterprise requires. Additionally, as companies grow, they obtain more ECAD tools, more enterprise applications, and different ways of working. This may happen through mergers, acquisitions or different partner relationships with contract manufacturers or outsource design partners, with each bringing along new ways of working. The ECAD to PLM integration must be adaptable to multiple configurations, allowing different ECAD teams potentially with different tools and processes to work together.

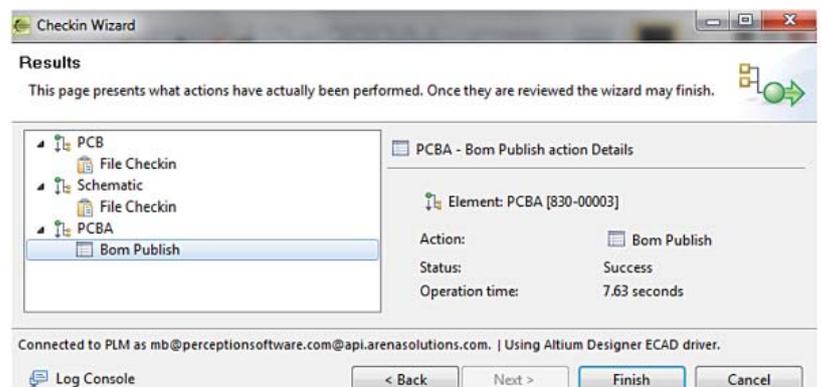


Figure 1: EDAConnect lets companies establish actions for each item in the product structure, allowing the correct design file, BOM or variant to be mapped to the correct PLM object. It also provides immediate feedback to the design engineer allowing for early resolution of problems before costlier downstream processes are underway

ADOPTABLE, ADAPTABLE AND AGILE...

AGILE

Growing companies change: they add people, restructure organizations, modify process and introduce new technologies. ECAD to PLM collaboration must be fluent in the agile enterprise, allowing easy support of these new ways of doing things, and allowing easy reconfiguration of ECAD or business process. Any solution must not rev-lock customers into specific tool versions, or slow down connection with evolving processes.

Growing companies need to easily try new ways of process improvement, quickly identify a failed approach, and accelerate the adoption of innovations that do work. An ECAD to PLM integration is a critical part of the agile enterprise and must support quick reconfiguration, and execution of the different ECAD to PLM processes. An ECAD to PLM collaboration process must support the latest versions of the CAD tools, and must support multiple versions of tools. The ECAD to PLM solutions must be an enabler of change not a barrier. Properly used, a well-supported ECAD to PLM solution enables faster uptake of new CAD tool versions, and more complete use of the enterprise's investments in technology.

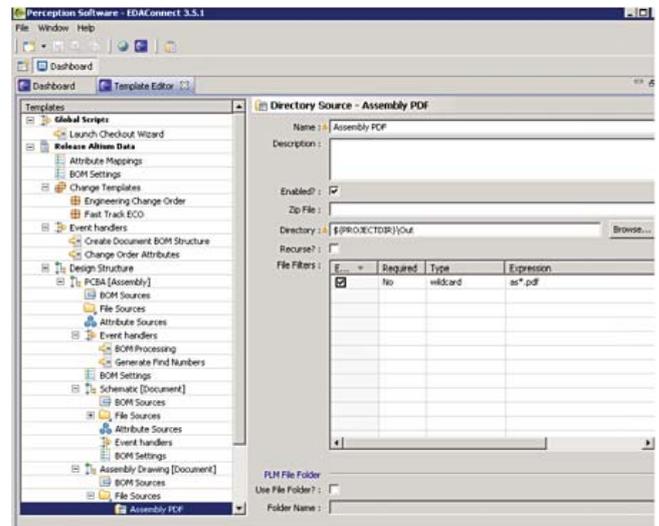


Figure 2: EDAConnect for Altium provides easy-to-configure workflow definition between ECAD and PLM. This allows configurable product structures, variant processing and multiple ways of dealing with BOM, and file deliverables. EDAconnect enables agile changes to one or more processes inside a company without building custom one-of-a-kind solutions nor requiring migration or involvement of corporate IT.

ARENA AND ALTIUM DESIGNER

Growing companies today have embraced multiple technologies, gravitating to top-rated solutions. Today, this means leveraging collaborative solutions such as Arena PLM. Arena PLM is a full cloud solution while requiring connectivity to highly innovative ECAD design technologies offered by Altium Designer. Altium Designer and Arena have a proven track record of providing highly “adoptable” solutions for both engineering and the enterprise. Both solutions already enable substantial “adaptability” allowing companies to utilize off the shelf technology, while enabling significant capability to realize a customer’s unique engineering and business processes. Finally, Arena PLM and Altium Designer enable the agile enterprise, providing capability to easily establish new processes, and work with the latest innovative design methodologies.

PLM INTEGRATION: ADOPTABLE, ADAPTABLE AND AGILE

There are several critical capabilities needed to realize an adoptable, adaptable and agile ECAD to PLM integration strategy. Here are examples of the most important items.

Enabling Effective Release of Design Data to PLM

EDAConnect automates the process of publishing ECAD design information to Arena PLM, making the process efficient and consistent. It literally takes a single click for users to provide the design intelligence needed to drive informed procurement decisions, supply chain management, change management and other key areas throughout the product lifecycle.

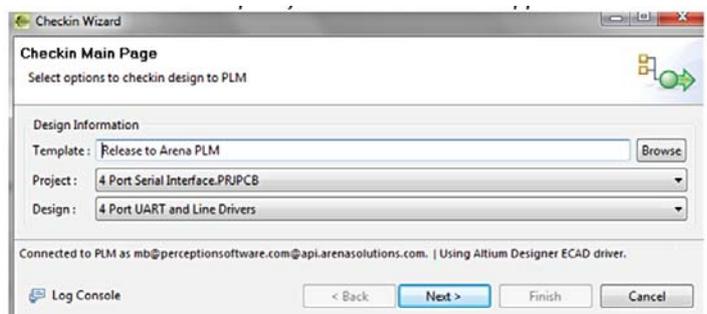


Figure 3: EDAConnect is launched from within the Altium Designer project, automatically providing the design context. This frees engineers from having to locate PLM part numbers and run thru ad hoc processes to collect data for PLM. Engineers just answer required questions to complete a successful release to PLM. This simplicity allows releases to happen more accurately and more frequently.

ADOPTABLE, ADAPTABLE AND AGILE...

Delivering Timely, Accurate Design Information for PLM Purposes

Before EDACONnect, the only way ECAD information ever made its way to PLM was if engineering sent it to a document control specialist to organize it appropriately and submit it. EDACONnect automates the process to eliminate that step, ensuring the accuracy of design information and its timely delivery.

Enabling Effective BOM Management

The information in the BOM is critical to managing the success of a new product. Without current, accurate BOM information driving the PLM system, it's impossible to make optimal purchasing and other choices. EDACONnect provides direct integration with the ECAD design environments to extract relevant data that enables collaboration, increases visibility and drives better product decisions.

Automating Change Management for Engineering

EDACONnect simplifies the creation of engineering change orders, by providing all of the critical information to the PLM system automatically, allowing PLM to effectively manage all of the affected items, BOM redlines and updated attachments. This enables timely, consistent and complete execution of the PLM change management process.

Providing Up-to-Date Enterprise Data for Engineering

EDACONnect enriches the ECAD library with critical enterprise data in key areas such as cost, risk and availability. This enables design engineers to make better part selections from within the ECAD tools, reducing costly rework later in the development process. By directly updating the ECAD library, designers get PLM data right inside the CAD tool, with no need to enter a different environment. This enables design engineers to make use of PLM data without any changes to the ECAD design process.

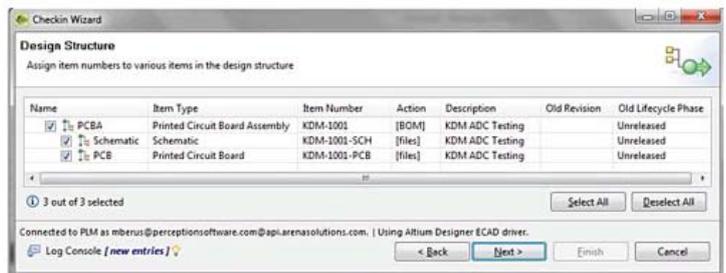


Figure 4: EDACONnect previews the product structure, to be later populated from Altium Designer, and also shows realtime data giving designers a more informed view of the PLM release.

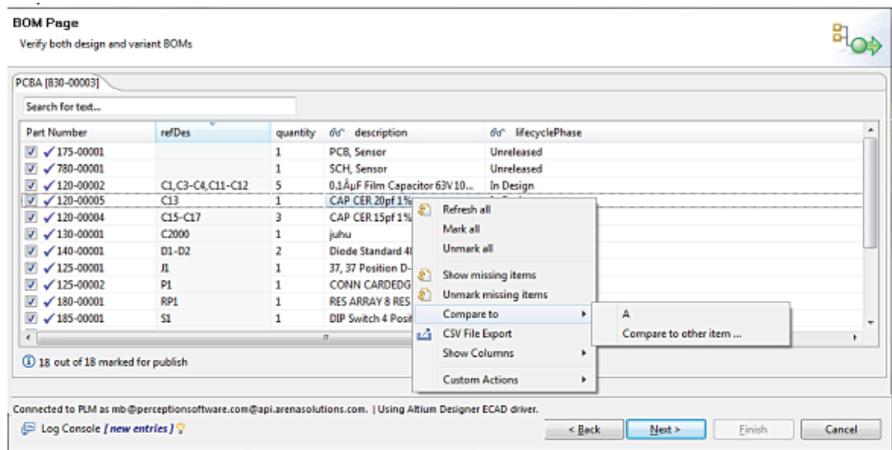


Figure 5: Example of BOM preview in EDACONnect. EDACONnect automatically extracts the BOM, merges it with PLM data, and provides useful feedback to the design engineer, all in just one step of the wizard.

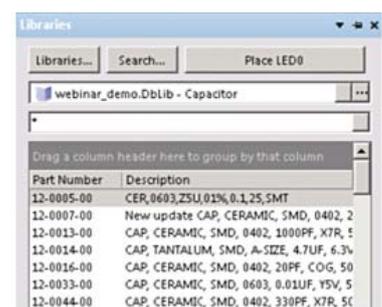


Figure 6: EDACONnect allows the CAD librarian to map the key data fields from PLM that need updating in the CAD library. The design engineer can simply place parts as usual using integrated DB-Lib selection panel in Altium Designer.

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Summary

As companies grow, they require capabilities to manage the release process with enterprise systems such as Arena PLM. Companies bringing in a PLM system or growing their PLM's footprint quickly realize that design engineering is a critical contributor to the product record managed in PLM.

Innovative companies seek solutions that are very adoptable, allowing engineering to onboard with PLM quickly and non-disruptively. As the company adds new processes, the ability to be adaptable and to take advantage of new technologies is critical.

Finally, the agile enterprise is able to quickly change to changing market, technology and innovative business practices. These traits are a must to survive in today's competitive marketplace. Onboarding solutions like EDACONnect for Altium Designer are one component that will enable effective collaboration between ECAD and cloud PLM such as Arena.