# Architecture Component Development

*Software through Pictures* product summary

## Architecture Component Development

- Increased level of Abstraction
- Increased Productivity
- Increased Quality
- Effective Resource Utilization

With the *Software through Pictures*® product family, Aonix offers complete UML™ support and a powerful transformation engine called *Architecture Component Development* (ACD™).

StP/ACD is the Tool for the *Model Driven Architecture*™ of the OMG. The basic idea behind it is to separate the technical aspects from the domain aspects in the UML™ model and generate code from WYSIWYG templates.

StP offers special UML™ profiles to generate C, C++, Ada95, Java™, CORBA®, COM, EJB. This makes StP suitable for a wide range of projects and Systems Engineering.

Further industry specific solutions are available for automotive, real-time systems and safety-critical applications.

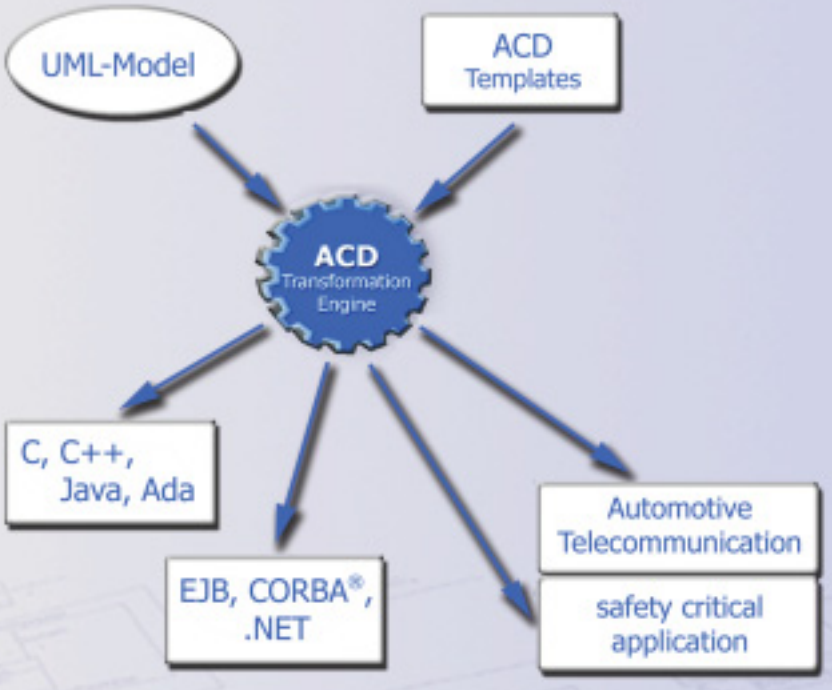
**"A Model is an Abstraction of Reality"**
(UML User Guide)

**Aonix predefined Profiles:**

- C, C++, Java™ , Ada95
- EJB, CORBA®, .Net
- Automotive
- Telecommunication
- Safety critical application

# Why is transformation of UML™ Models necessary?

Today many systems are described graphically using the Unified Modeling Language (UML) which provides several diagram types, and many graphical and textual elements to capture and model the requirements of a system.




However, there is a basic flaw with this approach. Whilst we may achieve a greater understanding of the user and system requirements, only a small amount of these modeling elements are typically realized in the implemented system as source code. This leads to models which are constructed to achieve maximum code generation, rather than accurately representing the business or user requirements in a maintainable way.

Instead of having a Business Model, this will end up in an Implementation Model, which is difficult to read and difficult to maintain. Every change of the selected target technology or middleware will break the model.


# Model Driven Architecture, a more sophisticated way of using the UML

OMG's Model Driven Architecture will solve these kind of problems. The business will be modeled in Platform Independent Models (PIM). These PIM's will then be transformed into Platform Specific Models (PSM). If we compare this with Source Code in C++ or Java, and a Compiler to transform our Source Code, this sounds similar to the way the software community has developed software for years now. Therefore, MDA is not a revolution but rather the next step of abstraction.

As a member of OMG, Aonix has promoted the idea of transforming UML models to the target environment for the past several years. As a result we have a lot of experience with this approach and consequently have many satisfied customers in various industries.

**The main MDA benefits stated by the OMG are:**

- Reducing costs of development
- Better quality, better ROI
- Much faster use of new technologies

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