

**The Challenge** - As technology will continue to evolve, companies that wish to remain competitive must reliably and rapidly build, integrate and deploy enterprise applications in a cost effective manner. In doing so, they face several critical problems:

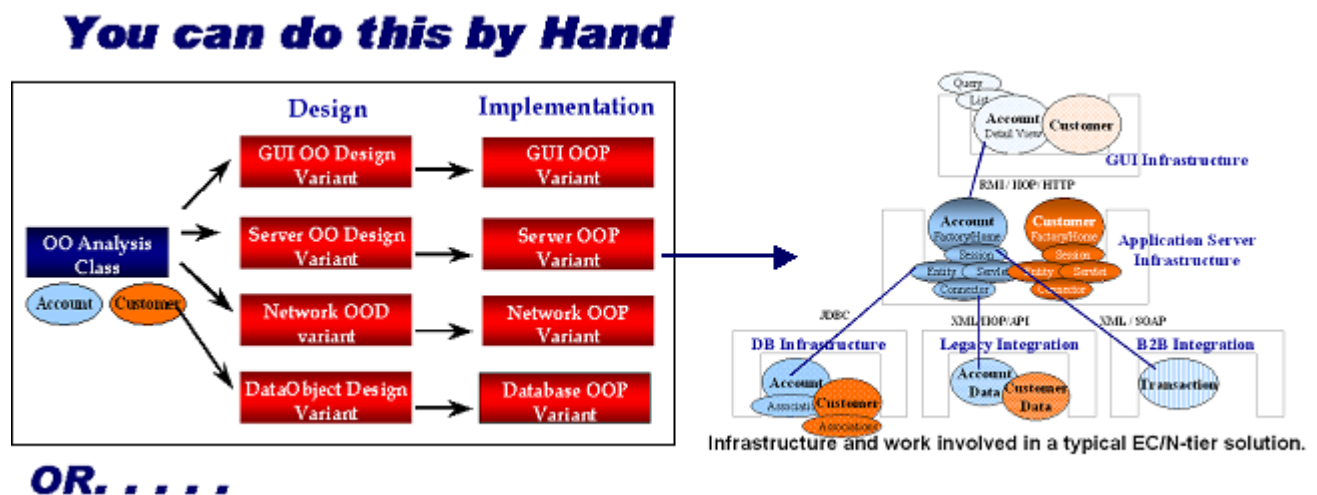
- Shrinking time-to-market and IT budgets.
- Increased requirements and scarcity of good IT resources.
- Unprecedented Enterprise Application Integration requirements, and
- Forever changing technology.

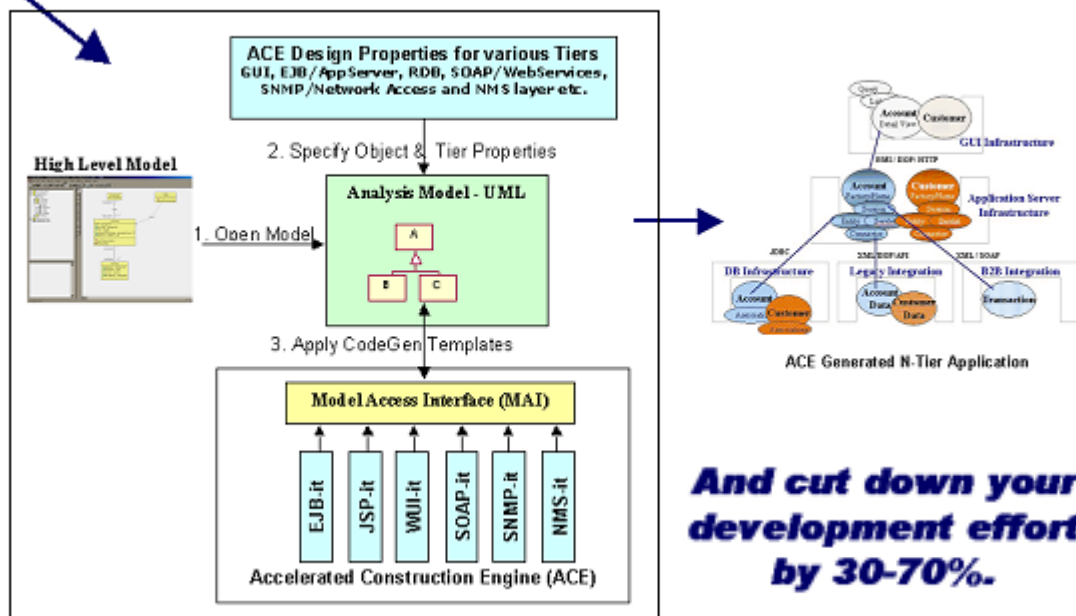
**ACE™** - Accelerated Construction Engine, a MDA based design and development automation engine, can help overcome some of these challenges. ACE™ automates the task of architecting, designing and coding a multi-tier, object oriented application, based on proven and tested design and implementation patterns. ACE™ is a UML and model driven, rapid application design and development tool applicable to what can be broadly termed as N-tier, Web-Transactional applications.

**Design Automation:** ACE™ works with visual UML / modeling tools supporting XMI e.g. Rational Rose, Select, StructureBuilder etc., to access and transform Platform independent model (PIM) to a platform specific (detail-design) model (PSM). A PSM detail design model is produced based on design properties specified for various artifacts in a PIM. The ACE™ design properties are technology-independent and specify for example a business object's lifecycle, persistence, transaction, UI/presentation, EAI etc. related aspects. At present, ACE™ has a collection of 200+ design properties. To further simplify a designer's task, customizable, default values have been provided for all design properties, by the ACE™ workbench.

**Coding Automation:** Once design is completed, from a PSM, ACE™ can automatically generate and assemble a significant portion of the n-tier application code using technology-specific *implementation templates* (e.g., for EJB, JSP, XML, SOAP, CORBA, SNMP, etc.).

**Work Involved in a Manual Process:** A typical enterprise application model may contain anywhere from 25 to 300+ Business or Managed Objects (BOs), for which detail design, coding and tier-to-tier integration is typically done manually. ACE™ automates these complex, tedious yet important tasks and allows developers to focus on business logic. The following figure illustrates the steps involved in transforming a domain model to a N-tier application.



**1-2-3 With ACE™**

"MDA, UML and Java provide a solid foundation to protect enterprise investment in custom applications, against the perpetual technology changes. ACE™ empowers enterprises to automate, accelerate, save and most of all Innovate." Vipul Singhal, President, TechOne, Inc.

**Applicable Technologies:** ACE™ is particularly suitable for model-driven authoring and development of Enterprise, E-Business and Telecom applications in Java, EJB, JSP, XML, RDB, CORBA, SOAP, SNMP, ... technology environment. ACE™ can generate all necessary Java code, deployment descriptors, database schema, XML Proxies, SNMP MIB Wrappers, and JSP GUI etc. from a high-level UML model. ACE™ currently supports automation of the following application tiers:

- **Web-UI Tier:** a Model-View-Controller based web/JSP UI, suitable for many E-Business and Enterprise applications. Generated using **JSP-it** (pronounced "JSP it"). Ready to handle validations, errors, page flows, association navigation, Object List, Detail, Query and Method screens etc.
- **Application Server Tier:** automated using **EJB-it** (pronounced "EJB it") generates code for a J2EE based server e.g. Weblogic and Oracle 9iAS. It also generates various scripts for creating RDB tables etc.
- **WebServices Enablement Tier** – automated using **SOAP-it**, which generates code to enable an object to "invoke" or "accept" business method requests via SOAP or any other XML protocol. SOAP-it is also applicable to general XML based Enterprise Application Integration.
- **Object-Network Tier:** applicable to many telecom, MSP, ASP applications. Generated using **SNMP-it** – automates the object-network management mapping for SNMP-protocol based access to the network and network element data. *Note: This tier is analogous to the object-relational mapping layer.*

**Open and Extensible:** ACE™ is completely extensible and independent of any specific target technology. ACE design properties and/or implementation templates can be extended or modified for a particular project or organization's needs. New templates can be developed to automate development in a proprietary or yet to emerge technologies environments.

ACE™ can help you

- **Accelerate time-to-market**
- **Reduce your life cycle cost**
  - o **Shrink your design / development time by 30-60%**
  - o **Reduce maintenance time and cost by 40-80%**
- **Protect your investment in custom enterprise applications.**

To put ACE™ advantage to work for your organization, please contact  
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