Advanced UML Applied™ Workshop

— Enterprise Architect™ edition —

This advanced UML 2 modeling workshop builds on principles and best practices learned in the *Essential UML Applied*™ workshop. It teaches advanced modeling techniques that will improve the precision, scalability, and clarity of your system architectures. These advanced techniques are tool-independent, and can be applied using Enterprise Architect, an award-winning modeling tool.

The Object Management Group first standardized the Unified Modeling Language (UML) version 1.1 in 1997. Since that time the software industry has adopted UML as its **primary modeling language for specifying software-intensive systems** in a wide variety of domains, ranging from finance and healthcare to aerospace and telecommunications. With the UML 2.x major revision the UML has evolved into an **architecture description language that can precisely specify enterprise architecture blueprints and facilitate automated code generation**.

This advanced UML 2 workshop **explains how to apply advanced UML 2 modeling techniques to improve the precision, scalability, and clarity of your system architectures.** The advanced modeling topics include **recursive design, architecture patterns, customizing UML for domains and platforms, automating Verification & Validation (V&V), model simulation and execution, system architectures, and large-scale model management**. This workshop edition is customized to integrate basic modeling tool training with Enterprise Architect, an award-winning modeling tool.

WHY TRAIN WITH US? – PIVOTPOINT TRAINING ADVANTAGES

- PivotPoint workshops are **authored and taught by Model-Based Engineering experts** with 10+ years practical application experience.
- PivotPoint workshops **are intense (high Instructor/Student ratio) and pragmatic—punctuated with frequent Q&A sessions and hands-on practice exercises**.
- PivotPoint workshops are **based on proven tool-independent principles and techniques**, so you can learn a leading modeling language or architecture framework with/without a modeling tool. (For a list of workshops customized for popular visual modeling tools see the *Training* page on the PivotPoint web.)
- PivotPoint workshops are **modular and can be customized to meet your team and project needs**. To begin with, you can pick-and-choose your modeling language, and then select from modeling tool and architecture framework training options.
- PivotPoint workshops **offer flexible choices of venues (onsite, offsite, webconference) and durations (#days)**.

For more details about the advantages of PivotPoint's Model-Based Engineering training check out the "Why Train with Us?" page on the PivotPoint web. But don't just take our word for it; you should also check out the Client Testimonials page on our web.

Workshop **learning objectives, prerequisites, syllabus, and logistical information are described below**.

PIVOTPOINT TECHNOLOGY, MODEL-BASED SOLUTIONS, ESSENTIAL UML APPLIED, ESSENTIAL SYSML APPLIED, ESSENTIAL BPMN APPLIED, ESSENTIAL DODAF APPLIED, ADVANCED UML APPLIED, ADVANCED SYSML APPLIED, ADVANCED BPMN APPLIED, MODEL-BASED REQUIREMENTS ENGINEERING WITH USE CASES, and MODEL-BASED ARCHITECTURE & PROCESS STRATEGY are trademarks of PivotPoint Technology Corporation. UML, BPMN and OMG SYSML are trademarks of the Object Management Group. ENTERPRISE ARCHITECT is a trademark of Sparx Systems Pty Ltd. All other trademarks are the property of their respective owners.

© 2003-2010 PivotPoint Technology Corp. All rights reserved.

WHAT WILL YOU LEARN?

- Learn advanced UML 2 modeling techniques to refine structural and behavioral models
- Understand how to define and apply analysis/design/architecture patterns for reuse
- Understand how models can drive simulations and generate executable code
- Learn how to customize UML 2 for your work domain and target platform
- Understand how to select and customize model-based processes and tools
- Learn how Architecture Description Languages such as UML 2 can precisely define system architectures
- Understand how to select and apply system architecture patterns and frameworks
- Learn what makes a model-based process architecture-centric
- Understand how to manage large-scale models
- Learn advanced techniques for selected UML 2 modeling tool: Enterprise Architect
- Identify the advanced UML 2 modeling principles and best practices that are most important to your team and your project
- How to learn more about advanced UML 2 and system architecture modeling

WHO SHOULD PARTICIPATE?

Software architects/engineers/developers, system architects, systems engineers, project managers, and others who want to learn how the UML 2 language can improve how they architect, analyze, design, and manage systems will benefit from this workshop.

PREREQUISITES: *Essential UML Applied*™ or equivalent UML 2 training.

WORKSHOP AUTHOR & CHIEF INSTRUCTOR

Cris Kobryn is the CEO and Founder of PivotPoint Technology Corporation, a company that specializes in Model-Based Engineering Solutions™ for tough business and engineering problems. He is an internationally recognized expert in visual modeling and Model-Based Engineering, and has successfully applied these technologies to diverse industries ranging from aerospace-defense and communications to financial services and manufacturing. Cris chaired large international teams of vendors and users to specify the Unified Modeling Language (UML) 1.x and 2.0 standards for software engineering, and the Systems Modeling Language (SysML) 1.0 standard or systems engineering. In recognition of Cris's contributions to the UML the Object Management Group (OMG) presented him with its Distinguished Service Award, and in acknowledgement of his contributions to the SysML the International Council on Systems Engineering (INCOSE) presented him with its Outstanding Service Award.

WORKSHOP SYLLABUS: The workshop syllabus, in a menu form that can be customized to meet your team/project needs, is described at the end of this document. NOTE: This workshop description and syllabus are subject to revision. Check the *Training* page on the PivotPoint web for the most recent update.

FLEXIBLE VENUES: All of our workshops are available onsite (at a Client training facility), offsite (at a PivotPoint training facility), and via webconference.

FOLLOW-UP CONSULTING/MENTORING SERVICES: All of our workshops can be followed up with consulting/mentoring services that will keep your Model-Based Engineering project on track. Please check out the Consulting services page on the PivotPoint web, or contact us to discuss details.

SCHEDULING AND COST: Workshops must be reserved in advance by Purchase Order or prepayment. We generally require at least 4 weeks lead time for scheduling workshops, but longer lead time is desirable to reserve your preferred training dates. Workshop cost depends upon workshop duration (number of days), venue choice (onsite, offsite, webconference), and number of students.

FURTHER INFORMATION & PRICE QUOTES: Please **visit our web site at www.PTCorp.com, email us at workshops@PTCorp.com, or call us at +1-760-201-0200** to discuss workshop details and receive a price quote.

WORKSHOP MENU

All PivotPoint workshops include both structured presentations and interactive hands-on work sessions to reinforce learning principles and best practices. In addition, all workshops can be customized to address special project or team requirements.

WORKSHOPS THAT INCLUDE STRUCTURED TRAINING + PROJECT PRACTICUM

- **3 day workshop** includes: *UML 2 – Advanced* and *UML 2 – System Architecture*, plus one of the following: *UML 2 – Advanced Modeling Tool* or *Advanced UML 2 – Project Practicum*.
- **4 day workshop** includes: *UML 2 – Advanced*, *UML 2 – System Architecture*, *UML 2 – Advanced Modeling Tool, Advanced UML 2 – Project Practicum.*
- **5 day workshop** includes: *UML 2 – Advanced*, *UML 2 – System Architecture*, *UML 2 – Advanced Modeling Tool,* and two days of *Advanced UML 2 – Project Practicum.*

PROJECT PRACTICUM-ONLY WORKSHOPS — FOCUS ON PEER REVIEWS & MODEL MAKEOVERS

3-5 day workshop includes: three-to-five days of *Advanced UML 2 – Project Practicum* where the Instructor can facilitate system architecture model peer reviews and/or model makeovers.

UML 2 – ADVANCED [Module# LU103] **UML 2 Review** *[If UML 2 refresher required]* **Topics** • Recursive design • Advanced structural techniques • Advanced behavioral techniques • Analysis/design/architecture patterns • Model simulation and execution • Customizing UML for domains and platforms • Model-based process selection and customization • Modeling tool selection and customization	**Goals** • Learn advanced UML modeling techniques to refine structural and behavioral models • Understand how to define and apply patterns for reuse • Learn how models can drive simulations and generate executable code • Understand how to customize UML for your work domain and target platform • Learn how to select and customize model-based processes and tools
UML 2 – SYSTEM ARCHITECTURE [Module# LU104] **Topics** • System architectures and Architecture Description Languages • Quick Tour of OMG's Model Driven Architecture™ standards • Architecture principles and best practices • Architecture patterns and frameworks • Architecture-centric processes • Managing large-scale models	**Goals** • Learn how Architecture Description Languages such as UML 2 can precisely define system architectures • Understand how to define and apply system architecture patterns and frameworks • Learn what makes a model-based process architecture-centric • Understand how to manage large-scale models
UML 2 – ADVANCED MODELING TOOL: ENTERPRISE ARCHITECT [Module# LU112-EA] **Topics** • Team modeling • Document generation • Requirements-driven modeling • Pattern-based modeling • Modeling simulation & Round-Trip Engineering • Customizing profiles	**Goals** • Learn advanced techniques for selected UML 2 modeling tool • Understand the strengths and weaknesses of selected UML 2 modeling tool

ADVANCED UML 2 – PROJECT PRACTICUM [Workshop# LU122] The project practicum provides an opportunity to apply advanced UML 2 modeling principles and best practices to solve project modeling problems in a creative and supervised workshop environment. The practicum can be used to facilitate: • system architecture model peer reviews • system architecture model revisions and extreme makeovers Students can identify project modeling problems in advance, or Instructor will work with students to identify them.	**Goals** • Identify the advanced UML 2 modeling principles and best practices that are most important to your team and your project • Apply advanced UML 2 modeling techniques to project problems that you choose