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# Component Based Systems Development Adoption and Diffusion

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# COMPONENT BASED SYSTEMS DEVELOPMENT ADOPTION AND DIFFUSION

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## **RATIONALE**

Component Based Development (CBD) has caught the attention of academics and practitioners alike. Building upon sound Object-Oriented principles, CBD has a strong conceptual foundation as well as extensive practical orientation and application. CBD approaches promise the potential to deliver quality systems in a short period of time with opportunities for component reuse to further reduce cost that seems especially appropriate for the myriad of e-business systems that are a focal point of many organizations' contemporary systems development portfolios. Indeed, numerous commercial organizations are supplying components that can be relatively easily integrated to create cost-effective systems.

Interestingly, however, CBD is currently not applied extensively. The prospective reasons are many. Management is currently ill-informed and not committed to the CBD approach as they often lack knowledge of the benefits of adopting CBD. Further, many system developers, system analysts and programmers are not aware of CBD issues and opportunities. Possible reasons could be that they received their software education a long time ago (e.g. five or ten years ago or more), and are only familiar with traditional approaches. There is also considerable confusion with regard to component granularity and CBD focus. To some, the focus is on creating the components while to others, the focus is on creating systems by integrating components.

A question exists as to the role of education and research given this situation. Numerous opportunities exist for academics to play a leading role in creating awareness and removing uncertainties in exploring CBD concepts and application. However, little attention is currently being given to CBD, especially in teaching. Like IS professionals, many educators are hesitant to change from traditional development perspectives currently being taught as they face faculty development challenges. By in large, few have had experience in this area and easily fall back to what they learned historically. Further, there is a dearth of textbooks and educational material available to assist academic in the teaching process. Research seems to be fragmented and lacking coherency in focus. Research, teaching and practice all seem to be going in different directions.

## GOALS

This panel will explore barriers, opportunities and critical success factors for broad-based adoption and diffusion of CBD and propose directions for teaching, research and practice. The panelists bring with them a strong set of experiences with varied perspectives to bear on the following questions:

- What are sound operational steps in teaching and using CBD to develop software and systems?
- What level do we teach, how do we do it and what tools should we use?
- What are techniques in designing components and systems from an inter-enterprise wide perspective?
- What are major problems that hinder adoption of CBD and what approaches are there for resolution?
- How should organizations switch over to a CBD approach? Or should they?
- What complementary development approaches are there (if any) from which we can learn based on prior experience?
- What are key research issues that need to be addressed?
- What research approaches seem especially appropriate and inappropriate?

These and other related questions will be addressed as the panel session unfolds. Special attention will be given to opportunities for synergy in CBD teaching, research and practice.

## STRUCTURE

The structure of the panel session will be kept flexible as a function of audience membership and corresponding interests. The chair will introduce the topic area and the panelists. Each panelist will present his perspective on the topic and relate relevant experiences. A high degree of audience participation will be sought as issues and questions are addressed and others raised during discussion.

## REFERENCES

- Allen, P. Realizing e-Business with Components, 2001, Addison-Wesley: ISBN 0 201 67520 X.
- Allen, P. Stuart Frost, Edward Yourdon, Component-Based Development for Enterprise Systems : Applying the Select Perspective (Managing Object Technology Series , No 12), June 1998, Cambridge Univ Pr (Trd); ISBN: 0521649994 ;
- Brown, A., Enterprise Scale Application Development in the Internet Age, 2000, Prentice Hall.
- Iivari, J., Hirschhem, R., and Heinz, K. "A Dynamic Framework for Classifying Informaton Systems Development Methodologies an dApproaches," *Journal of Management Information Systems* (17:3) 2001, pp 179-218.
- Linthicum, D. Enterprise Application Integration, Addison Wesley, 1999.
- Lozinsky, S. Enterprise-Side Software Solutions: Integration Strategies and Practices, 1998.
- Mary Kirtland, Designing Component-Based Applications, (December, 1998) Microsoft Press; ISBN: 0735605238
- Tomas Jell (Ed.), Component-Based Software Engineering (Managing Object Technology Series , (Number 10), June 1998, SIGS Books/Cambridge Press; ISBN: 0521648211
- Turban, E.; Lee, J.; King, D. and Chung, M. Electronic Commerce: a Managerial Perspective, 2001 (2<sup>nd</sup> edition), Prentice Hall: ISBN 0 13 975285 4.
- Valacich, J.; George, J. and Hoffer, J. Essentials of Systems Analysis and Design, 2001, Prentice Hall.
- Zahavi, R. Enterprise Application Integration with CORBA Component and Web-Based Solutions, JohnWiley and Sons, 1999.