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Abstract

Although a multi-billion dollar industry worldwide, the subject is almost never taught in Universities. Yet, it is a prime source of employment for topnotch graduates. The tutorial explores what systems integration is, how it compares with ERP systems, how it can be used strategically, and the open research questions in systems integration.

Introduction

System integration is a multibillion dollar industry employing the best and the brightest people in information systems and computer science. Leading consultancies, accounting firms, and computer manufacturers as well as large in-house groups specialize in the topic. However, perhaps because it is mostly mainframe rather than PC-based, systems integration is little taught or studied in universities. The purpose of this tutorial is to describe what system integration is, how it is practiced, how it can be used strategically, and to examine potential research questions that require solution. It is hoped that by presenting this material at AIS,

- faculty from throughout the world will become acquainted with this important topic and will carry it home with them to form the basis for new courses
- researchers will see new opportunities for their work.

Alternate Approaches

The tutorial considers two alternative approaches to systems integration:

1. Combining existing (legacy) systems with one another and with new systems being introduced in a firm. This is the conventional approach to the subject.
2. Using Enterprise Requirements Planning (ERP) systems, such as those from SAP or Baan, to perform the integration function.

Each approach is described and the two approaches are compared and contrasted. The size of the industry and the costs associated with typical projects are considered.

Organization of the Tutorial

The tutorial is divided into three parts. The first part discusses conventional systems integration, including

— what it is
— how it is practiced

The focus is on how "systems glue" and similar approaches are used.

The second part looks at an alternate approaches, enterprise requirements planning (ERP) systems applied to systems integration. Here a number of major vendors are offering major modules in finance, human relations, manufacturing, etc. These systems typically require either reengineering the organization or making major modifications to the ERP packages.

The final section looks at the strategic use of systems integration and ERP systems and examines the open research questions that surround these approaches.