



## **Chapter 20**

# **Towards a Model for Architectural Coordination of Business and IT Perspective**

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*Development of information systems in complex and dynamic organisations has failed in many aspects often due to the inability to manage complexity in interdependent enterprise and information systems changes.*

*This paper presents some essential difficulties from the case project in systems development based on IT products like ERP products. We give an example of critical architectural issues where our understanding must increase to make a powerful management tool in business/enterprise and IT development. A conceptual model of actors and relations to support coordination of architecture from business perspective and IT supplier perspective is outlined.*

## **THE CASE PROJECT**

### **Project Environment**

The study of this case project is based on reports (Porat, 1997a, 1997b) from the Swedish National Audit Office (RRV) and interviews with project members.

The SIRIUS project was one of several large information systems projects in the Swedish defence co-ordinated by Headquarters. Three of the projects were information systems (IS) projects responsible for development of work processes and IS for each division. The fourth project concerned top-level management and the fifth project, SIRIUS, was domain-oriented within the supply and maintenance function across the organisation.

At that time, responsibility for ISs was decentralised to corresponding parts of the organisation within Headquarters. The Swedish defence has a corporate IS/IT strat-

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egy and architecture guidelines for new information systems, primarily addressing macro systems structure and reuse-oriented software systems construction. There are a large number of legacy systems in most areas such as command and control, weapon systems, platforms and traditional administrative work.

The IS/IT strategy (Försvarmakten, 1991) of the organisation includes a concept of *enterprise-based information systems structures* (system of systems). Each enterprise unit shall have a local IS connected to other ISs through message interaction defined in agreements and documented in contracts between responsible units. A prerequisite was that all ISs developed by the IS projects could communicate at all organisational levels without complicated and expensive adjustments. This, in turn, requires that IT products developed in the five projects could be integrated in ISs.

### **The Domain Project – SIRIUS**

The project scope was to develop applications in the form of flexible system modules supporting supply and maintenance to be integrated in ISs implemented by the four IS projects mentioned above.

The main goals were to cut costs in supply and maintenance, to replace a large number of incompatible legacy systems and to provide these applications in time not to have to Y2K-secure legacy.

The SIRIUS project occupied 200 persons, one-third from the Defence, the material acquisition and from consultants respectively. The total cost was estimated to be US\$200 million where off US\$25 million was spent. Project activities included analysis of the requirements in the domain of supply and maintenance throughout the whole organisation as well as developing applications.

The development strategy was in-house development based on domain analysis and design of object frameworks. Halfway through, the strategy was switched to acquisition of IT products. Thus the role of SIRIUS was both IT provider to the IS projects and client to the COTS suppliers. After an exhaustive evaluation of several products and supplier groups, the department of defence stopped the whole project mainly because SIRIUS was considered not able to meet the deadline of releasing legacy before year 2000.

### **Development Management Issues**

A summary of management issues in the case is presented here.

### **Integration of Results**

The Swedish defence possesses a vast set of legacy information systems, each built with ad hoc architecture. Most of these systems are to be replaced by new systems designed according to the defence corporate systems architecture guidelines, by the IS projects.

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