

Chapter XVI

Integration Platform for De-Centralized Investment Projects Appraisal

Mladen Stanojević

The Mihailo Pupin Institute, Serbia and Montenegro

Violeta Tomašević

The Mihailo Pupin Institute, Serbia and Montenegro

Sanja Vraneš

The Mihailo Pupin Institute, Serbia and Montenegro

ABSTRACT

In this chapter, a few software architectures and platforms are discussed in relation with their ability to cope with business integration problems in large, geographically dispersed companies. Of these architectures, the three-tier architecture has reached maturity and proved its usefulness in solving these problems. As an illustration of its usefulness, two successful applications of the three-tier architecture, based on Java 2 Platform Enterprise Edition (J2EE), solving business integration problems inherent to investment decision-making in large companies, Framework for Investment Decision Support (FIDES) and ProjectsAnywhere, are described in detail. For solving more complex business integration problems, Service Oriented Architecture (SOA), based on agent or Web services approach, is recommended. Hopefully, this chapter will provide concise information about architectures and platforms, and an insight into two complex applications based on them, that will be useful in developing other complex applications that face similar business integration problems.

INTRODUCTION

One of the important business integration problems that often occurs in large, geographically dispersed companies, is related to investment projects. In the case there is a large number of investment projects, without the help of an appropriate business integration platform many organizational, communication and managerial problems arise.

An integration platform provides a solution for several problems, including the communication problems between corporate management and project leaders, problems with non-uniform approach in handling investment projects and, consequently, induced difficulties in comparing alternative investment projects. It saves time, effort and money necessary for the preparation of investment projects, unnecessary communication between involved parties, organization of various meetings and participation in these meetings; it provides standardized methods and forms for handling investment projects, and facilitates anytime-anywhere access to project data.

Compared with a desktop approach, where isolated desktop applications are used, a business integration approach offers many advantages. It enhances the whole business process of investment decision-making, from the creation of new investment project proposals to making final investment decisions, and improves the organization of the involved departments. Unlike the desktop approach, where usually one person is trained to use the application and responsible for collecting all input data, creating new investment projects and interpreting the results, and where this person inevitably represents the bottleneck of the whole process, related with many communication problems and time delays; in the business integration approach, the phase of collecting input data is completely avoided – input data can be fed in parallel, where each collaborator can enter his or her data, while management can track changes from the beginning and make suggestions at any

time, giving rise to enhanced quality of investment project appraisal and shortened time for their preparation. Management also has an opportunity to view all past, present and future investment projects and compare all investment alternatives, simultaneously taking into account all sorts of criteria, which can help them make better short- and long-term investment decisions.

To support business integration in handling investment projects, we have developed two Web-based tools, *ProjectsAnywhere* and FIDES. *ProjectsAnywhere* provides means for flexible planning, managing and tracking investment projects from a collection of ideas to budget calculation, but it also enables distributed planning of projects, and centralized decision-making about the world-wide investment budget. On the other hand, FIDES is a Web-based tool that facilitates investment projects analysis and appraisal, sensitivity and risk analysis, as well as multi-criteria comparison of alternatives, which is extremely useful in large, geographically dispersed corporations, investment banks or governmental institutions. Although these two tools offer different functionality, they share the same architecture and the same model of Web-based client applications.

These two tools are implemented as Web portals using the three-tier host-to-Web solution that has gained so much publicity in recent years, because it forces the clear separation of functionality between the tiers, thus easing the development and testing of the applications as well as future extension and/or reuse. The three-tier architecture has been recognized recently as the most suitable platform for distributed applications development and business integration. In the three-tier architecture applied in *ProjectsAnywhere* and FIDES (Figure 1), the presentation tier contains a thick-client that offers rich GUI and provides full functionality of these tools; the business tier implements business logic; while the data tier represents a repository for all data used by these tools.

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