



Chapter VI

Toward Integration of Artifacts, Resources and Processes for Virtual Teams

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Abstract

Over the last years most business processes changed in various dimensions (e.g., flexibility, interconnectivity, coordination style, autonomy) due to market conditions, organizational models, and usage scenarios of information systems. Virtual teams are under heavy pressure to increase time-to-market of their products and services and lower their coordination costs. A fundamental need for distributed virtual teamwork is to have access to contextual information, i.e., to see a “knowledge trail” of who did what, when, how, and why. In this chapter, we discuss underlying conceptual issues and one implemented information system (Caramba®) to support the integration of artifacts, resources, and business processes for virtual teams.

Introduction

Over the last years, most business processes changed in various dimensions (e.g., flexibility, interconnectivity, coordination style, autonomy) (e.g., Zeng et al., 2001) due to market conditions, organizational models, and usage scenarios of information systems. Generally, one can witness a trend toward decreasing hierarchical organizational forms and moving to flatter organizational structures. The question of the “right” organizational form and the appropriate information systems support remains of paramount importance and still constitutes a challenge for virtually all organizations, regardless of industrial background. Organizations distribute their required work activities among a group of people (teams), with teams constituting the main building block for implementing the work (tasks). In most cases, team members are organized as “virtual (project) teams.” These teams are under heavy pressure to increase time-to-market of their products and services and lower their coordination costs. Some characteristics of distributed virtual teams are that team (member) configurations change frequently and that team members report to different managers, maybe even of different organizations. From an information systems’ point of view, distributed virtual teams are often self-configuring networks of mobile and “fixed” people, devices, as well as applications. A newly emerging requirement is to facilitate not just mobility of content (i.e., to support a multitude of devices and connectivity modes) to team members, but also to provide contextual information on work activities to all distributed virtual team members (Dustdar, 2002a, b, c).

By context, we mean traceable and continuous views of associations (relationships) between artifacts (e.g., documents, database records), resources (e.g., people, roles, skills), and business processes. Context is composed of information on the “who, when, how, and why.” In order to illustrate the lack of context in information systems currently in use by virtual teams, consider an “Explorer”-like view on a file system. This view allows the person to see documents (artifacts) stored inside folders. The names of such folders might reflect project names. The mentioned view on these documents does not contain further contextual information on what any virtual team member actually has to do (did) with it (e.g., create another document, send an e-mail to a customer, call a partner organization, etc.). For example, if the team member in the above example needs to see who received a document stored in any given (project) folder, he is required to manually retrieve his e-mail box in order to find this information. This simple example shows that relationships (links) between artifacts, such as documents or database information, and work activities performed by team members are usually not stored in groupware, project management, or workflow management systems. However, this linkage is of paramount importance for knowledge-intensive business processes of virtual

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