Introduction

Since the mid-nineties, a considerable number of research and development projects and industrial initiatives have been undertaken to define infrastructures and supporting functionalities for Virtual Enterprise integration (i.e., computer supported tools and environments to support any or all of the following functions of the VE life cycle: VE design, search, negotiation, selection and integration of resources into a VE, and coordination functions).

Examples of such developments towards VE integration include:

- Agent technology, a promising approach to support electronic market brokerage and electronic negotiation; and
- Environments for virtual enterprise integration, as the electronic marketplaces, most of them supporting transaction facilities, negotiation and electronic contracting.
This chapter explains how “traditional” Internet-based tools (WWW search engines, WWW directories, electronic mail and e-marketplaces) can be used to support some of the functionalities required by the A/VE model, analyses costs of subcontracting, and introduces a cost-and-effort model that traduces the activities of A/VE integration that can be undertaken with the support of these traditional tools.

How Traditional Tools Support Agile/Virtual Enterprise Integration

In this section we explain how some traditional technologies are used in the search of resources to integrate an A/VE.

There is some tradition in the use of information technology systems to support or even automate purchasing activities. Usually, however, these systems do not cover the full purchasing process. Internet and World Wide Web technologies are raising hopes of supporting procurement processes, including the search of partners for a partnership, negotiation, contractualisation, in terms of quality, flexibility, speed, and cost efficiency (Cunha, Putnik, & Carvalho, 2002).

Our concept of the traditional way (using traditional tools) of searching partners, negotiating, etc., in order to create or reconfigure an A/VE, does not refer to paper-based methods, but to Internet-based methods. The traditional way can be supported by:

- **Internet search engines** and **Internet directories** that help users to find items by using keywords, supporting the information phase, in particular to find new sources. This method supports the search for basic and complex resources. After identifying the search domain (the set of resources providers corresponding to the results of the search using keywords), the process is performed by visiting the resources providers’ Web pages, to evaluate their potential, resulting in the negotiation domain identification, followed by contacts by e-mail, exchange of information concerning the resources requirements, negotiation, and contractualisation. None of these are supported by computer-aided tools for selection, negotiation and contractualisation.

- **Internet-based catalogues** that allow buying organizations to browse, search, and/or place orders online. They combine and extend many features of existing channels, such as the content of printed catalogues, the