5.3 Information Broker Network (IBN)

A possible way out of the information overload problem might be an Information Broker (called Infobroker or IB) who offers quality proofed information and services to everyone and will be paid for this.

Infobrokers form a network and work together to offer information and services including all specialities and domains.

The term “Infobroker” describes the profession of registrars and others who are professionals in dealing with information, so-called “Information Professionals” [Goodall, 2003].

Several organisations offer contacts to Infobrokers, e.g. AIIP [aiip web site], EIRENE [eirene web site] and DGI [dgi web site].

These organisations usually offer web-based Infobroker directories where a client can search for an Infobroker. There is no communication model offered – there is only contact information provided. The specialities of every Infobroker are described as free-text or there are several varieties of specialities to choose from, as offered by DGI and AIIP.
If one Infobroker wants to communicate with another Infobroker, he / she has to use the same web site to find him.

The Infobroker concept was then extended which is described in the next section.

The Concept: Personal Infobroker or My Infobroker

Every client has a Personal Infobroker, who manages their requests. A Personal Infobroker has to manage the profiles of each client. The client preferences are managed in these profiles.

Generally it was possible to say that a Personal Infobroker is a modern type of personal assistant out-sourced on the internet but focused on professional information provision.

This includes all kinds of research from simple internet searches up to the composition of complex studies. For example a practical question was: “How big is the influence of the construction of a new road from the harbour to an industrial region on the economic power of the city of (anonymous)?”

A relationship based upon mutual trust must be built up between the client and his personal Infobroker. When this relationship exists, the client gives his / her personal data to his Infobroker.

Of course, an Infobroker is not a specialist in every field, and has to find out which of his colleagues are specialists in the area requested. The Personal Infobroker then generates a task which describes the client’s request. This task will then be transferred to his colleague. The Personal Infobroker as well as the client are informed after the colleague completes the task.

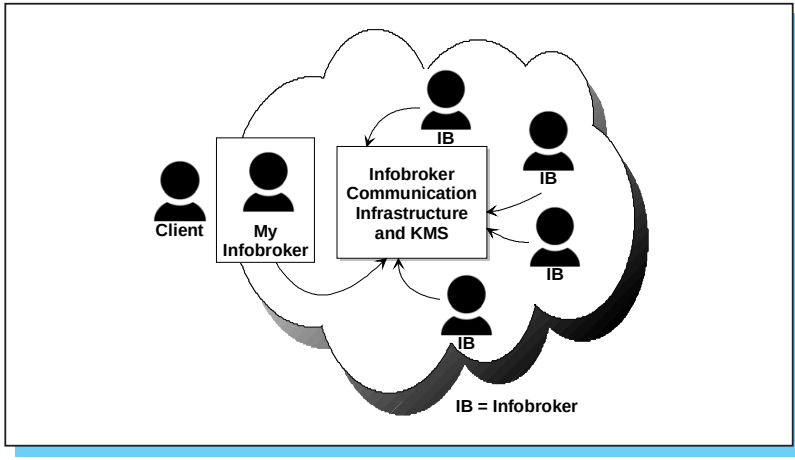

Figure 5.3-1 IBN Overview

If a client is satisfied with his Personal Infobroker, then he will be more inclined to keep up a professional relationship.

How to Find an Infobroker (Infobroker Directory)

The Infobroker community is growing, and there are only a few methods used to find a broker. First a contact address can be found only by using a normal search engine like Google. This is a very annoying job, because of the thousands of hits that may be found. Then the user can try one of those above mentioned “organisational Infobroker search engines”. So what is needed is a global search engine where all Infobrokers are stored.

Technologies used for such a search engine?

The kind of search discussed, is a sort of browsing of yellow pages. A directory service needs to be developed.

There are a couple of possibilities for setting up a directory service. The most common way is to use LDAP - the Lightweight Directory Access Protocol from IETF [Wahl et al., 1997a]. It is a light version of X.500 which originates from ITU. The hierarchical tree structure in LDAP (see Figure 5.3-2) is useful for placing all Infobrokers’ information in the directory.

LDAP supports us in making the directory more secure. LDAP even offers a possibility to distribute the directory. In the case of a fast growing Infobroker community, a standalone-system is likely not enough to handle all the possible requests in a reasonable time. With LDAP the traffic can spread over many machines to achieve better result times.

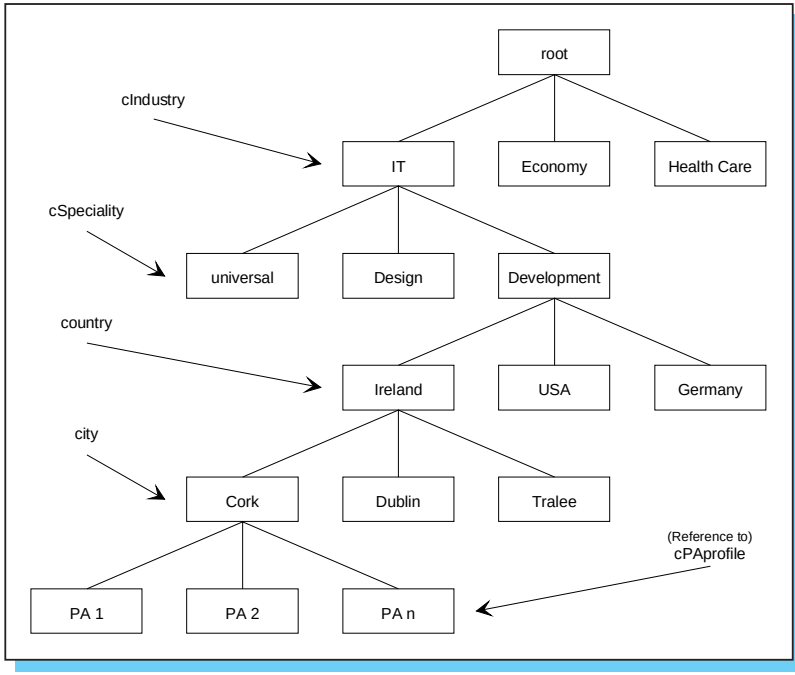

Figure 5.3-2 Infobroker Directory LDAP Structure [Preuss, 2002]

Where do all the Infobrokers come from?

First of all Infobrokers are required to fill the directory. A possible solution would be to bring several of the mentioned organisations together, e.g. AIIP, EIRENE and DGI. Another possibility would be to create a new organisation, which handles all available information about Infobrokers.

The way is, to register those Infobrokers – even to ensure their offer and quality. To register an Infobroker, the person is required to specify a business category that they would offer and any specialities that the person has, along with any personal data needed. Personal data is information like postal-, e-mail and web-addresses. Because of the fact that the Infobroker has to fit in his preferred business category and speciality into the available ones, they should be able specify some aspects of theiy business in

their own words – those entries we will call skills further on. All registered brokers will be included in the directory.

How might the search engine be used?

A user visits a special web-site for searching for Infobrokers. There are two possibilities such a search might be carried out:

- The first possibility is, the user fills out a form with search attributes, such as the business category and specialty for which an Infobroker is needed. The user can then narrow the search criteria to only look for brokers based in specific countries and / or cities if locality is necessity. The directory service will then list the results. The list will be sorted in alphabetical order in the case more than one broker is found, Each result can be opened by the user to look up the broker's profile (skills are included within the profile).
- The second possibility is to browse through the Infobroker tree to find a matching contact. This is comparable to using the yellow pages. The user needs to decide which business category and specialty he wants supported. He is also able to specify a location.

Who would be able to use this system?

The Infobrokers themselves are able to use that special search engine. They have general access rights. But not only the Infobrokers, even the clients who are searching for an Infobroker may use this system (in order to find a contact). For ease-of-use the client's possibilities should not be as sophisticated as those used by Infobrokers.

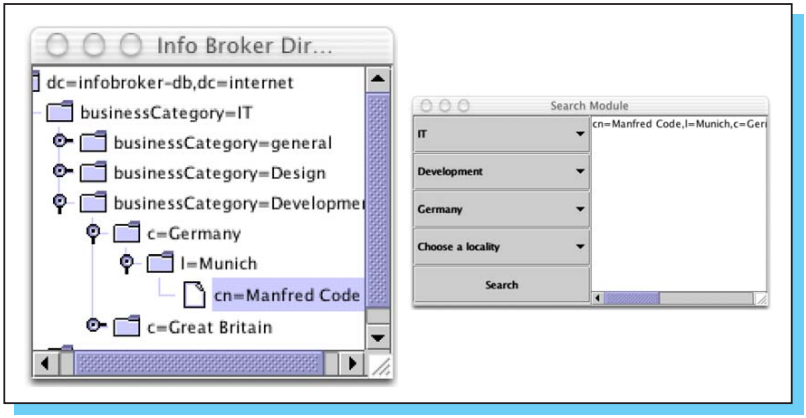

Figure 5.3-3 Java Client Tool for Browsing and Searching the Infobroker Directory [Preuss, 2002]

How Infobrokers communicate and organise their knowledge?

A predefined communication infrastructure is used for all communications between clients and their personal Infobrokers, or for communication between two or more Infobrokers. Additionally Infobroker networks create a Knowledge Management System available to all Infobrokers. This communication infrastructure and KMS is comparable with the KBN system described in Chapter 4.

Using a simple tool, every Infobroker manages the structure and the content of his own data within this Knowledge Management System. All personal knowledge can be managed in his own words and structure. For example, for every client a profile is created and managed dynamically. Every profile has a different (client specific since every client has its own needs) structure that can be extended dynamically.

An Infobroker can describe every part of his / her information as public domain, for personal use or for payable use only. In a standard KMS all information is designated for public use. It takes by far more time for the author to produce this documentation than writing only for experts working in his area or writing personal notes. Therefore they are able to share parts of his personal information with selected colleagues.

Infobrokers are using external experts and services and are managing this using the Knowledge Management System. It is too difficult to fully automate this process.

For further details of the Infobroker directory prototype see Section 6.3.

Infobroker Workflow

A survey was carried out on how the daily work of Infobrokers could be improved in sub projects. In addition to the Infobroker directory attendees of the survey asked for a system to simplify the workflow including subcontracting and billing. It was found that standard office tools were not an option. This is because they do not provide required functionality out of the box. They are also fairly expensive and “freelance” Infobrokers are sometimes unable to afford them. It was hard to define a workflow which fulfils all required details but a possible workflow is shown in Figure 5.3-4.

IBN Prototype

Further information on the use of LDAP for an implementation of a Infobroker directory is given in Section 5.4.

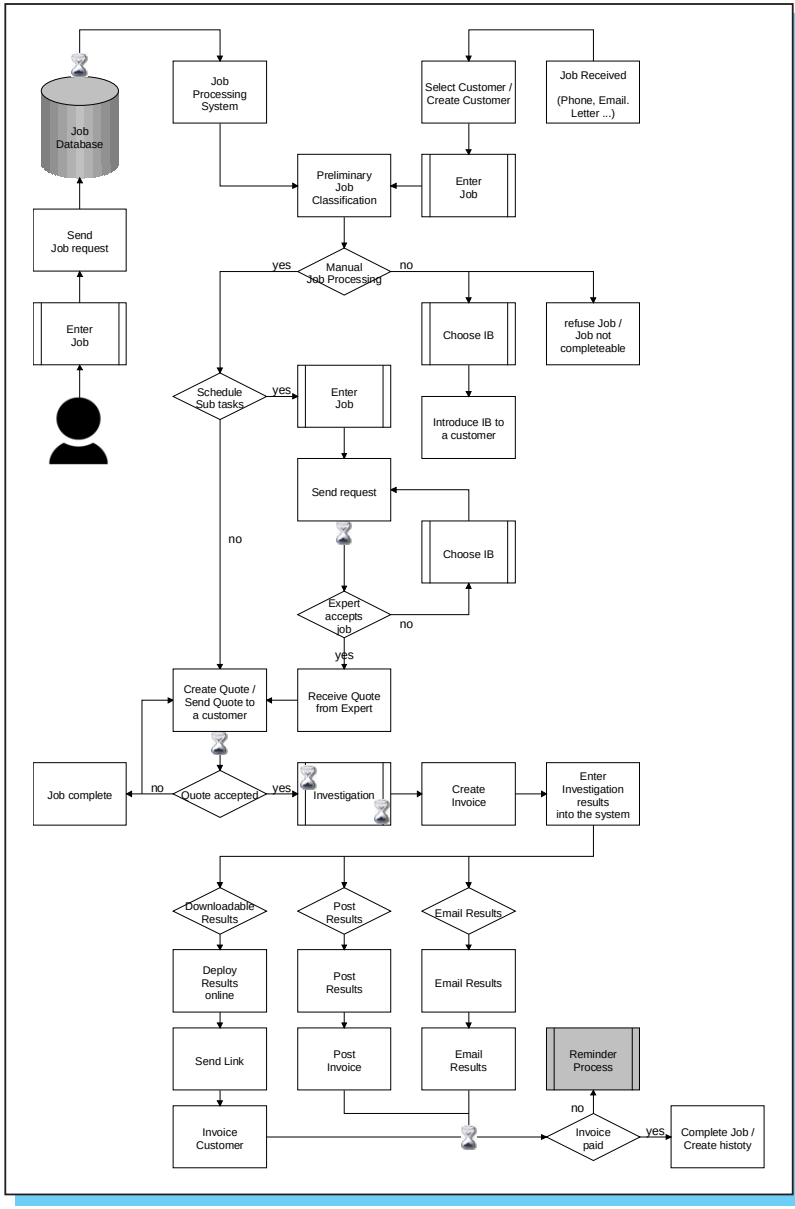

Figure 5.3-4 Infobroker Workflow Flowchart