

**WHY ENTERPRISE APPLICATION
SEARCH (EAS) IS CRUCIAL TO
YOUR ERP SYSTEM**

**WHITE
PAPER**

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Historical dates are divided into years B.C., or before the birth of Jesus of Nazareth and A.D., or anno domini. In this white paper we won't debate the mistakes that the monk Dionysius Exiguus made in arriving at the date of transition between eras, or whether the more neutral terms B.C.E. and C.E. for Before the Common Era and Common Era are preferable. Rather, we will focus on the passing of two other historical landmarks, and their implications for enterprise computing. These two dates are the creation of the Internet and the advent of modern search technology.

When the ARPANET and open architecture networking first gave rise to the galactic network that we now refer to as the Internet, life online was very different than it is today. We can refer to this period as B.G. or, Before Google. (although sticklers for Internet history would suggest it is more correct to refer to this period as B.A.V. or Before Alta Vista). This new era started in August of 1995 when technicians in Digital Equipment Corp.'s Western Research Lab completed the initial index of the entire Web, allowing full-text search of 10 million Web pages. Alta Vista, the first globally successful text-based search engine was born, only later to be eclipsed by Google.

What is so earth-shattering about that moment? In the early days of the Web, bookmarks, portals and Web indexes were very important in order to find what you were looking for online. The Internet had succeeded in connecting countless remote computer networks, but in order to find anything, paradoxically, you had to first know where it was! Many sites on the Internet prominently featured links pages which were designed to be reference points thoughtfully provided by the sites' owners to make it easier for their visitors to find specific resources online. Earlier search tools required site owners to register their web site, and then only very narrow keywords would be searchable rather than the entire site contents. So

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using an early search engine you might at best be able to find a site about sports history, but not specific information on how many home runs baseball great Hank Aaron accumulated during his career (775) or the number of goals Brazilian soccer great Ronaldo has scored in World Cup play. You could find sites containing information on industrial equipment, but probably would have trouble finding “for sale” listings for a used dewatering screen for your mining operation or a rotary die cutter for your printing and converting company.

Searching within your own systems

The ability to find things on the Web using powerful search tools like Google and Alta Vista is a tremendous time-saver. Similar time saving and efficiencies can also be achieved by expediting the search for information within your company’s own systems – specifically, within an enterprise application.

An enterprise application is in some ways similar to the public Internet as it connects computer data from throughout your company, uniting islands of information into a single data universe. And like the Internet, the application features some type of navigation structure to help you surf between the different screens and functions. These tabs or hierarchy of screens are basically the equivalent of the bookmarks we used to have to navigate the Internet. To run a query on your enterprise data, you go to the correct form and run a query in the appropriate field. Just like in the early days of the Internet, to find information in your business application, you need to know where it is.

In searching for information about a particular company, you need to know whether the information you want is attached to records regarding individual companies or records regarding people who work for the company or records of active projects having to do with the company. With enough wisdom of precisely how you have configured your enterprise application, you can find what you are looking for.

This search method is probably an acceptable way for frequent users of a system to search for purchase orders, or to search by supplier or customer information. But it does not work that well for the occasional user of a system – or even for a heavy user of the system who is searching an application in an area with which they are not intimately familiar. Because enterprise applications are so broad and cover so many different disciplines within a company, it is hard for any one person to have a thorough understanding of even a majority of an application’s functionality.

That is why application vendors are coming to market with various search solutions for use within their products. There are two distinct approaches to delivering this critical search function.

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In short, enterprise application search is a tool that is tightly integrated with an enterprise application, and delivers targeted search results from within the application's knowledge base. Enterprise search is a product marketed separately from the application, and searches data both inside and outside of the application.

Enterprise search is the approach taken by a number of technology vendors, including Google, which has launched its Google Search Appliance and Google Mini products. SAP and Oracle are both marketing their search tool as a separate product to locate data not only within their own applications, but elsewhere on a company's intranet and databases. Other vendors, including Thunderstone, Index Engines, Autonomy, Convera, FAST Search, and Verity, compete directly with Google products by focusing more exclusively on search tools rather than the enterprise applications they are to work with. All of these offerings can be considered examples of pure enterprise search. They are generic search appliances for use within an enterprise. The alternative strategy, enterprise application search, involves a search function more tightly integrated with a specific application, and is a critical feature to look for on an enterprise application.

Going beyond Google with enterprise application search

Very few enterprise application vendors are focusing on delivering enterprise application search, which offers Google-like search capabilities strictly within their own suite of applications. Enterprise application search perhaps takes search effectiveness one step further than Google and other stand-alone search tools, since a generic Google-like search does not let you use context in the design of your search. With Google and other broad enterprise search tools, you get a lot of results, but perhaps very few are relevant. In the case of a Google search of the Web, for instance, a search by a keyword like Ford might yield information on President Gerald Ford, actor Harrison Ford, or Ford vehicles. It is difficult to tell the Google engine exactly what it is that you are looking for. Similarly, an enterprise search of your internal data can yield thousands of irrelevant documents on any customer, with little opportunity to narrow the search to find only purchase orders, only word processor documents of correspondence, only invoices, only change orders, etc.

By integrating search technology directly into an enterprise application, application designers can allow users to specify whether they are searching for a company, a person, a purchase order, or other types of information. This helps to filter out irrelevant search results and deliver even more efficiency than a typical Google-like search.

At IFS, we believe there is a place for stand-alone search products. If a company feels the need to index multiple sources of data including company intranets, local

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documents, emails, databases, etc., a number of these bolt-on search appliances can do that.

Conversely, true enterprise application search capabilities are integrated as a component within an application. The primary purpose of enterprise application search is to make the information within that specific application suite easily searchable through a unified interface. Because it is integrated into the application it is designed to be used with, it offers a number of benefits for searching application data when compared to generic products like those offered by Oracle, Google, Thunderstone, Index Engines, Autonomy, Convera, FAST Search, Verity, and others. These advantages include:

- **Cost.** Because the enterprise application search tool is integrated into an application, it does not carry additional software licensing or hardware fees. Moreover, there is no work or cost involved in integrating the search tool with your systems. Enterprise application search functionality is part and parcel of a modern, quality enterprise application, so no integration project is necessary.
- **Security.** Even if a bolt-on search tool has security features, these security features need to be integrated with each application and data source it is to be used with. A quality application search relies on the underlying security schema of an application, which means search results are only visible to people with the proper user permissions to view that data. For instance, general ledger data, closely guarded in both publicly- and privately-held companies, is automatically protected from unauthorized viewers.
- **Context.** We can use contextual information including data on what tasks that user has been performing in the applications to deliver more targeted results. This is similar to how Google has added various tools to allow search results to become more specific, including geographic filters so that local results can be moved up in the list of results when appropriate. But this concept can also be applied to business process context, so that if a system user is involved in finance-related functions, results that conform to their organizational role can be accentuated.
- **Intent.** Because enterprise application search has full knowledge of the application meta-data (information about information) we can allow the user to express intent of a search in simple, well understood, business terms such as “customer information”, “order data”, “product data” or other descriptors.
- **Hybrid search.** It should be possible to combine the enterprise application search results and traditional database search results in a single query to deliver the best of both search methods at once.

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Enterprise application search and enterprise search are two very different approaches that are taken by different types of companies. A company that focuses on investing in and improving its enterprise application products will naturally offer a search tool for use within those applications. Marketers of bolt-on search appliances can not design their tools for use within specific enterprise applications. Companies that market enterprise applications but also other technology products including middleware and bolt-on search appliances are invested in a broad number of technologies, and naturally will want to deliver a search tool for use across its own portfolio of products and beyond. That is why, like best-of-breed enterprise search companies, SAP and Oracle will have a hard time refining its search technologies specifically for their own enterprise suite products. Moreover, companies like Oracle and Infor Global Solutions will have a very difficult time offering refined enterprise application search functionality for their products as they each own so many of them. Each of the applications purchased by Oracle and Infor feature distinct data architectures, which means the enterprise application search tool would have to be developed separately for each of the broad portfolio of products. On the other hand, companies that offer systems based on more of a uniform platform with consistent architecture throughout the enterprise suite will be able to rapidly offer integrated enterprise application search.

Of course there is no reason that it is not possible to, on the one hand, operate an enterprise application with its own internal enterprise application search function, and also implement an enterprise search application like Oracle SES, Google Enterprise and other like products. An application based on a service-oriented architecture can make its enterprise application search capabilities available as a web service in order to facilitate this exact scenario. But while many organizations may have a hard time justifying the cost of a universal search tool, they will find it highly desirable and more affordable to choose an enterprise application with enterprise application search functionality that provides better, deeper integration with the application's data and user interface.

Moreover, employing an enterprise application with enterprise application search functionality may encourage users of the system to be more diligent in entering data into your enterprise application. Correspondence, diagrams, photos, engineering drawings – all of these documents can be attached to records within a quality application. If your end users know that once they upload material to your enterprise application that it will be much easier to find, you will wind up with a much more complete and powerful business tool.

Conclusion

Both the Internet and your enterprise application are vast sources of information, and while we have become accustomed to powerful Internet search tools like Google, we are only beginning to harness similar tools on our internal systems. But while Internet search engines are working to offer more targeted search options, the ability to refine and target results of a search within an enterprise application is even more critical than it is on the Web.

While a number of companies – including Google – are offering search appliances that can be bolted onto enterprise applications, they are costly, and can not work optimally with the applications they are running with. Moreover, substantial work and cost can be involved in configuring a search tool with your applications. Of course these bolt-on search tools have an upside; they can search information both inside and outside of an application, indexing intranets, email servers, and other data sources. But they can not offer the type of highly relevant and immediately useful search results that are possible when enterprise application search functions are tightly integrated into an enterprise application itself. Enterprise search and enterprise application search both have their place. But we believe that a quality enterprise application ought to offer quality, integrated search functionality to help users save time and increase productivity.

That is why enterprise application search functionality is already included in the latest maintenance release of IFS Applications 7, and of course will be further refined in subsequent releases of our product.

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About IFS

IFS, the global enterprise applications company, provides solutions that enable organizations to respond quickly to market changes, allowing resources to be used in a more agile way to achieve better business performance and competitive advantage.

IFS was founded in 1983 and now has 2,600 employees worldwide. IFS has pioneered component-based enterprise resources planning (ERP) software with IFS Applications™, now in its seventh generation. IFS' component architecture provides solutions that are easier to implement, run, and upgrade. IFS Applications is available in 54 countries, in 20 languages.

IFS Applications provides extended ERP functionality, including supply chain management (SCM); enterprise asset management (EAM); maintenance, repair, and overhaul (MRO); product lifecycle management (PLM); customer relationship management (CRM); and corporate performance management (CPM) capabilities.

IFS has over 500,000 users across seven key vertical sectors: aerospace & defense, automotive, high-tech, industrial manufacturing, process industries, construction & facilities management, and utilities & telecom. IFS also provides a cross-industry solution for Retail & Wholesale Distribution.

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