SMART TS_{XL}

A SMART TS XL White Paper

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ENTERPRISE INFORMATION:

Effectively Search, Analyze and Map Your Assets

IN-COM
DATA SYSTEMS

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Executive Summary

Information is the lifeblood of businesses. However, the inability to search, analyze, and review the right information at the right time turns that information into an expensive burden.

Employees must not only be able to search the vast archives of information available within the enterprise, but they must also be able to receive actionable and relevant results. If they don't, then their fruitless efforts impact productivity, and by extension, the company's bottom line.

An effective enterprise search solution must be powerful, robust and capable of providing required information in an instant. It must go above and beyond basic search capabilities, and prove itself to be an effective solution for multi-departmental use.

The SMART TS XL software suite stands out among the other offerings currently in the marketplace. It delivers the foundation for optimizing the business value of your application portfolio, and offers an end-to-end view of application assets across the entire enterprise, regardless of platform or language. Not only does the SMART TS XL engine excel at searching code, but it is also adept at searching many additional types of information including logs, configuration files, trouble tickets, e-mail, or other documents.

Because of the speed, power and ease of use of the search, cross-reference, impact analysis and complexity analysis features, SMART TS XL users can facilitate a smoother IT workflow and are better able to support business functions in your company.

Introduction

"Time is Money."

As an innovator and visionary, Benjamin Franklin likely knew that his saying would be proven true throughout the ages. It has proven especially true in the face of today's fast-paced IT world, where the entire historical track of technology development has been focused on how to improve speed and data capacity while simultaneously improving operational efficiency. But despite this focus, the converse developed instead: as systems become bigger and more complex, more intricate parts are necessary to make things work. Each of the various parts needs time and attention from information technology workers to ensure optimal results. In the end complex systems may enable enterprise growth, but they require an increasingly substantial amount of time and staff investment.

In effect, the ability to generate and store massive amounts of information has made it more difficult to analyze, search and modify applications, code, databases, and documents. It's an even greater challenge to accomplish such tasks in a timely manner. Unfortunately, the more time it takes to resolve software problems and complications, the more opportunities there are for revenue to slip away. To prevent negative impact on the bottom line, employees must be given the right tools to not only access the information stored within the vast enterprise archives, but to efficiently search and analyze it.

Common Enterprise Problems

Tech Evolution and Rising Cost

In a sea of constantly changing technology, it can be easy for IT departments to find themselves overwhelmed and out-of-date. New products are frequently implemented with the hope that it will keep the IT team on track but expensive projects and short-term patches end up creating obstacles where none existed before. Information becomes fragmented, siloed and difficult to access despite efforts to the contrary. According to Gartner, Inc., **"The vast majority of enterprises have at least one search engine installed, and only rarely do the workers who use them express satisfaction that the search interface speaks with authority, accuracy and effectiveness."** (G00249470) In addition to being less-than-ideal in the eyes of users, software utilities deployed enterprise-wide often take weeks to train users to minimum proficiency. In an effort to enforce adoption, more users are added, elevating the overall cost of licensing. Although high hopes and great effort were put into the implementation, the end result often falls short of expectations.
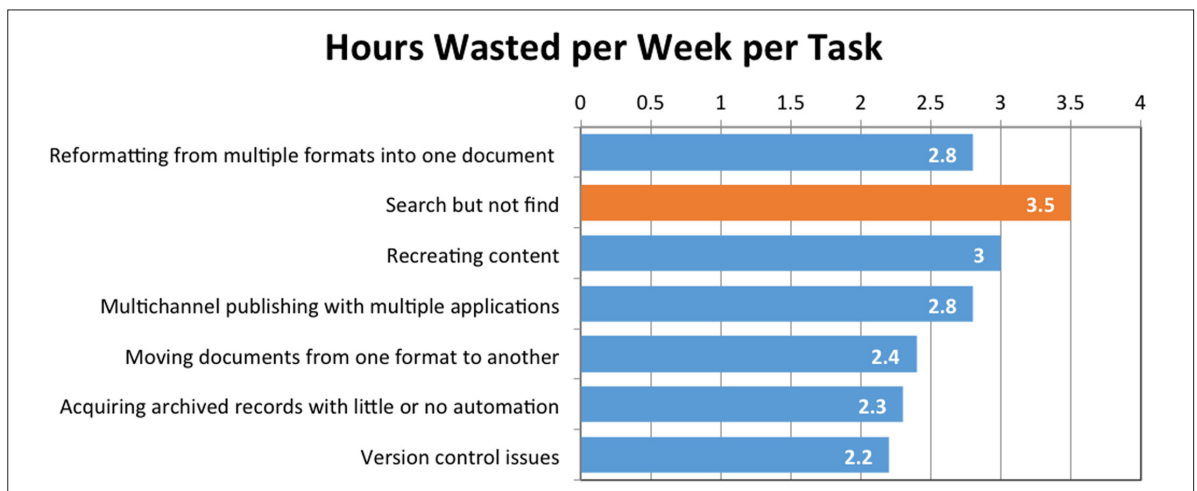
Workforce Changes and Lost Time

Further contributing to informational inefficiency is the constant flux in a company's labor force. As the workforce grows older and employees approach retirement age, new employees must be brought in to take their place. However, there may not be as much experience, and any new team member has to go through acclimation and training to be completely up to speed.

On a larger scale, mergers and acquisitions are increasingly common. Along with potential fluctuations in the labor force, they introduce new informational assets that need to be assimilated into the existing framework and made searchable to employees. In the best circumstances, such business disruptions require consolidation of programs and databases, integration of some applications, and enhancement or elimination of other applications. To successfully execute projects on time and on budget, employees must be able to locate the correct information in a timely manner. According to the International Data Corporation (IDC), the combined tasks of searching and analyzing information consume roughly a quarter of an information worker's time – translating into an approximate cost of $28,000 per worker per year. If they are able to find what they're looking for and achieve actionable results, then the high cost might not be completely in vain. Unfortunately, they often cannot find the information they need. On average, fruitless searches consume 3.5 hours of an information worker's time every week.

Figure 1: Hours Wasted per Week per Task

Searching but not finding information is the task that consumes the most time of information workers, thereby decreasing their overall productivity. Measurement is in hours. Source: IDC

Hours Wasted per Week per Task

Task	Hours
Reformatting from multiple formats into one document	2.8
Search but not find	3.5
Recreating content	3
Multichannel publishing with multiple applications	2.8
Moving documents from one format to another	2.4
Acquiring archived records with little or no automation	2.3
Version control issues	2.2

Project Demand and Dispersed Information

There often is a need to develop new system functionality and to alter or streamline business operations. Programmers and system analysts utilize a wide variety of programming languages ranging from C# to Java. There are also instances where a company employs a proprietary, unique, or antiquated programming language in custom applications or ERP modifications. Some find that particular tools are specialized for one type of coding language or platform, while others find that existing search capabilities are limited to specific data repositories. In the event of a problem with a program in development, pinpointing the root cause of the issue that lies hidden in millions of lines of code can be a daunting task. Standard enterprise search tools may be able to search the source code, but if so, it is only on a basic text level without any understanding of the code structure. Once the issue is identified, they still need to repair the error and make sure that no other downstream systems are broken in the process.
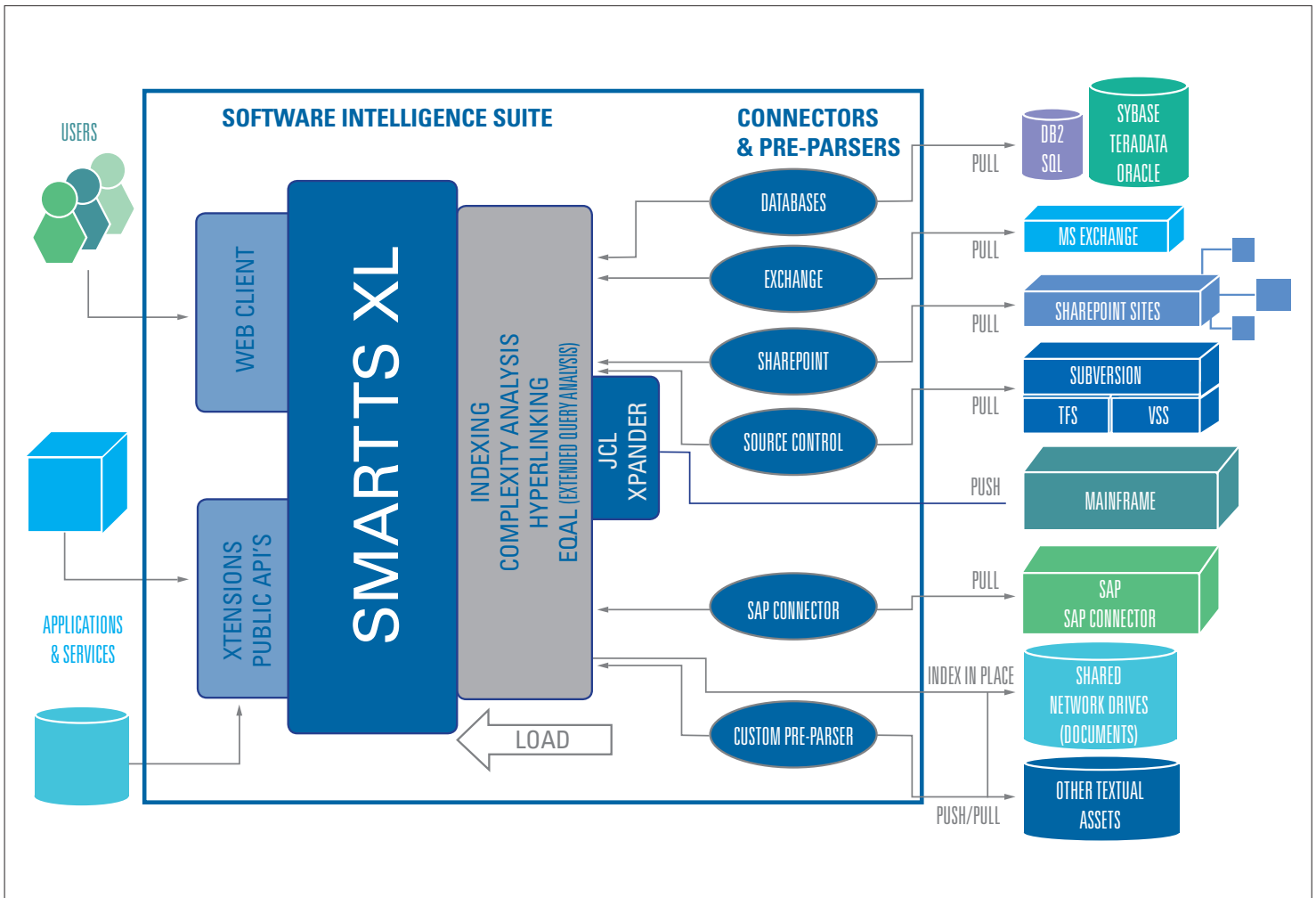
The Enterprise Solution

In order to make the stores of enterprise information (whether documents, code, or other text assets) useful, employees must be able to find the right information at the right time. The key to overcoming challenges posed by having disparate data sources is to ensure that all of the enterprise data is catalogued in one place. "Workers expect search to find anything created that addresses their needs, no matter where it resides or what format it's in." (G00249470)

To reduce the amount of time using multiple utilities, an effective search tool would connect to all data repositories and make them available through one interface. It would be easy to implement and to learn, thereby minimizing up-front and continuing educational costs. The need for a full-time system administrator would be nullified by an automated process that can discern and index only the newest changes to the data. Unauthorized access to sensitive information (a common problem with enterprise search engines) would not be an issue. Then all employees – whether enterprise architects, application developers, mainframe managers, or other IT roles – would be able to expediently find the information they need without accessing restricted information.

A Smart Enterprise Solution

Search utilities available in today's marketplace may contain some search, analysis, and reporting functions, but their capabilities are limited and time inefficient. In addition, many are not capable of charting cross-platform interactions, and performance of searches involving multiple data sources is cumbersome.
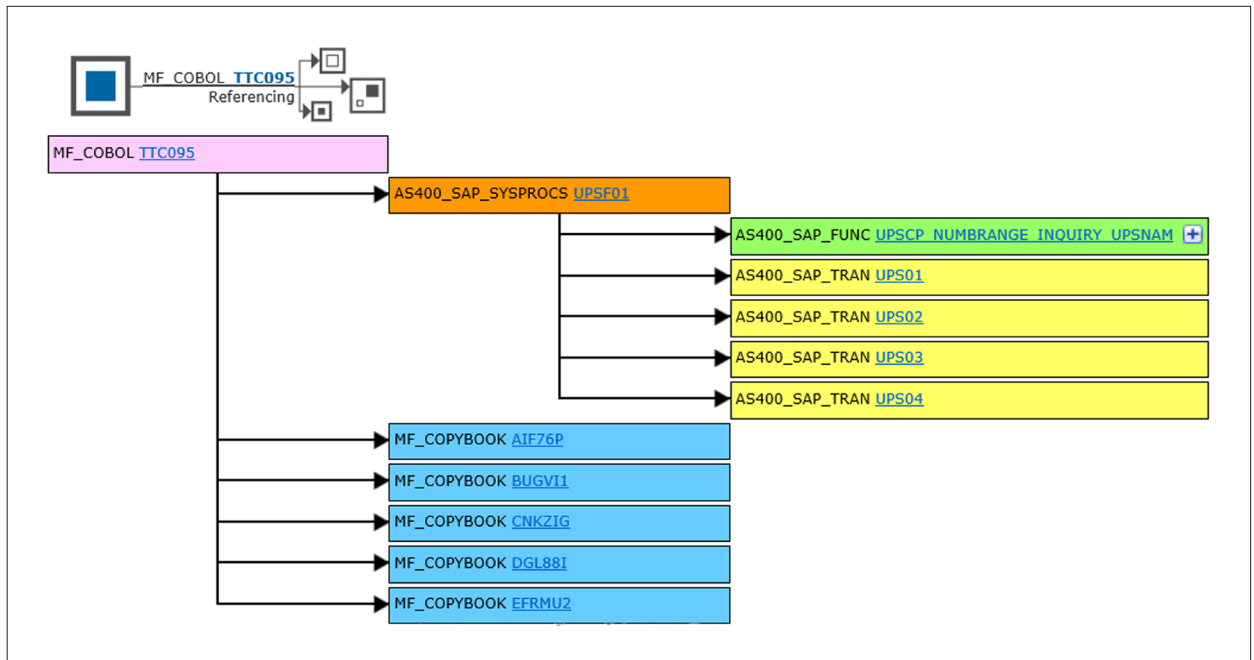
Figure 2: The SMART TS XL software suite offers an end-to-end view of application assets across the entire enterprise, regardless of platform or language.

The SMART TS XL software suite enables enterprise search, impact analysis, complexity analysis, and review of any and all text assets loaded into the software suite. The interface is user-friendly so very little instruction is needed for searches to be effective. New employees can utilize the numerous tools within the suite to quickly familiarize themselves with projects. They can identify relevant programs and documents and immediately generate impact analysis and complexity analysis reports. Furthermore, there is no requirement to download a client program since the interface can be accessed via a web browser, like Internet Explorer or Firefox.

The SMART TS XL software operates on a WinTel platform, so companies that offload search and discovery from a mainframe see an immediate and substantial MIPS savings. The speed of search is instantly apparent, as queries that would have previously taken hours, days or weeks take mere seconds. The SMART TS XL software supports any and every language and platform within the IT world, from COBOL on mainframes to .NET on Windows platforms. Legacy systems and custom languages are also supported, so IT departments tackling conversion or upgrade projects can use the impact analysis function to fully understand connections between programs and across platforms. Cross-reference diagrams of identified modules can be generated and hyperlinked to artifact occurrences throughout the enterprise, showing how potential changes may affect existing routines. It can also aid in finding loose ends that may cause errors down the road.

Figure 3: An example of the cross-reference diagramming tool.

Source code and any other textual data are retrieved using simple TCP/IP calls, thereby eliminating 1-, 2- and 3-tier application calls. Any purchased SAP Netweaver system, as well as any SAP ABAP code that has been created around the system, can be easily managed and understood. CICS regions are loaded and hyperlinked so complex CICS tables are easy to navigate. Hidden triggers and procedures inside databases are also identified and linked to the source code.

Trouble ticket programs like Remedy and Clearcase can be loaded and linked automatically to source code, and all office documents and unstructured files (such as CSV, XLS, XML, Access, etc.) can be searched like databases. Users can easily follow the threads of a search reference without having to repeatedly type in keywords or filenames, simply by clicking on the hyperlinks. The SMART TS XL software suite truly offers a single solution to multiple IT concerns.

Attributes and Benefits	
Technical	**Financial**
Perform syntax-based, programming language-specific source code searches, targeting procedure names, comment lines, numeric values, keywords, etc.	Realize drastic mainframe MIPS savings, with some clients reporting financial savings of over $45,000 a month.
Precisely determine source code module complexity using Halstead Cyclomatic analysis and other industry-standard schemes.	Mainframe off-load design eliminates the need for Systems Programmer involvement, thereby reducing staffing costs.
Supports and integrates with most security protocols, from RACF/ACF2 to Windows SSO.	Web-based access eliminates the cost of installing and maintaining clients on user desktops.
Cross-reference files with hyperlinks to permit seamless tracking of items.	Intuitive, self-prompting interface results in a shallow learning curve, removing the need for extensive and costly training.
Comprehensive, pan-enterprise, federated search capability across disparate platforms, languages, data types, and corporate documents.	Enables lightning-fast searches that slash elapsed times, elevating overall productivity.
Powerful criteria specification syntax that permits incisive searches based on free-text, Boolean relationships, proximity, range, and wildcards.	A self-maintaining, 'intelligent' database scheme requires no full-time product administrators.
Customizable color-coding of words and phrases in search results for visual tracking.	Cross-platform, federated search capability eliminates the cost of maintaining multiple search schemes.
XML/SOAP Web-based APIs that permit unconstrained programmatic access to all of SMART TS XL's functionality and search results.	Simple, Windows-based installation, set-up, and customization, often achieved within two to six hours.
Built-in utility converts Java, .NET, other OO languages, and PC documents to a common canonical format compatible with traditional source code layouts.	Proven, robust, and stable software eliminates productivity disruptions due to system errors or system downtime.

Success Stories

Ease of Use

To demonstrate the versatility and ease of use of the SMART TS XL software, a bank client ran an international pilot program over a thirty day period. This program involved both technical and non-technical employees who received no formal training on how to use the product. Although it was initially installed in the one group, it was soon adopted by other branches and departments until it had expanded throughout the bank organization. At the end of the thirty days, the following results were reported.

- 23 cities utilized the SMART TS XL suite
- 103 departments benefited
- 207 users
- 25,558 transactions
- $1,917,380 in comprehensive savings
- $75 savings per search

Faster Searches

Searches at a major airline that once required up to 120 hours are now completed in six. Similarly, a worldwide transportation service provider reports that search-analyze-report functions that formerly took two weeks are now successfully accomplished in 30 minutes.

100% ROI

A Wall Street financial services firm reported that the SMART TS XL software suite produced savings of $36 to $205 in MIPS per search, and a global bank with 450 SMART TS XL users in multiple departments and branches has calculated $500,000 in savings in the year following the installation of the software. Overall, the aggregated saving realized by users across the SMART TS XL customer base is between $50,000 and $500,000 a month.

In Conclusion

In summary, technical knowledge is not always enough to meet the challenges of an intricate and expansive enterprise system. However, when that knowledge is combined with the right tools, IT workers can readily surmount obstacles that are guaranteed to arise.

The SMART TS XL software suite has redefined the cross-platform, enterprise-wide search. It is setting a new standard for reach, flexibility, performance, ease of use, and cost savings.

The versatility and adaptable nature of the software is showcased in a variety of projects, from integrating databases in a company merger to developing innovative enterprise applications.

Customers have repeatedly commented on the exceptional technical prowess, reliability, expectations-exceeding performance, and record of significant cost savings and rapid ROI that resulted from use of the SMART TS XL software. To learn how the SMART TS XL software suite of tools can help optimize your organization, contact In-Com Data Systems for a personalized demonstration and the opportunity for a free pilot.