

SMART TS XL

Do More with Less!

Get Lightning Fast Index and Search

for Every File on z/OS, AS400, UNIX, Windows

A white paper regarding the many benefits
of the SMART TS XL solution to change management
for multi-platform enterprises

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from

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Executive Summary

Overview

Ever changing corporate standards and government regulations require that companies have the ability to quickly and accurately identify and plan for changes within large mainframe and AS400 computing environments. This need was recognized and attained during the Y2K effort. Soon after that, CIOs and IT departments again took center stage during the successful Euro conversion. While these efforts were successful they were far more costly than anticipated.

The need for IT agility is ever increasing. The rate of technological and economic change is accelerating. Indeed keeping pace with new legislation, such as Sarbanes Oxley, creates more dependence upon IT departments and their ability to research, scope, and analyze the effect of change through out the entire environment. Failure to do so can lead to financial fines; loss of public confidence and more.

Business Challenge

Legacy systems, which lay at the heart of most data centers, are comprised of code decades old. Often times these applications encompass programs that have been cloned changed and reused in new ways with and without the benefit of documentation. One small change has many times caused a ripple effect of unexpected and unwelcome results.

IT must have visibility into the underlying relationships and mechanics not only of individual business systems but also the unforeseen links everywhere within the widespread computing environment. Without this knowledge, undertaking even the simplest of changes creates a risk few companies can afford. 4

Solution Description



Solution Description

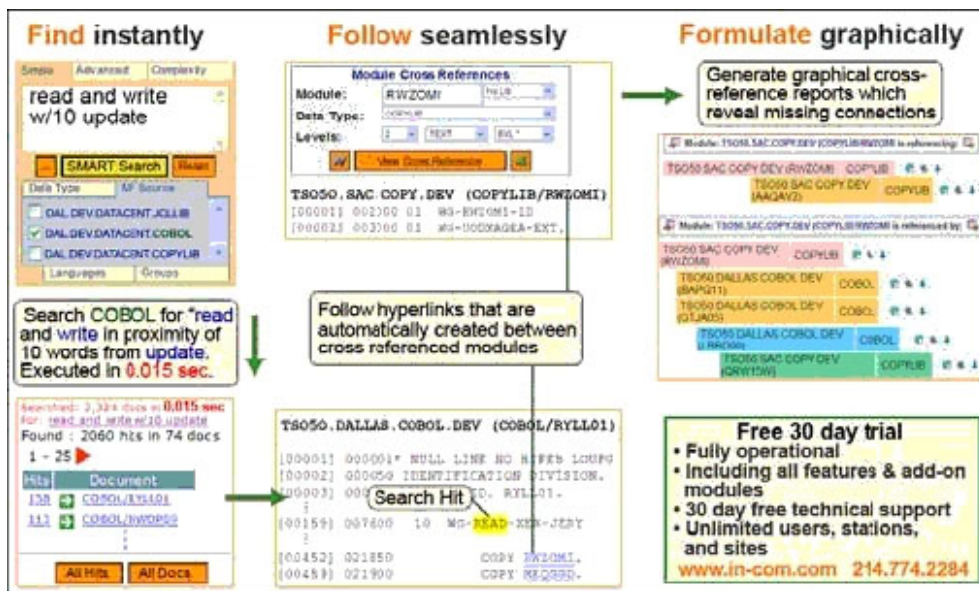
Solution Description SMART TS XL is the solution to this complex application life cycle problem. The patented technology which is at the core of SMART TS XL first discovers then traces then links and graphically displays each and every relationship within your IT environment. These links are from disparate repositories. They include source code such as COBOL, Natural, PL1, DB2, VSAM, CICS MAPs, JCL, Focus, and text files such as job documentation, email and more.

SMART TS XL bridges the gap and traverses these boundaries. A consolidated single view of company wide relationships are revealed via color coded graphics which offer drill down capability. Now IT has a tool to follow each path down every nook and cranny of the enterprise.

Why is SMART TS XL different?

- Across Boundaries (All I.T. Assets)
- Low Maintenance (No DBAs, No System Programmers)
- Offload MIPS (Documented Savings of \$45k month)
- Easy quick 2-6 hours Implementation
- No User Training. Just supply the URL address
- Heavy Persistency - Used across the entire enterprise
- Supports full free text search on all types of source code
- Simple intuitive web based access — no client s/w required
- Lightning fast results - for billions of lines of code
- Finds all internal hyperlinks and cross reference — -automatically

Find — Follow — Formulate Methodology



Find instantly

Simple | Advanced | Complexity

read and write w/10 update

SMART Search | Reset

Data Type: MF Source

DAL.DEV.DATACENT.JCLLIB
 DAL.DEV.DATACENT.COBOL
 DAL.DEV.DATACENT.COPYLIB

Search COBOL for "read and write in proximity of 10 words from update. Executed in 0.015 sec.

Searched: 2,324 docs in 0.015 sec for: read and write w/10 update Found: 2060 hits in 74 docs

1 - 25

Document
 COBOL/RWZOMI
 COBOL/RWZOMI

All Hits | All Docs

Follow seamlessly

Module Cross References

Module: RWZOMI
 Data Type: COBOL
 Levels: 2 TEXT EQ *

View Cross References | All

TS050.SAC.COPY.DEV (COPYLIB/RWZOMI)
 [00001] 00100 01 80-RWZOMI-ED
 [00002] 00100 01 80-100XAGEA-EXT,

Follow hyperlinks that are automatically created between cross referenced modules

TS050.DALLAS.COBO.DEV (COBOL/RYLLO1)

[00001] 000001* NULL LINE NO HAFEB LOUPO
 [00002] 000050 IDENTIFICATION DIVISION.
 [00003] 000001 IDENTIFICATION DIVISION.
 [00159] 007600 10 MS-READ-XXX-JEET
 [00452] 021850 COPY RWZOMI.
 [00453] 021900 COPY RWZOMI.

Search Hit

Formulate graphically

Generate graphical cross-reference reports which reveal missing connections

Module: TS050.SAC.COPY.DEV (COPYLIB/RWZOMI) is referenced by:

TS050.SAC.COPY.DEV (RWZOMI) | COBOL
 TS050.SAC.COPY.DEV (RWZOMI) | COBOL

Module: TS050.SAC.COPY.DEV (COPYLIB/RWZOMI) is referenced by:

TS050.SAC.COPY.DEV (RWZOMI) | COBOL
 TS050.DALLAS.COBO.DEV (BARG01) | COBOL
 TS050.DALLAS.COBO.DEV (GUA05) | COBOL
 TS050.DALLAS.COBO.DEV (RWZOMI) | COBOL
 TS050.SAC.COPY.DEV (RWZOMI) | COBOL

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- 30 day free technical support
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Solution Benefits



Solution Benefits

Application Manager

Save money

Scope the size and complexity of required changes

Impact analysis of lifecycle changes

Determine the 'downstream impact'

Feel confident that work is thorough (all occurrences are found)

Get more done with your current staff

Reduce the time from 'request to results'

Graphical views increase understanding of complex relationships

Find precise changes required within millions of lines of code

Jump start for staff when taking on unfamiliar applications

Training and research tool for programming staff

Production Control Manager

Save money

Get more done with your current staff

Code reviews

Procedure modification

Business Owner

Save money

Feel confident that work is thorough (complete and precise search through the enterprise)

Lower risk for impact and change management

Limit Risk

Be less dependent upon 'power users'

Save Time

Analysis completed in less time

Purse Strings Manager / Chief Financial Officer

Save money

Get more done with your current staff

No need to add more staff

Mainframe life is extended by offloading searches to a server

Limit Risk

Risk mitigation when downsizing

Determine exposure when lay-offs are necessary

Jump start for programming staff when taking on new applications

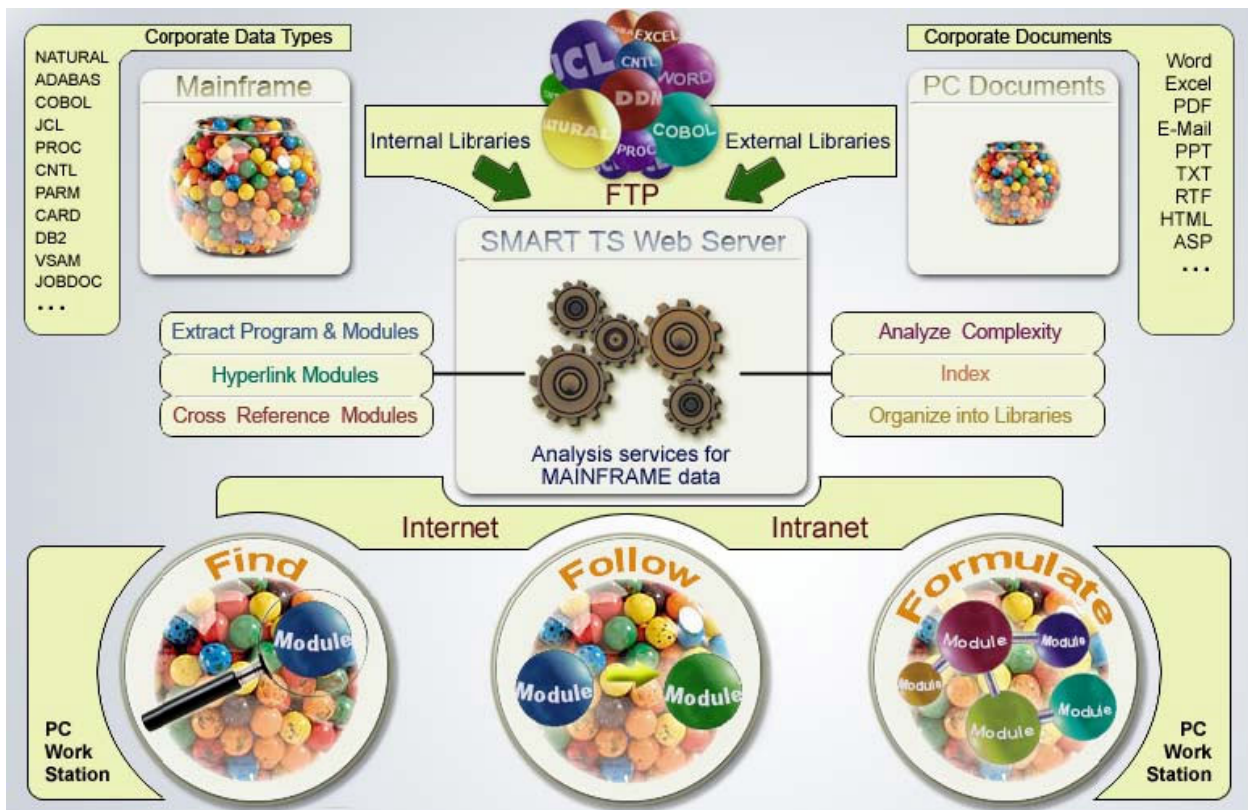
Technical Specifications

How does this magic work?

All/Any languages & data types are supported.

All/Any platforms & server types are supported.

Requires low-cost Windows-based IIS server.



System Requirements - Client

- Microsoft Internet Explorer 6.0 or later. That's IT!!

System Requirements - Server

Software:

- Microsoft Internet Explorer 6.0 or later.
- Internet Information Services(R) (IIS) version 5.0 or later with latest security patches applied.
 - "Server Side Includes" enabled.
 - "Active Server Pages" enabled.
- Microsoft Windows 2000 Server(R) or later. (Windows 2003 Server(R) recommended).
- Microsoft SQL Server 2000(R) SP3/SP4.
- TCP/IP access to Microsoft SQL Server 2000(R) if used.

Hardware:

- Processor: 2.4 MHz Intel Pentium class processor. (For optimal performance, 3.0 GHz or higher multi-processor is recommended).
- Operating System: Microsoft Windows Server 2003(R) or Microsoft Windows 2000 Server(R).
- Memory: 1 GB of RAM, 2 GB recommended.
- Hard Disk Drive: 18 GB minimum, 36 GB recommended. (SCSI)
- Display: Minimum 800 x 600 or higher resolution display with 256 colors.

EQAL = Extended Query Analysis Language

Now — users can search on actual syntax per language. The following terms are supported for COBOL, NATURAL, JCL, PROC, ASSEMBLER.

```

SYS.DAL.DEV.COBOL (COBOL/QAXPOVAL)
...
* 030598 HWH AIPEA DAHE-C CEOYPT AS OUTPUT FIELD FOR JEEQEPAVE PCL0298
...
PROCEDURE DIVISION
...
  xProc - Search within Procedure name
0020-CALL-CAFERLJ.
  CALL CAFERLJ-PGM USING DATE-CONVERT-RECORD
  xKeyw - Search within language reserved words
...
  xNbr - Search within numbers
IF CW-LENGTH (CW-SUB) > 10
  EVALUATE TRUE
  WHEN DCR-CAFERLJ-ERROR-PTAX = 'D'
    PERFORM J705-CVT-ERR-IZSOLFEEUE-DATA
  WHEN DCR-CAFERLJ-ERROR-PTAX = 'C'
    PERFORM O705-CVT-ERR-INVALID-DATA
  WHEN OTHER
    PERFORM M751-FAZDB-FROM-CAFERLJ
  END-EVALUATE
END-IF
  xLtrl - Search within all words that are NOT language reserved words.
  xStr - Search within Strings
  Procedure - Search within Procedure Division
  x73 - Search in position 73 to End of line
  xCmnt - Search within comments only
  
```

xstr contains read (strings)

```

[00727]          READ  READ  READ  READ  READ  *****.          P951018
[00782]          YMITRAL MUST READ:: MUST PARE A/R UAMAJEY AWANE'.  P951018
[00891]          NUMBER OF NEGOPJW READ = '.          V96U308
[01680]          DISPLAY 'NUMBER OF NEGOPJW READ = ' WS-DISP-CNT.          RG991011
  
```

xltrl contains read (literals)

```

[02116] 248850          MOVE WG-READ-DTL-SVE TO WG-READ-DTL-JERY          LGOB0141
[02128] 249450          IF WG-READ-DTL-JERY > 30          LGOB0141
[02131] 249600          SET WX-DWE          TO WG-READ-DTL-JERY.          LGOB0141
[02138] 249950          MOVE WS-A          TO WG-READ-DTL-JERY          LGOB0141
[02147] 250400          MOVE WG-DTL-GEN-JERY          TO WG-READ-DTL-JERY.          LGOB0141
  
```

xkeyw contains read (keyword/reserved words)

```

[06483]          READ  USOXUGJ-CODE-FILE INTO WS-PROD-IKIZ-RECORD
[06495]          READ  USOXUGJ-CODE-FILE INTO WS-PROD-IKIZ-RECORD
[06805]          READ  USOXUGJ-CODE-FILE INTO WS-PROD-IKIZ-RECORD
[06998]          READ  USOXUGJ-CODE-FILE INTO WS-PROD-IKIZ-RECORD
[09519]          READ  Q&GIOC-TAX-FILE NEXT RECORD
[09535]          READ  Q&GIOC-TAX-FILE
  
```

XCMNT	searches only COMMENTED lines
XCODE	searches only proper CODE lines
XSTR	searches only STRINGS as defined by each language
XLTRL	searches all words that are NOT keywords or reserved language words
XKEYW	searches only for KEYWORDS or language specific RESERVED words
XPROC	searches only in PROCEDURE names
XNBR	searches only in valid NUMERIC values
X01	searches in positions 1 - 6
X73	searches in positions 73 - END
XNDEF	searches any UNDEFINED areas (ex: changeman headers)

Target Market



Target Market

Mainframe and AS400 shops

- Banks
- Insurance
- Finance
- Aviation
- Health
- Transportation
- Retailers
- Telecommunications
- Music Industry
- And other Global 2000 companies

Case studies

Citi Bank

- 1200+ Users
- Installed 2004
- MIPS savings documented \$45K/mo.
- Over 20 major cities
- Over 100 departments

Sprint

- 700+ Users
- Outsourcing IBM EDS (off shore)
- Installed 2002
- Over 50 cities worldwide
- Over 100 departments

Pier 1 Imports

- 100+ Users
- Installed 2005

SouthWest Airlines

- 50+ Users
- Installed 2004

Summary



Summary

- 1) Global Enterprise Search Capabilities
 - a) Across platforms — Mainframe, Midrange, AS400, Unix
 - b) Across languages — COBOL, ASM, NATURAL, PL1, REXX,JCL,...
 - c) Across data types — PDS, Librarian, Panvalet, ADABAS, SQL, DB2,...
 - d) Across PC documents — Excel, Word, PPT, RTF, HTML, PDF, ASP, TXT,...
- 2) Hyperlinks and Cross References without Predefined Rules
 - a) Follows seamlessly referenced modules using web style hyperlinks
 - b) Formulates graphically multi-level cross reference reports
- 3) Complexity Analysis
 - a) Calculates module complexity using both Hallstead and "Industry standard" methods
 - b) Derives accurate project level of effort (LOE) reports
- 4) Powerful Search Syntax Support
 - a) Free-text, Boolean, Proximity, Range, wildcard searches
 - b) EQAL — Enhanced Query Analysis Language
 - c) Microlevel search on strings, Literals, numbers, comments, code, procnames, linenumbers, reserved language keywords and more...
- 5) Other:
 - a) Asset management reporting system
 - b) User defined word/phrase color coding

For a free trial or live demonstration by webcast, call or write

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