FRESCHE
LEGACY

X-Audit

The Audit, Quality and Change Management module measures, compares and manages the quality, metrics and complexity of your IBM i applications
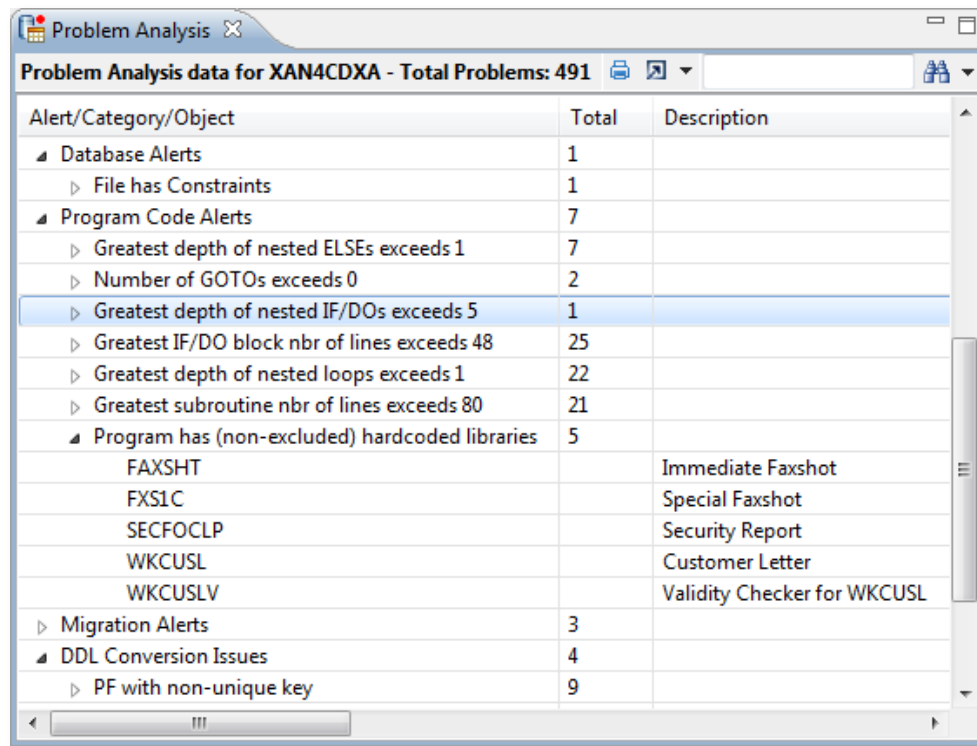
What's Inside

A description of X-Audit, the Audit, Quality and Change Management module in X-Analysis. The module provides detailed metrics analysis of all code and databases running on your IBM i, giving you the power to fully manage quality and change.

X
X-Audit

X-Audit Audit, Quality and Change Management

Measure, Compare and Manage the Quality, Metrics and Complexity of Your IBM i Applications

X

X-Audit

Audit, Quality and Change Management: Manage your IBM i applications by measuring and comparing a wide variety of metrics to gauge code complexity and quality.

X-Audit gives you a highly detailed picture of your application and database metrics, including lists and locations of constraints, duplicates, unused files, multiple record formats, missing sources, unused subroutines and procedures and a host of database-related problems.

Some Highlights:

▶ Program Complexity Metrics: low, medium and high complexity classification of programs

▶ Screen Display Complexity Metrics Analysis

▶ Database File Metrics Analysis

▶ Metrics Report Writer– Complete customizable report writer for building complexity and analysis reports

▶ Problem Analysis for design oddities, such as:

   ▶ Database file with constraints defined

   ▶ Duplicate logical files

   ▶ Database files with FIFO/LIFO keywords in source

   ▶ Joined logical files

   ▶ And many more...

▶ Identifies unused Logical files, subroutines and procedures

▶ Audit Report – MS Word or PDF wizard generates structured reports of metrics and problem analysis results

▶ Link multiple repositories for combined analysis throughout all functions
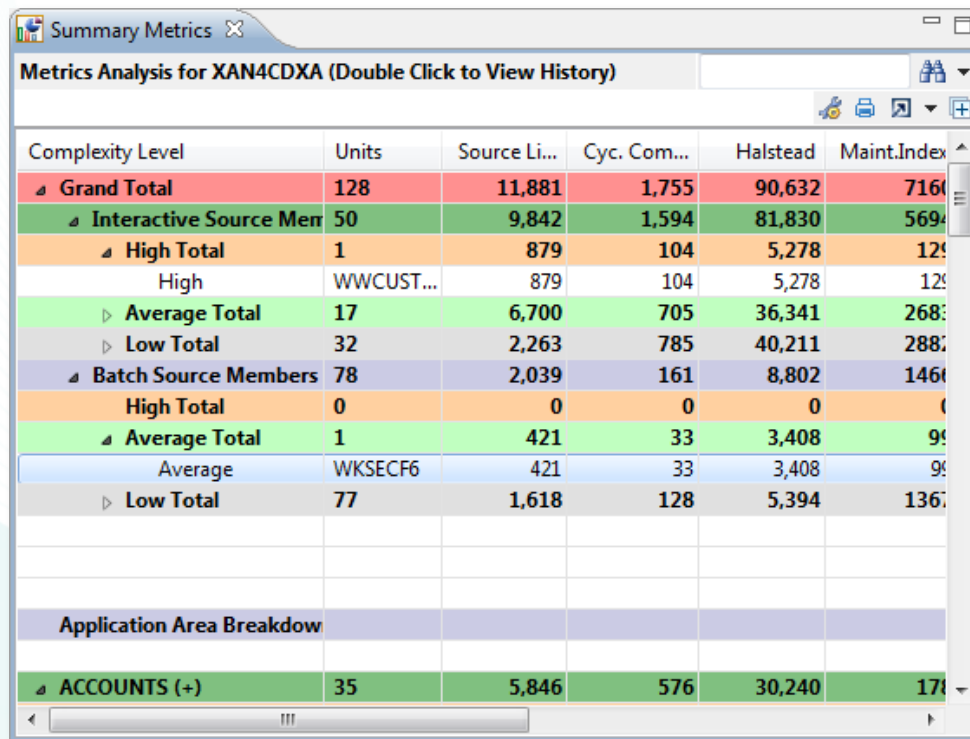
YOU CANNOT IMPROVE WHAT YOU DO NOT MEASURE

Applications running on IBM i are typically large, complex and have been developed by a variety of programmers and analysts over several decades. Without an automated audit and analysis tool, understanding such applications is almost impossible, especially for new resources who have to take over maintenance and development. X-Audit, the Audit, Quality and Change Management tool of X-Analysis provides an exhaustive breakdown of every aspect of your application portfolio. Without this linked, cross-referenced summary of your applications and databases, change management becomes a guessing game, and testing times and remediation cycles increase. In addition, without thorough knowledge of your applications, modernization of even small parts of the system becomes daunting, as complete impact is unknown.

X-Audit Audit, Quality and Change Management

Metrics Analysis is the Key to Improving Your Applications and Development

Complexity Level	Units	Source Li...	Cyc. Com...	Halstead	Maint.Index
Grand Total	128	11,881	1,755	90,632	7160
Interactive Source Mem	50	9,842	1,594	81,830	5694
High Total	1	879	104	5,278	129
High	WWCUST...	879	104	5,278	129
Average Total	17	6,700	705	36,341	2683
Low Total	32	2,263	785	40,211	2882
Batch Source Members	78	2,039	161	8,802	1466
High Total	0	0	0	0	0
Average Total	1	421	33	3,408	99
Average	WKSECF6	421	33	3,408	99
Low Total	77	1,618	128	5,394	1367
Application Area Breakdow					
ACCOUNTS (+)	35	5,846	576	30,240	178

Summary Metrics — Metrics Analysis for XAN4CDXA (Double Click to View History)

The complexity metrics feature of X-Audit enables managers of legacy systems to measure, monitor and proactively manage complexity and changes to the applications.

Metrics Analysis Features

- Metrics calculated at both program and subroutine/procedure level
- All metrics exportable to Excel
  - Cyclomatic complexity
  - Halstead volume
  - Maintainability index
  - Number of source line statements in the program
  - Number of GOTOs or CABxx statements
  - Greatest nesting depth of IF/DO statements
  - Greatest number of statements within an IF/DO block of code
  - Greatest depth of nested DO/FOR loops
  - Greatest depth of nested ELSE statements
- Optionally transform the product into new languages with further use of transformation robots
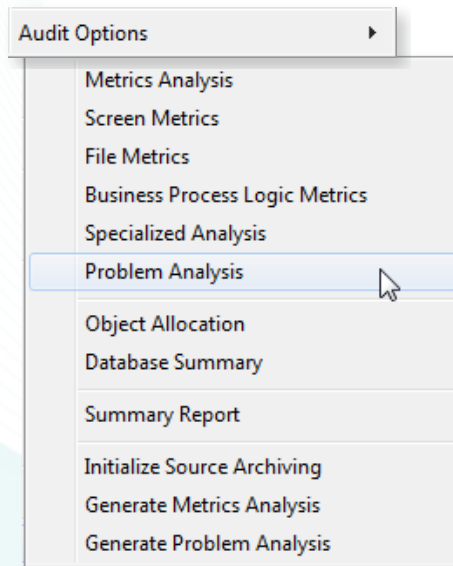- Test and deploy the iteration.

Audit for Problems, Complexity and Change

- Understand where the most complex code in the system resides and plan accordingly.
- Audit the difference between versions of a system at a design level—not just code.
- Be alerted to potentially harmful system conditions and defects before they cause production problems.
- Track changes in new versions of packaged applications to plan for refitting customizations.
- Externalize rules so they can be shared by multiple applications.
- Compare versions of your custom applications at different points in time to track where changes were deployed.

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IT Can Make You Smile

X-Audit Audit, Quality and Change Management

A Wide Range of Options and Functionality

In addition to problem analysis (pictured on page 2) and metrics analysis (described on page 3), X-Audit provides numerous functions to help manage your IBM i applications. Some of the highlights:

SCREEN METRICS
Displays low, medium and high complexity classification of all the available screen functions.

BUSINESS PROCESS LOGIC METRICS
Displays business process logic data in metrics form - total lines, included lines, excluded lines, unmarked lines etc.

DATABASE SUMMARY
Provides access to a summarized database report for the entire cross-reference library. The report contains information related to files, their unique keys and other necessary file-related details.

SPECIALIZED ANALYSIS

Allows you to design your own reports using the full metrics database in the defined system repository. This reporting provides a valuable way to measure and manage the quality and complexity of a code base. You can run one-off static reports or create DIFFERENCE REPORTS, in which you compare two or more versions of an application at different points in time to discover changes in:
- Source code
- Business rules
- Table and field definitions
- Table relationships

At A Glance...

X-Audit

Audit, Quality and Change Management:

Manage your IBM i applications by measuring and comparing a wide variety of metrics to gauge code complexity and quality.

Fresche Legacy:

US:
9245 Laguna Springs Drive,
Suite 200
Elk Grove, CA, 95758

Canada/Corporate Office:
995 Wellington, Suite 200
Montreal, CAN,
H3C 1V3

Australia:
9/622 Ferntree Gully Road
Wheelers Hill
VIC 3150
Australia

India:
Atrauli, Gaurabagh,
P.O. Gudumba, Kursi Road,
Lucknow 226026
Uttar Pradesh, INDIA

X-Audit Summary of Functionality

▶ Program Complexity Metrics: low, medium and high complexity classification of programs

▶ Screen Display Complexity Metrics Analysis

▶ Database File Metrics Analysis

▶ Metrics Report Writer– Complete customizable report writer for building complexity and analysis reports

▶ Identifies unused Logical files, subroutines and procedures

▶ Audit Report – MS Word or PDF wizard generates structured reports of metrics and problem analysis results

▶ Link multiple repositories for combined analysis throughout all functions

▶ Builds a difference analysis between two versions of a system comparing business rules, database designs and relations and programs

▶ Builds a PTF impact analysis by comparing a PTF library repository with production repository

▶ Object Allocation report that lists all objects in the library with a brief description, mention of object type, attribute, its application area, if any, and the library to which the object belongs.

▶ Problem Analysis for design oddities, such as:

   ▶ Database file with triggers, constraints or Select/Omits defined

   ▶ Duplicate logical files

   ▶ Database files with FIFO/LIFO keywords in source

   ▶ Joined logical files

   ▶ Source changed after file created

   ▶ Journaled database files

   ▶ Database files with multiple record formats, multiple members or no members

   ▶ No database file for an existing source member, or no source for existing database file

   ▶ No program object for an existing program source, or no source member for program object

   ▶ Source member changed after program object created

   ▶ References to Un-included Files Display

▶ Database Summary provides access to summarized information related to files, their unique keys and other file-related details

▶ Business Process Logic Metrics displays business process logic data in metrics form - total lines, included lines, excluded lines, unmarked lines etc.

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IT Can Make You Smile

About Fresche Legacy

As a leading expert in legacy management and modernization, Fresche Legacy helps enterprise organizations transform their business to improve financial performance, increase market competitiveness, remove risk and add business value. Our team of experts has successfully completed hundreds of transformation projects within the most complex enterprise environments, helping organizations future-proof their business by modernizing their business processes, technologies, infrastructure, and methodologies. Committed to 100 percent customer satisfaction, Fresche Legacy's services and solutions span the complete legacy modernization spectrum from concept to maintenance, and include Discovery Services, Modernization Solutions, and Application Management Services & Transformation. For more information about our company, visit us on the Web at www.freschelegacy.com

X-Analysis Professional is the foundation of the full X-Analysis toolset, a suite of productivity tools for your IBM i applications. Following is a brief description of the other modules in the suite:

X-Analysis Professional: The foundation tool, with all of the basic functionality.

CA 2E Analysis: Everything required to analyze and document CA 2E applications.

Application Process Mapping: Business rule and relational data model extraction and documentation of application processes and flows.

Application Modernization: RPG, COBOL and CA 2E (Synon) automatically converted to Java.

Audit, Quality and Change Management: Auditing of core application functionality - including design, quality and complexity - to identify and change problematic areas in the application.

Database Modernization: Automated conversion of DDS to DDL, including creation of constraints, long field names and views.

Data and Test Management: Analysis of data quality; data archiving, data subsetting and data masking. Test data automation and management.

Open Systems Analysis: Cross-referencing and documentation of Java, C#, PHP, VB/VB.NET and PowerBuilder.

How to get on board: X-Analysis products are available as a complete package or as individual modules. At Fresche Legacy, we work closely with you to assess your needs and recommend the best solutions. To get started, contact us using the information below:

www.freschelegacy.com |info@freschelegacy.com |
1.800.361.6782 (US, Can) | 00 800 361 67 82 0 (Belgium, France Germany, UK)