

## TOOLKIT PROVIDES HIGHLY PRODUCTIVE SET OF DATA UTILITIES

Data management is a complex endeavor that presents many unique challenges. Businesses face increasing demands to ensure protection of sensitive data. The data in e-business and application integration projects often requires customized validation, translation and conversion programs. Developing meaningful test data entails tedious manual editing of production data, creating new data and writing customized programs.

File-AID/Data Solutions from Compuware provides consistent, efficient methods to create accurate test data and perform data conversion and analysis without writing one-time programs or completing tedious manual tasks. File-AID/Data Solutions helps IT professionals meet multiple data-related challenges for key business projects.

### PROTECT SENSITIVE DATA

Data privacy regulations and corresponding litigation are an increasing concern across industries. Therefore IT staffs are looking for ways to protect their production data from unauthorized viewing, especially during application testing, when sensitive data can be vulnerable to fraud or theft.

Compuware Data Privacy solutions span both mainframe and distributed platforms, and use consistent data disguise techniques across all environments. The integration between File-AID/RDX, File-AID/Data Solutions and File-AID/EX provides a unique solution to help companies address data privacy requirements in the test environment. This combination of File-AID products provides the following comprehensive functionality to ensure the privacy of your test data:

- **Encryption:** Replace sensitive values with arithmetically formulated data using an encryption key.
- **Masking:** Conceal only portions of a field.
- **Aging:** To protect dates that may or may not need to maintain birth-year integrity, this File-AID combination provides an aging function that allows dates to be aged according to the business need.
- **Data Generation:** With this technique, you can generate fictitious data from scratch or from some other source.
- **Translation:** This is a very effective way to replace values consistently with fictitious, readable values, such as names (e.g., replacing Rosemary with Susan) or birthdays (e.g., month and day so only the original birth year is retained).

To help create and manage privacy specifications, Compuware includes a workbench that allows users to define, update and manage privacy criteria in a commonly shared repository. Once defined, privacy specifications can be applied in the File-AID Related Extract component.

```

Action Sets Display Show Options Menu Help
-----
File-AID/Data Solutions ----- Data Encryption Criteria -----
COMMAND ==>                               SCROLL ==> CSR

SET 1 OF 1          EMPLOYEE-MASTER-FILE          SELECTION CRITERIA: NO
---- FIELD NUMBER/NAME ----- PICTURE RO ----PARAMETERS---- + ENCRYPTION NAME
***** TOP OF DATA *****
1 EMP-NUMBER          X(5)          EX e winter          ENCRYPT
2 EMP-LAST-NAME      X(15)
3 EMP-FIRST-NAME     X(10)
4 EMP-MID-INIT       X
5 FILLER             XX
6 EMP-TITLE          X(30)
7 EMP-PERSONAL-INFO SYNC          GROUP
8 EMP-NATL-ID-NUMBER 9(9)          EX e codeword          ENCRYPT
9 FILLER             X
10 EMP-DATE-OF-BIRTH X(6)
11 EMP-DOB-REDEF REDEFINES EMP-DATE-OF-BIRTH
11 EMP-DOB-REDEF SYNC          GROUP
12 EMP-DOB-MM        99
13 EMP-DOB-DD        99
Use RO of EX , EP or = . For list of exits, leave ENCRYPTION NAME blank.
Use VIEW command to browse criteria summary, END command to process.
-----

```

*Adding an extra level of security, File-AID/Data Solution's encryption function helps you protect your production data in test.*

Without data disguise, protecting sensitive data for test can be cumbersome. For example, developers or quality analysts needing to access payroll, healthcare or financial data during testing could create fictitious employee names and addresses, birth dates and account numbers. But this requires extensive manual editing or a custom program to change the real values — and that means more work and more time taken away from testing.

It is likely your organization will have specific requirements for your data privacy projects.

To customize your solution, File-AID/Data Solutions and File-AID/RDX can execute disguise functions from the related extract process. This added flexibility allows users to leverage their own specialized disguise routines when needed. In addition to products, Compuware also provides best practices and customized services to assist companies in successfully implementing their data disguise strategies.

## GET THE BIG PICTURE

Most key business initiatives do not require one-time changes. Instead, changes occur as part of an organization's regular process.

File-AID/Data Solutions helps incorporate business changes into the job stream through the Application Programming Interface (API). Making the File-AID/Data Solutions functionality available through the API enables developers to consistently integrate processing such as validation, translation, aging and conversion with user applications to standardize field-level data manipulation across the enterprise.

## FIELD MASK

The Field Mask relational operator allows the individual positions of a field to be defined within the change criteria and acted upon by any of the File-AID/Data Solutions functions. Field masking allows you to modify the record layout and redefine the field to break down the data. Because redefines work only at the byte level, users cannot manipulate digits within packed or binary data.

The Field Mask supports breaking down the field to individual positions or digits for all field types. Once all of the requested actions have been taken, the field will be restored to its original format in the record. A typical use of this feature is to protect portions of a field that contain sensitive data. The Field Mask relational operator helps accomplish this task quickly and easily.

```
File-AID/Data Solutions 4.2.5 --- Primary Option Menu -----
OPTION ==> _
0 Parameters - Data Solutions Parameters
1 Date Aging - Date Aging Solutions
2 Euro Tools - Currency Conversions
3 Data Analyzer - Analysis Solutions
4 Translator - Data Translator
5 Generation - Data Generation Solutions
6 Field Exits - Formatted Field Exits
7 Encryption - Data Encryption
D Data Disguise - Protect Production Data
U Utilities - Print and File Override Utilities
S Criteria Sets - Create or modify Criteria sets
R XREF - Create or change record layout cross reference
C Changes - Display summary of Data Solutions changes
T Tutorial - Display information about Data Solutions
X Exit - Terminate Data Solutions and return to ISPF
Use END to terminate Data Solutions

USERID - PFHKFLO
TIME - 14:20
TERMINAL - 3278
PF KEYS - 24

Online Technical Support available at: frontline.compuware.com
Copyright (c) 1997 - 2009. All rights reserved. Unpublished
rights reserved under the Copyright Laws of the United States.
Type LEGAL on the command line for Copyright/Trade Secret Notice.
```

*With the extensive functionality in File-AID/Data Solutions, you can easily create accurate test data and analyze, manipulate and protect production data without programming.*

## CHECK-DIGIT CREATION/VALIDATION

A new field exit generates a new check-digit value based on industry-standard algorithms for banking and financial systems. Three check-digit field exit routines are available within File-AID/Data Solutions. Users can apply these external routines using the fill-in-the-blank panel.

---

“File-AID/Data Solutions is not only a mechanism for protecting data privacy by encrypting data, but also supports maintaining the integrity of the data by translating or aging sensitive data fields ... a name still looks like a name and a key field can be supported across multiple databases after encryption. These tools help a company comply with HIPAA and other data privacy regulations.”

— John Stevens, Manager, Test Environment and Testing Support,  
Blue Cross Blue Shield of Minnesota

---

## TRANSLATE/BRIDGE COMPLEX APPLICATION DATA

Corporate mergers and changing currencies mean companies must deal with data in a variety of formats and from different external sources. File-AID/Data Solutions gives IT organizations a flexible mechanism to adapt quickly to changing data formats. Instead of changing how source or target applications process data, File-AID/Data Solutions serves as a bridge to translate data into correct values. Performing complex, global translations is facilitated via a table-driven process. The externally maintained translation table allows for easy setup of large, complex changes. “From” and “to” values may combine multiple fields and are simple to modify. For example, you can scan the street address and the ZIP code when supplying a new, plus-four ZIP code. Or, you can enter a new area code based on the existing area code and exchange.

Providing flexibility, File-AID/Data Solutions allows the individual positions of a field to be defined, within the change criteria, without the requirement of a layout redefinition. Because File-AID/Data Solutions employs a formatted interface and does not require programming, more people can take advantage of standard, repeatable conversion routines. File-AID/Data Solutions also performs mathematical conversions — like U.S. measurements to metrics — without custom programs.

## VALIDATE E-BUSINESS AND EDI DATA

When data supplied by business partners contains invalid values, processing problems and abends are common. To prevent this, the Data Validation and Analyzer functions validate and scan electronic data files for invalid data values. An analysis report documents the number of invalid values present in each field. Validations are based on data type by specified values.

## DATA CONSOLIDATION FOR MERGERS AND ACQUISITIONS

Merging companies usually consolidate existing applications and data files to reduce data processing costs. The Data Translator function of File-AID/Data Solutions provides a method for performing multiple mass changes with a lookup file of the old and new information. The translation finishes by using a fill-in-the-blank panel and is saved for repeated execution. The translation runs in batch so changes occur as part of a regularly scheduled process. For instance, when banks merge and customers want to use current checks until they run out, File-AID/Data Solutions easily converts old account numbers to new ones before the data is processed.

## GENERATE NEW DATA

Creating reliable test data quickly is essential for new and enhanced applications. However, creating test data for a thorough range of test cases is time-consuming. File-AID/Data Solutions can help by adding new field values or filling fields with valid values from another file. It generates new values sequentially, randomly, through a table look-up and/or through pattern masking.

## ANALYZE DATA FOR INVALID VALUES AND FORMAT IDENTIFICATION

By identifying invalid values, File-AID/Data Solutions gives users time to correct or convert bad data before it affects business. Statistics identify invalid values by reporting high and low values, invalid formats and average values. After identifying the unique values in a field, File-AID/Data Solutions can help build realistic test data. File-AID/Data Solutions can validate actual values within the record and data, based on data type. File-AID/Data Solutions provides date analysis to help find date fields and identify formats. By automatically comparing date values to a list of date patterns, File-AID/Data Solutions produces a report that lists the percentage and likely format of valid dates.

### Benefits of File-AID/Data Solutions

- Protects sensitive production data used in a test environment
- Improves programmer productivity by eliminating custom programming
- Provides repeatable, consistent methods
- Reduces production downtime
- Minimizes skill level required to manipulate data using a familiar ISPF and Compuware File-AID/MVS look-and-feel

## ACCURATELY AND CONSISTENTLY AGE DATA

File-AID/Data Solutions provides a fast, consistent, reliable process for predicting application performance, such as month-end or year-end. Testing experts recommend organizations perform time-dimensional testing to assure applications are compliant. Aging dates without an automated tool is a resource-intensive and inexact process. File-AID/Data Solutions automates data aging by incrementing, decrementing or specifying default values for day, month and year fields. Business rules and the Date Calculator automatically adjust the resulting dates around holidays and non-business days. File-AID/Data Solutions also applies rules to exclude business-specific values, such as "11/11/11," from being treated as dates.

## COMPLEX MULTIPLE RECORD-TYPE SUPPORT

File-AID/Data Solutions supports complex, multiple record-type files by using XREF definitions. The XREF dataset enables File-AID/Data Solutions to process related data from multiple files and databases as one dataset, reducing the need to run multiple executions. XREFs are created in File-AID/Data Solutions, File-AID/MVS and File-AID/RDX, and are converted from Compuware File-AID *for IMS*.

## SUPPORTED DATA TYPES

File-AID/Data Solutions supports VSAM, ISAM, BDAM and sequential files. When used with Compuware's File-AID/RDX, File-AID *for DB2* and File-AID *for IMS*, File-AID/Data Solutions can manipulate DB2, IMS and other data related by referential integrity or application-defined relationships. File-AID/Data Solutions supports multiple record types in one execution, allowing manipulation of related data from many files and databases.

## ACCESS DATA CONSISTENTLY ACROSS MULTIPLE ENVIRONMENTS

Distributed applications often intertwine with legacy applications and data, posing a complex challenge for developers. File-AID products provide the widest range of support available in the industry, spanning VSAM, IMS, DB2, sequential, Oracle, SQL Server and Sybase data environments. Using consistent File-AID interfaces, concepts and integration, developers can create and maintain business-critical applications without being experts in any one data environment.

To learn more about Compuware File-AID/Data Solutions, visit: [compuware.com/file-aid](http://compuware.com/file-aid)

Compuware Corporation, the technology performance company, provides software, experts and best practices to ensure technology works well and delivers value. Compuware solutions make the world's most important technologies perform at their best for leading organizations worldwide, including 46 of the top 50 Fortune 500 companies and 12 of the top 20 most visited U.S. web sites. Learn more at: [compuware.com](http://compuware.com).

**Compuware Corporation World Headquarters** • One Campus Martius • Detroit, MI 48226-5099

© 2011 Compuware Corporation

Compuware products and services listed within are trademarks or registered trademarks of Compuware Corporation. Oracle and Java are registered trademarks of Oracle and/or its affiliates. Other names may be trademarks of their respective owners.

08.11 20007

