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Natural/Adabas Transformation Matrix

Introduction

FBD Associates Inc. provides a variety of solutions for re-platforming Natural/Adabas applications. Table 1 provides a matrix of the transformations applied to each component of a Natural/Adabas application when implementing a JavNat/RDBMS transformation to generate an application that is functionally equivalent to the original Natural/Adabas application.

After the migration is complete the generated J2EE application can be then deployed on multiple hardware platforms. Table 1 also provides a indication of the extent of manual editing of the generated components that is required to complete the transformation subsequent to JavNat processing. Comments regarding the design features, testing and documentation of the transformed application are provided.

Natural/Adabas	JavNat Equivalent
FDT (File **D**efinition **T**able – physical file description)	**DDL** for target RDBMS. Fully automated – no editing. Customer selects table/column names.
DDM (**D**ata **D**efinition **M**odule – logical file descriptions)	Java **class** on a one to one basis. Fully automated – no manual editing.
GDA, PDA, LDA (**G**eneral, **P**arameter and **L**ocal **D**ata **A**reas)	Java **class** on a one to one basis. Fully automated – no editing.
MAP (User presentation)	A JSP and Java **class** for each MAP. Fully automated – no editing.
Program, SubProgram, SubRoutine (Logic modules)	Java **class** on a one to one basis. Fully automated – limited manual editing of the generated Java code - principally to workaround flagged statements where direct translation difficult – e.g. REINPUT statements.

Natural/Adabas	JavNat Equivalent
Copycode	Merged inline prior to transform.
HelpRoutine	Java **class** on a one to one basis. Fully automated – limited editing of the generated Java.
JCL	**JCXML** module on a one to one basis. JCXML is an XML file that specifies the same batch steps as the original JCL and is interpreted by a custom Java class to perform batch operations. Certain batch operations such as SORTs may be replaced by a Java equivalent.
3GL Modules such as Cobol or Assembler	Replaced on a one to one basis with a Java class. In some cases the functions provided by the 3GL module may no longer be required.
Other	**Base Classes** – custom Java classes to provide syntactical behavior identical to Natural. Source code license provided as part of the transformation project.
Testing	Testing strategy involves side-by-side screen comparisons and diffs of reports and generated work files.
Code Simplification	The Java code is generated on a statement-to-statement and module-to-module basis and thereby preserves the “look and feel” of the Natural application. No attempt is made to simplify the generated Java source code.
Business Rules	Preserves the business rules implemented in the Natural application un-modified.
Application Resource Consolidation	Preserves the error messages and similar text information as they existed in the Natural source code – i.e. they appear in the Java code in the same location as in the Natural application.
Scalability	Tuning and code enhancements may be required to allow some applications to scale up – particularly batch operations.

Natural/Adabas	JavNat Equivalent
Maintainability	The architecture as well as the look and feel of the legacy Natural application are preserved thereby facilitating on-going maintenance of the JavNat application by the customer's existing development staff with minimal Java development experience. The design history and documentation of the Natural application are preserved and can be useful in maintaining the JavNat application.
Source Configuration	Java IDE project source files.
Documentation	JavaDocs to include preservation of comments from Natural source.
Open Source Support	The JavNat base classes are proprietary but the source code files for these classes are delivered and can be enhanced as required. Alternatively software maintenance support can be acquired from FBDA.
Complexity	As for the Natural application.
Security	Preserves the security rules of the Natural application un-modified.
Comments:	Provides a lowest cost, low risk transformation. Retains the architecture as well as the "look and feel" of the Natural application, facilitating on-going maintenance by existing staff.