

Conversion Process

The conversion application converts test files sent by textbook publishers into test banks. The test banks are then imported into testing software such as ExamView, WebCT, or Blackboard, which instructors use to generate tests in both print and electronic format.

The conversion process consists of five stages. At each stage, the test files are manipulated and then converted into different formats. The stages and the associated format conversions are explained below.

- I. Log In Project
- II. Clean SMASCII
- III. Clean New RTF
- IV. Import EVRTF
- V. Burn CDs

I. Log In Project

The first step in the conversion process is logging in and setting up the new project. Projects are tracked throughout the conversion process using a unique six-digit alphanumeric **File ID**, which is assigned when the project is logged in. The tracking process, which relies on both hardcopy information sheets and an electronic database, is also set up in the Log In Process. Finally, the project itself is initialized and moved to the central server for conversion.

1. Original Files → RTF

The publishers do not provide test files in a common format. Test files may be sent as MSWord documents (.doc), WordPerfect documents (.wpd), RTF documents (.rtf), plain text (.txt), ExamView bank files (.bnk), etc. Therefore, the test files must be converted to a common format, Rich Text Format (RTF). RTF preserves fonts and formatting, allowing text files to be transferred between software applications and across hardware platforms. Once the incoming test files are converted to RTF, the application can begin to parse and reformat them for importing into the testing software.

2. RTF → SMASCII

RTF retains the original formatting of documents, including fonts, font styles (bold, italic, underline), and layout. While the font styles can be retained (i.e., words emphasized using boldface), the testing software requires that text use certain fonts (i.e., 11-point Times) and that questions have a specific layout (i.e., questions begin with a number followed by a period). Therefore, the test files must be manipulated before importing them into the testing software. Much of this manipulation is done in Smart ASCII (SMASCII), a text format that uses a set of markup codes to indicate boldface, italics, underlining, etc. In this step, the original RTF files are converted to SMASCII and any tables or graphics are extracted and saved for later integration.

II. Clean SMASCII

In the second step of the conversion process, groups of text such as chapters, question types, question information, and individual questions are marked for processing. The application parses these groups of text by searching for “tags.”

3. SMASCII → Test

After the files are converted to SMASCII, they are “cleaned.” The cleaning process involves tagging chapters, question types (multiple choice, true/false, etc.), and question information (answers, objectives, etc.), as well as arranging the questions in the appropriate layout. Part of the cleaning process is done manually using Microsoft Word’s find-and-replace function, and part is done by the application [“the app”], which is customized according to the particular layout of the incoming files. After the SMASCII files are cleaned, they are converted to Test files.

4. Test → New RTF

The Test files can be verified using a test application that displays questions, answers, and question information. Checking the files using the test application facilitates the correction of errors in the SMASCII files and “the app” [the customized application referred to above]. After the Test files are verified, they are converted back to RTF for cleaning, table insertion, and reprocessing.

III. Clean New RTF

In the third step of the conversion process, tables are inserted and the test files are reparsed into a standard format. The application parses incoming test files twice. Each pass through the application refines the test files prior to importing them into the testing software. The first pass, described in the previous section, uses customized code to parse the test files and reformat them into a fairly consistent format. The second pass, described in this section, uses standard code to parse the test files into a more restrictive format.

5. New RTF → SMASCII

The “new” RTF files have a different format (“standard format”) from the original RTF files. The application sets up the standard format, which uses consistent headings and tags as well as a structured layout. In this step, the tables, if there are any, are reinserted. The application will automatically set up most of the tables; however, some of them must be formatted manually. After any tables are inserted, the new RTF files are cleaned and spell-check is run. The files are then converted to SMASCII.

6. SMASCII → Test

For this second pass, the application uses a standard process rather than the customized process to convert the SMASCII files to Test files. For example, the application may rearrange the tags and their associated text into the standard layout. The Test files are then retested.

7. Test → EVRTF

The Test files are sent through the test application again to verify the conversion process. Any remaining errors in the SMASCII files are corrected at this time. After the errors are corrected, the Test files are converted into ExamView RTF (EVRTF) files for importing into the testing software.

IV. Import EVRTF

In the fourth step of the conversion process, the ExamView files are set up. At this stage, the test files are in a standard format ready for importing into ExamView test banks. In addition, any symbols, equations, and graphics are inserted into the test banks. Finally, the test banks are checked against the original hardcopy sent by the publishers to verify that the conversion process has not introduced any errors. If there are any inconsistencies in question wording, duplications of questions, or skipped question numbers, they are noted and sent to the publisher for a response.

8. EVRTF → Bank Files

Using the ExamView Importer, the EVRTF files are imported into ExamView and saved as test bank files. In this step, symbols, equations, and graphics are inserted into the bank files. The graphics may have to be manipulated or recreated to provide adequate clarity and quality. Finally, the bank files are printed out and proofread. Any outstanding questions are documented and sent to the publisher for a response.

V. Burn CDs

In the fifth step of the conversion process, the test banks are converted to and delivered in the format requested by the publishers.

9. Bank Files → Requested Format

When the bank files are finalized, they are exported from ExamView to the format requested by the publisher (PC-specific, Mac-specific, XML, RTF, etc.). The last task of the conversion process is delivering the test banks, either on CD or by email.

