



## TAP3 ASN.1 EDITOR



### General Overview

Interconnect charges are one of the most important revenue generating components of any operator's business. Consequently, it is important for an administrator to have the ability to view, modify and correct roaming data as necessary. Combil's TAP3 Editor offers the ability to work with TAP3 files, the industry standard format in inter-carrier data exchange.

As TAP3 files are coded in ASN.1, they cannot be viewed with a regular text editor. Combil's TAP3 Editor enables this functionality, with a host of other rich editing features such as hierarchical and table viewing, data filtering and error flagging. With Combil's TAP3 Editor, the administrator is provided with a single point of entry for all data viewing, editing and reporting needs.

Combil's TAP3 Editor allows operators to easily roll-out new services. Operators can test and correct data during TADIG (Technology and Documentation Interoperability Group) tests. In addition, the Editor features an option to enter erroneous data in order to test various information scenarios and data integrity.

Combil's TAP3 Editor will reduce workload and maximize revenue for any operator, by eliminating time consuming manual labour. The product is ideal for Billing Administrators, Roaming Managers and TADIG Administrators and anyone else involved in the invoice generation and presentation process.

*"The TAP3 Editor is a very good tool to make the TAP exchange and TAP testing much more flexible and simple. Apart of its rich functionality the Editor features a very user friendly interface."*

Imran Musaev, Chief Roaming Engineer  
Beeline GSM, Moscow, Russia

### Features and Benefits

#### Thought-out user interface

The editor features a very effective user interface, with many self-help functions, making for easier and faster navigation.

#### View and modify large TAP3 files

The application is scalable to any operation as it allows for the user to view small and large TAP3 data files.

#### Hierarchical and table presentations

The editor is flexible in its presentation of data, allowing the user to view files either in hierarchical or table formats, with user defined table layouts.

#### Full TAP3 support

The editor is fully compatible with the TAP standard, supporting TAP3 releases 1,2,3,4,9, 10 and 11.

#### Support of RAP files

The utility is fully compatible with all RAP files, ensuring interoperability with industry standard methods for reducing billing time and maximizing ARPU.

#### Cut/Copy/Paste functionality

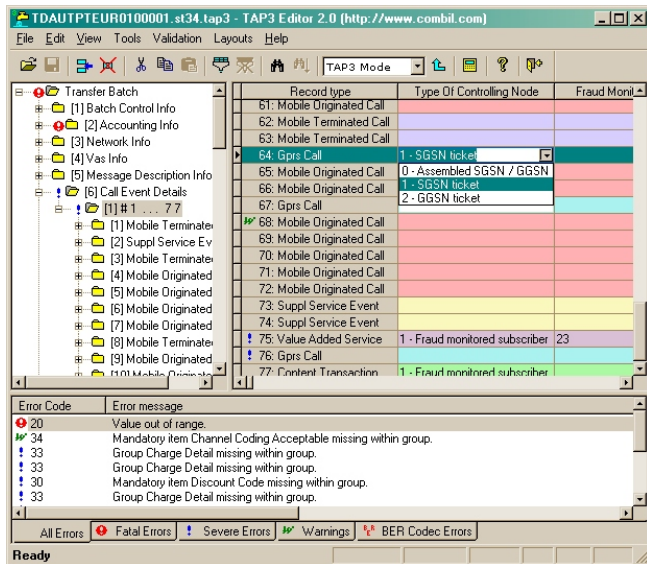
Records can be edited during a viewing session with a built-in cut, copy and paste option. This allows for faster and easier correction and modification of data. The software allows a user to take records from the current scenario file and use these as templates for future work.

Editor v.2

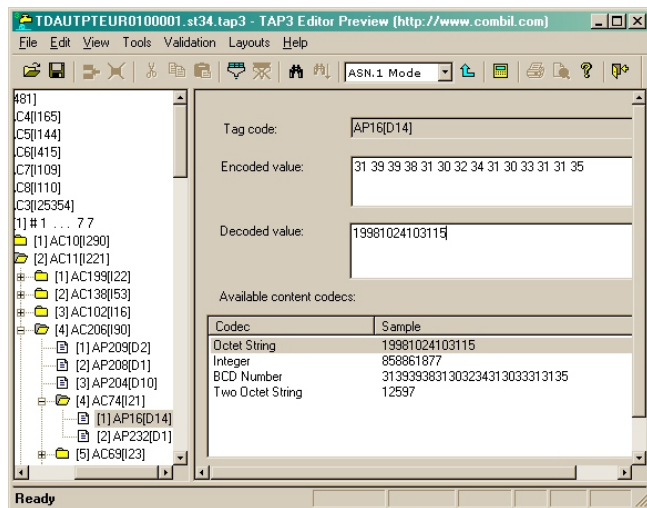
TAP3 ASN.1

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TAP3 Table Edit Mode



ASN.1 Edit Mode

### Search/replace function

The Editor's rich search function allows for much easier navigation through larger documents for pinpoint corrections.

### Call Event Detail Record Filter

Data can be filtered according to the user's queries with the Call Event Record Filter. This feature will help reduce time and perform complex Query-By-Example filters.

### Ability to enter TAP3 erroneous data

By allowing the user to insert erroneous data, the utility is an excellent tool for testing network and data integrity.

### ASN.1 edit mode (Enterprise Edition only)

The utility allows administrators to view files in all formats, including ASN.1 raw data. This feature allows an operator to work with files that are corrupted on a low-level, insert new fields and create a custom TAP3 format.

### Audit information calculation

Editing is made simple with the Editor's audit information calculation feature, which automatically analyses data and presents a summary of auditing events.

### Error highlights on the tree and table

The user can reduce their time and effort when handling errors with a quick and easy highlight feature that flags major discrepancies for faster resolution. The utility is configured to recognize TAP3/BER errors.

### TD.57/TD.32 and user-defined templates

The user can find a standard testing template in a template library. Moreover, the user is able to create and manage own custom TAP3/RAP templates.



**TAP3/ASN.1 Editor v.2.3 Feature Matrix**

TAP3 Editor Editions	Viewer	Lite	Standard	Enterprise
<b>Basic features</b>				
Easy-to-use graphical user interface	X	X	X	X
Tree presentation	X	X	X	X
Table presentation	X	X	X	X
Displaying data values with textual description of codes	X	X	X	X
Displaying the list of possible values for a field (online TD.57 reference)	X	X	X	X
Changing of values (either directly input or selected from the value list)	-	X	X	X
Deletion of fields, structures and lists	-	X	X	X
Insertion of fields, structures and list items	-	X	X	X
Creating a new file from a nil	-	X	X	X
In-table editing of all values	-	X	X	X
Call Event Details table color highlighting by a record type	X	X	X	X
Searching for values	X	X	X	X
Replacing of values	-	-	X	X
Filtering of records (record type, call event start time etc)	X	X	X	X
Recalculation of the Audit Control Information	-	-	X	X
Printing support	X	X	X	X
Undo/Redo support	N/A	X	X	X
<b>Advanced features</b>				
Copy and Paste of a single record inside the editor	-	X	X	X
Copy and Paste of a set of records inside the editor and across multiple instances of the editor	-	-	X	X
Replacing the header information or parts thereof by copying it from a second file	-	-	X	X
TD.57 field on-fly description *	X	X	X	X
Auto creation of mandatory fields *	-	X	X	X
Smart file name and file version modification *	-	X	X	X
Pre-defined table layouts (sets of fields)	X	X	X	X
User-defined table layout editor *	-	-	X	X
Export of the contents of the file or a range of events in a different format (XML or comma-separated field values/Excel) to a file	-	-	X	X

TAP3 Editor Editions *	Viewer	Lite	Standard	Enterprise
TD.57 & TD.32 templates *	-	X	X	X
User-defined file templates *	-	-	X	X
Query-by-example filter *	-	-	X	X
Save/load filter queries *	-	-	X	X
<b>ASN.1 extensions *</b>				
ASN.1/BER edit mode *	-	-	-	X
User-defined ASN.1 dictionaries *	-	-	-	X
Reading of TAP3 files which might fail in a billing system because of violations of the ASN.1 notation *	-	-	-	X
Invalid tad header modification *	-	-	-	X
<b>Validation</b>				
TD.57 rule-based validation – Fatal errors <b>new!</b>	X	X	X	X
TD.57 rule-based validation – Severe errors and Warnings <b>new!</b>	-	-	X	X
Validation logs & report	X	X	X	X
Duplicate events search (inside a file)	-	-	-	2.3.1
Validation Rules Viewer *	-	-	2.3.1	2.3.1
User-defined validation rules *	-	-	-	2.3.1
Bilateral agreements validation	-	-	2.3.2	2.3.2
BER errors recognition	-	-	-	X
<b>TAP3 releases and RAP</b>				
TAP3 releases 1,2,3,4, 9, 10	X	X	X	X
TAP3 release 11 and future (as the specifications become available) releases	X	X	X	X
RAP and acknowledgement files	X	-	X	X
<b>Performance</b>				
File browsing – size limitation (number of events)	Any number	Any number	Any number	Any number
File editing – size limitation (number of events)	N / A	1,000	50,000	Any number
<b>Support</b>				
User help, User manual and Technical support	Basic	Normal	Normal	Premium
<b>Requirements</b>				
Operational system (Windows)	NT4/2000/XP/Vista			

\* Combil TAP3/ASN.1 Editor unique feature