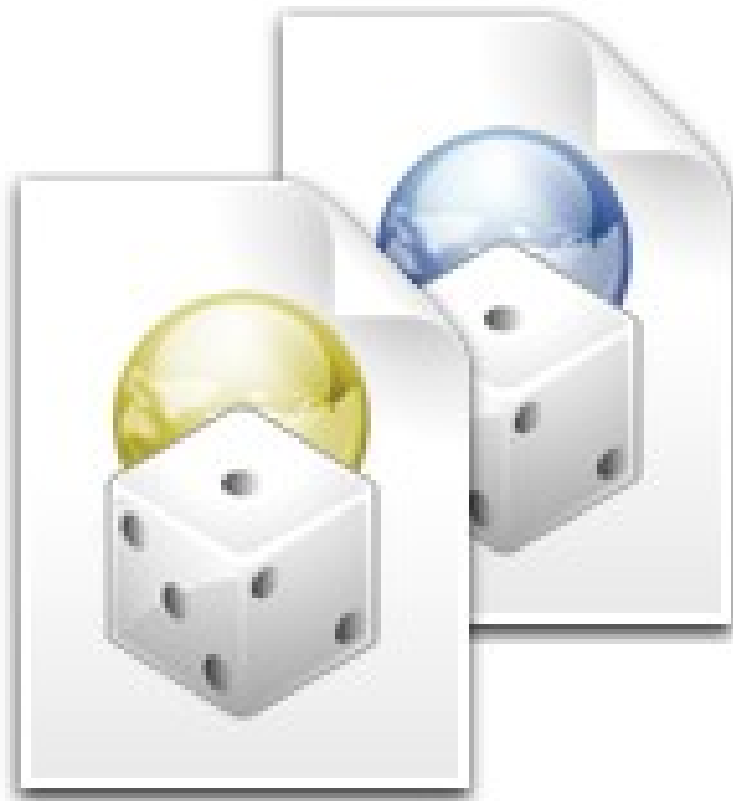


X-yz Tag Format



Introduction

Welcome to the X-yz Software File Format Specification of X-yz Tag Formats (xtl, xbt)
This document is the detailed specification of the X-yz Software File Format, on the file formats that X-yz Software product reads and writes.

About this guide

This programmer's guide is designed for readability on screen as well as in printed form. The page dimensions were chosen with this in mind. The Livenim MT, Franklin Gothic Medium and Courier New font families are used throughout the manual.

Document File Formats

This chapter documents these standard formats.

The formats discussed in this chapter include XTL (X-yz Tag Language) and XBT (X-yz Binary Tags)

For more information about file formats, look at <http://www.x-yz.nl/fileformats> or send an e-mail to info@x-yz.nl

XTL file format

XTL is a text based file format, this makes it easy to read and edit. The side effect is that the file needs to be parsed before the data can be used. While parsing is faster than XML due to the fact that the syntax is less complex. Parsing makes it still slower than the binary form.

Syntax

The file consists of tags every tag starts with "<" and ends with ">" between these characters there is a name followed by the relevant operators if any. There are 4 types of tags in which all types of values can be stored

- ✓ short tag
- ✓ value tag
- ✓ group start and end tag

short tag

a short tag is equal to a value tag with no value there for the tag is indicated by an "/".
the whole tag could look like:

```
<tag name/>
```

value tag

a value tag has a value, as the name would suggest. After the name of the tag the character "=" indicates it's a value tag this tag has to be followed by two double quotes. Inside these two quotes is the value of the tag. The value could have a double quote, this would cause an error. To escape the double quote it has to be replaced by two double quotes.

the whole tag could look like:

```
<tag name="value">
```

with a double quote escaped

```
<tag name="this value has ""double"" quotes in it">
```

group start and end tag

this is to group tags, for in a case where multiple tags with the same name would cause an error. The start tag has no additional characters inside the tag. Every start tag has to be ended by an end tag, an end tag looks similar to a short tag to the fact that it has no tag name.

the whole tag could look like:

```
<tag name>  
  <tag name="value">  
  <tag name/>  
</>
```

XBT file format

XBT file format is the binary representation of data structure, therefore loading the file is as easy as reading amount allocating amount reading the amount. The file is build up by 3 structures, in a recursively order.

The 3structures are:

- ✓ file
- ✓ collection
- ✓ tag / key

File

The file structure stores all extra data needed to validate the file.

| Offset | Length | Name | Description |
|-------------|----------|---------|---------------------------------|
| 0 | 3 bytes | File Id | XBT |
| 3 | variable | data | Start with the root collection |
| 3+data size | 4 bytes | crc | The data has to match with this |

Collection

The collection is no more and no less the a single int value giving the amount of tag to read an put in this collection.

| Offset | Length | Name | Description |
|--------|----------|-------|--|
| 0 | 4 bytes | count | The number of tag inside this collection |
| 4 | variable | tags | The sub tags |

Tag

The tag start of a tag is the same, depending on the highest bit in the length byte there will be a value or a collection.

| Offset | Length | Name | Description |
|--------|----------|---------------|--|
| 0 | 4 bytes | length+isLeaf | Length of the name and bit v128 indicates type |
| 4 | variable | name | Name of the tag |

Is Leaf

To store a value is done in this structure.

| Offset | Length | Name | Description |
|--------|----------|-------|----------------------|
| 0 | 4 bytes | size | Size of the value |
| 4 | variable | value | The value of the tag |

If not a leaf

Then the value is the collection structure