

Structures (Data Types)

D2000 VBApi - VBApi interface structures

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VBApi_TUnival structure

In the interface [D2000 VBApi](#), the structure **VBApi_TUnival** is used for presentation of the current values of objects and also values from the archive. It contains all available information about the object value. Logical values (LV) are represented by an integer value, where the value 0 represents False and the value 1 represents True. The value type *array* is not supported on the structure level.

Structure description:

```
Type VBApi_TUnival
  Valid As Long - Value validity (value type : LV)
  Weak As Long - WEAK attribute (LV)
  Transient As Long - Transient state (LV)
  Default As Long - Default value attribute (LV)
  '
  valueType As Long - Value type
  statType As Long - Value limits
  ValTime As Date - Value occurrence time
  bFlags As Long - User's flags of value (A..P)
  bArchFlags As Long - Archive attributes of value
  ' items, which contain own value according to the value type are mentioned above
  valueINT As Long - For types: Bo, Int, St, Al, Pr, Qx
  valueTXT As String - For type Text
  valueRE As Double - For types: Re, TmR
  valueTm As Date - For type: TmA
End Type
```

Constants for the item **valueType**:

```
Public Const NAN = 0 - No type
Public Const Bo = 1 - Logical type
Public Const Inte = 2 - Value of Integer type
Public Const Re = 3 - Value of Real type
Public Const St = 4 - Value of station type
Public Const Al = 5 - Value of Alarm type
Public Const Pr = 6 - Value of Process type
Public Const TmA = 7 - Value of Absolute time type
Public Const TmR = 8 - Value of Time interval type
Public Const Txt = 9 - Value of Text type
Public Const arr = 10 - Value of Array type
Public Const QX = 11 - Qadrat value
Public Const Rec = 12 - Structure
```

Constants for the item **statType**:

```
Public Const InLimit = 0
Public Const VL_Limit = 1
Public Const L_Limit = 2
Public Const H_Limit = 3
Public Const VH_Limit = 4
Public Const LimitsProblem = 5
```

Constants for the item **bFlags**:

User flags are represented by an integer value, where its individual bits, in the binary pattern, represent the individual flags. 0. bit (zero bit) is assigned to the flag, 1. bit is assigned to the flag B

Bit masks for the test of the settings of individual bits are defined by the following constants:

```

Public Const BF_A = 1
Public Const BF_B = 2
Public Const BF_C = 4
Public Const BF_D = 8
Public Const BF_E = 16
Public Const BF_F = 32
Public Const BF_G = 64
Public Const BF_H = 128
Public Const BF_I = 256
Public Const BF_J = 512
Public Const BF_K = 1024
Public Const BF_L = 2048
Public Const BF_M = 4096
Public Const BF_N = 8192
Public Const BF_O = 16384
Public Const BF_P = 32768

```

The logical operator **and** between an integer value and the particular constant is in VB interpreted as a bitwise AND.

Constants for the item **bArchFlags**:

In case, that we work with a value from the archive, there is used the item **bArchFlags**. For the current values its value is always 0. It contains the additional information about the historical value. Representation of individual flags is similar to the item.

Bit masks for the test of the settings of individual flags are defined by the following constants:

```

Public Const BF_ArcStart = 1 - Archive start
Public Const BF_ArcStop = 2 - Archive stop
Public Const BF_ArcBlock = 4 - Starting the validity of archiving block condition
Public Const BF_ArcUnBlock= 8 - Finishing the validity of archiving block condition
Public Const BF_ArcDeleted = 16 - Deleted value
Public Const BF_ArcModify = 32 - Value modified by user from HI process
Public Const BF_ArcOldValue = 64 - Value from station archive
Public Const BF_ArcProcessModify = 128 - Value modified, or inserted by process (for example Event, VBApi, ...)

```

Other structure items contain own value, where the values for individual types are placed in items according to the following table:

Structure item	Validity for types
ValueINT	Bo, Int, St, Al, Pr, Qx
ValueTXT	Text
ValueRE	Re, TmR
ValueTM	TmA

VBApi_TLogRec structure

The structure is used to browse the log database contents.

Structure description:

```

Type VBApi_TLogRec
    objName As String - object name
    logTime As Date - event occurrence time
    typ As Long - event type (constants in the topic System constants)
    person As String - user
    descript As String - description
    oldValue As String - old value
    newValue As String - new value
    comment As String - description
    prty As Long - priority
End Type

```

Priority may get one of the following values (meanings):

```
Public Const Prty_Info_Log = 0
Public Const Prty_Warning_Log = 1
Public Const Prty_Alarm_Log = 2
Public Const Prty_CriticalAlarm_Log = 3
Public Const Prty_Error_Log = 4
```

Note:

As the structure **VBApi_TlogRec** describes various types of events, the meaning of individual items is not steady. It is therefore suitable to confront their contents with browsing the log database in process [D2000 HI](#).



Related pages:

[D2000 VBApi](#)