BAPITCP - Implementation specifics

1.Introduction

This document describes implementation specific details of the TCP/IP to BAPI gateway server implemented by mocom software, Aachen.
BAPITCP was designed to meet the BAPI and the “TCP/IP to Bitbus” standards. In case these standards conflict, the BAPI standard meaning has been implemented.

2.Structure BitbusOpenData

The BAPI (and the TCP/IP to Bitbus) standard define an optional and implementation specific parameter of BitbusOpenMaster(), BitbusOpenSlave() functions, the BitbusOpenData structure. For mocom softwares implementation of BAPI and BAPITCP (TCP/IP to BAPI gateway server) this data structure is used (in bapi.h):

```
typedef PACKED_STRUCTURE struct {
      INT32 len;        /* fill in the length of the structure
                           before calling BitbusOpen(), on return it
                           contains  the length of copied data          */
      char    name[10]; /* device name string: IPCBITxx, USBBITxx, COMxx */
      char    serno[7]; /* ELZET80 serial number: IPC123                */
} GNU_PACKED_STRUCTURE BitbusOpenData;
```

This parameter is optional. If you want to get the information you must append the len of the BitbusOpenData structure to your data. The return value will then contain the complete BitbusOpenData strucure filled with device information.

2.1.Example - BitbusOpenMaster() with the optional BitbusOpenData parameter

Function Code 0x0001 – Call BitbusOpenMaster (Client → BAPI Server)

0000	0x6C	0x1F	Header key (magic number): 8044 = 0x1F6C
0002	0x08	0x00	Size of header: 8 bytes
0004	0x10	0x00	Size of message parameters: 16 bytes = 0x0010
0006	0x01	0x00	Function Code 0x0001
0008	‘A’	‘P’	Application Name = “APPL” (situation specific example)
000A	‘P’	‘L’	
000C	0x00	‘B’	Bitbus Device = “BBUS0” (BAPITCP supports only “BBUS0” device)
000E	‘B’	‘U’	
0010	‘S’	‘0’	
0012	0x00	0x15	BitbusOpenData.len *(optional): 21 byte = 0x00000015*
0014	0x00	0x00	
0016	0x00	0x00	*Last byte is a filler*

Function Code 0x0002 – Get return of BitbusOpenMaster (Client ← BAPI Server)

0000	0x6C	0x1F	Header key (magic number): 8044 = 0x1F6C
0002	0x08	0x00	Size of header: 8 bytes
0004	0x1A	0x00	Size of message parameters: 26 bytes = 0x001A
0006	0x02	0x00	Function Code 0x0002
0008	0x84	0xBB	Handle to Bitbus = 0x4000BB84
000A	0x00	0x40	
000C	0x15	0x00	BitbusOpenData.len = 0x00000015
000E	0x00	0x00	
0010	0x4E	0x45	BitbusOpenData.name = “NETA7”
0012	0x54	0x41	
0014	0x37	0x00	
0016	0x00	0x00	
0018	0x00	0x00	
001A	0x4D	0x55	BitbusOpenData.serno = “MUS022”
001C	0x53	0x30	
001E	0x32	0x32	
0020	0x00	0x00	*Last byte is a filler*

Handle, BitbusOpenData.name and BitbusOpenData.serno content are situation specific examples.

3.References

(a)**BITBUS APPLICATION PROGRAMMERS INTERFACE (BAPI)**
http://www.bitbus.org/dnl/bapi.pdf

(b)A modest proposal for a TCP/IP to Bitbus Gateway
http://www.bitbus.org/dnl/TCPIP_BAPI.pdf

(c)bapi.h