

draft-ietf-forces-protocol-02.txt

IETF62

Progress

- ◆ Setup and use of Issue Tracker
- ◆ Extensive Discussions among authors and others on list
- ◆ Coordination with Model team
- ◆ Defined Protocol BNF
- ◆ Tracker Issues Closed 1, 2, 3, 5, 7

Protocol BNF

◆ Section 6.1.1

PL level PDU := MAINHDR 1*LFBselect-TLV
LFBselec-TLV := LFBCLASSID LFBInstance 1*OPER-TLV
OPER-TLV := 1*PATH-DATA-TLV
OPERATION-Type := SET / DEL / GET ...
PATH-DATA-TLV := PATH [DATA]
PATH := flags IDcount IDs [SELECTOR]
SELECTOR := KEYINFO-TLV
DATA := DATARAW-TLV / RESULT-TLV / 1*PATH-DATA-TLV
KEYINFO-TLV := KEYID KEY_DATA
DATARAW-TLV := encoded data which may nest DATARAW TLVs
RESULT-TLV := TBD. Holding result code and optional DATARAW

BNF Cont'd

- ◆ MAINHDR – Defines message type
- ◆ LFBCLASSID – 32 bit unique id per LFB class
- ◆ LFBInstance – 32 bit unique instance id of a LFB class
- ◆ PATH-DATA-TLV – defines exact element targeted
- ◆ PATH – path to data being defined
- ◆ SELECTOR – optional construct to additionally define a path
- ◆ KEYINFO-TLV - used for selecting an array entry by the value of a key field
- ◆ DATA -
 - ◆ DATARAW – use for sets and get responses
 - ◆ RESULT-TLV – still TBD
 - ◆ Other PATH-DATA-TLV
- ◆ RESULTS – still under discussion on how this is used

Implications of BNF

- ◆ There can be one or more LFB Class + InstanceId combo targeted in a message (batch)
- ◆ There can one or more operations on an addressed LFB classid+instanceid combo(batch)
- ◆ There can be one or more path targets per operation (batch)
- ◆ It is assumed that the type of the data can be inferred by the context in which data is used. Hence, data will not include its type information. The basis for the inference is typically the LFB class id and the path.
- ◆ Still discussing:
 - ◆ efficiency of encoding
 - ◆ efficiency of parsing and decoding
 - ◆ the packaging overhead.
- ◆ Updates made to all messages to support inclusion of PATH-DATA

Issue 1

- ◆ Association Setup and Association Setup Response messages, will use the same grammar as other messages.
- ◆ The FE Object LFBs would be used to advertise any existing FE attributes to the CE and vice versa in these messages.

Issue 2

- ◆ Editorial
 - ◆ Section 6.5.1
 - ◆ Change to TYPE
 - ◆

Issue 3

- ◆ Query and Query Response messages modified to use PATH-DATA
 - ◆ With the limitation specifically for GET operation that the PATH-DATA does not require DATARAW-TLV or RESULT-TLV

Issue 5

- ◆ Events defined in XML as attributes
- ◆ Will have a path that can be used by the config message for subscription

Issue 7

- ◆ Issue of how paths described in the protocol messages to target a specific attribute or set of attributes.
- ◆ Major issue to progress protocol forward
- ◆ Resolved with definition of PATH-DATA

Transactions

- ◆ ACIDity
 - ◆ Atomicity: all or nothing
 - ◆ Consistency: new and valid state or state unchanged
 - ◆ Isolation: Transactions are isolated from each other
 - ◆ Durability: State is maintained even across failure or restart
- ◆ Under discussion
 - ◆ Abort message for rollback
 - ◆ Format of Response messages
- ◆ Trying to be careful to say enough without restricting implementation – need to find balance

Protocol

main hdr (e.g. Config)

```
|
|
| +----+T = LFBselect
|     |
|     +-- LFBCLASSID
|     |
|     +-- LFBInstance
|     |
|     +-- T = SET-CREATE
|     |
|     | +-- // one or more path targets
|     | // with their data here to be added
|     |
|     +-- T = DEL
|     |
|     . +-- // one or more path targets to be deleted
```

XML for FE Protocol LFB

- ◆ Definition started
 - ◆ Appendix C

- ◆ Please review carefully

XML for FE Object LFB

- ◆ Definition started
 - ◆ Found in Model Draft

Use Cases/Examples

- ◆ Many many examples in Appendix D
 - ◆ Get
 - ◆ Set
 - ◆ Dump Table
 - ◆ Multiple Operations
 - ◆ Block Operations
 - ◆ Get Row
 - ◆ Get Specific entry of a table
 - ◆ Create row in table
 - ◆ Create and Return a table index
 - ◆ Dump contents of table
 - ◆ Using Keys get row entry from table
 - ◆ Delete row with key match
 - ◆ Multiple atomic operations
 - ◆ Selective setting using indices
 - ◆ Manipulation of table of tables etc
 - ◆ Get entire LFB

To Do

- ◆ All TBDs, editor's note, open issue notes etc.. to be added to be added to issue tracker
- ◆ Fix references
- ◆ Check consistency of descriptions
- ◆ Are any other Appendices required: e.g. Types
- ◆ Create IANA section
- ◆ Scrub for nits
- ◆ Get to WGLC

thanks

- ◆ Discussion on spec to the ForCES list
 - ◆ FORCES@PEACH.EASE.LSOFT.COM
- ◆ Issue Tracker:
 - ◆ <http://www.mip4.org/issues/tracker/forces/>