

adinstbpm - Task #19608

Milestone # 20350 (New): IOTA BPM deployment

Milestone # 19607 (New): IOTA ACNET Interface

Crate status and control device

04/09/2018 02:32 PM - John Diamond

Status:	Work in progress	Start date:	04/09/2018
Priority:	Normal	Due date:	
Assignee:	Elliott McCrory	% Done:	80%
Category:		Estimated time:	24.00 hours
Target version:		Spent time:	22.00 hours
Description			
This device will give status about the crate hardware and the status of bpmd.			

History

#1 - 04/09/2018 02:57 PM - John Diamond

Recommended device naming pattern: x:BPMyyy

- yyy = three digit crate identifier

Reading property:

- Structured data with 4 byte elements unsigned integers
 - [0] = bpmd uptime counter (number of seconds)
 - [1] = bpmd pid
 - [2] = number of DAQ modules present
 - [3] = integer representation of the DAQ state
 - [4] = number of BPMs configured
 - [5] = integer representation of the state machine type
 - [6] = state machine cycle counter
 - [7] = most recent state machine cycle identifier

Setting property:

- none

Status property:

- Bit 0: bpmd is running
- Bit 1: Timing signal generator is present
- Bit 2: Clock decoder is present
- Bit 3: DAQ modules are ready
- Bit 4: DAQ modules are armed
- Bit 5: DAQ modules are triggered
- Bit 6: State machine is enabled
- Bits 19-31: DAQ module present in slot n

Control property:

- 0: start bpmd
- 1: shutdown bpmd
- 2: restart bpmd
- 3: enable state machine
- 4: disable state machine

#2 - 04/09/2018 03:06 PM - John Diamond

- Estimated time set to 24.00 h

- Parent task set to #19607

#3 - 04/09/2018 03:24 PM - John Diamond

- Status changed from New to Assigned

- Assignee set to Elliott McCrory

#4 - 04/10/2018 08:22 AM - John Diamond

Link to [AD/Controls documentation for developing Linux ACNET front ends](#).

#5 - 04/17/2018 01:38 PM - John Diamond

To clarify:

- [5] = integer representation of the state machine type
 - Use `MachineContext::machineGet()` and cast the `FNALMachine` to an unsigned int
- [7] = most recent state machine cycle identifier
 - This is just my confusing way of saying the `TCLK` cycle reset ID. Use `MachineContext::resetTCLKGet()`.

#6 - 10/17/2018 10:57 AM - Elliott McCrory

- Status changed from *Assigned* to *Work in progress*

- % Done changed from 0 to 80

There is an outstanding problem with setting some control bits at IOTA. However, we believe that this is not a problem in the front end. See logbook entry: <https://www.bd.fnal.gov/Elog/?orEntryId=141937>