1394b bport task group

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Agenda

- Control State mappings
- Request type mappings
- Interfaces
- bportR - FIFO
- Open issues....

Control state mapping

Table 0-1—Control State Mapping

Control state	Control symbol SRQP	
	rd>0	rd<0
ARBRST_GRANT	0000	
GRANT	0001	
spare	0010	
spare	0011	
spare	0100	
SPEEDa	1101	
SPEEDb	1000	
DATA_PREFIX	1001	0101
DATA_END	1010	0110
DATA_END_ERR (Errored packet)	0111	
DATA_PREFIX_ERR (Errored packet)	1011	
spare	1100	
ARBRST	1110	
BUS_RESET	1111	

DATA_PREFIX_ERR needed for legacy concatenated packets, when error is found in packet.
Only one disparity variant needed for SPEEDb, DATA_END_ERR.

Request type mapping

Table 0-1—Isochronous request type mapping

Request type	symbol component bits HGFED
reserved - see Note 2	0xx00
NONE	0xx01
NEXT_SLOW	0xx10
NEXT_FAST	0xx11
CURR_SLOW	1xx00
CURR_FAST	1xx01
LEGACY	1xx10
reserved	1xx11

Table 0-1—Asynchronous request type mapping

Request type	symbol component bits CBA
reserved	000
NONE	001
NEXT_SLOW	010
NEXT_FAST	011
CURR_SLOW	100
CURR_FAST	101
LEGACY	110
CYCLE_START	111

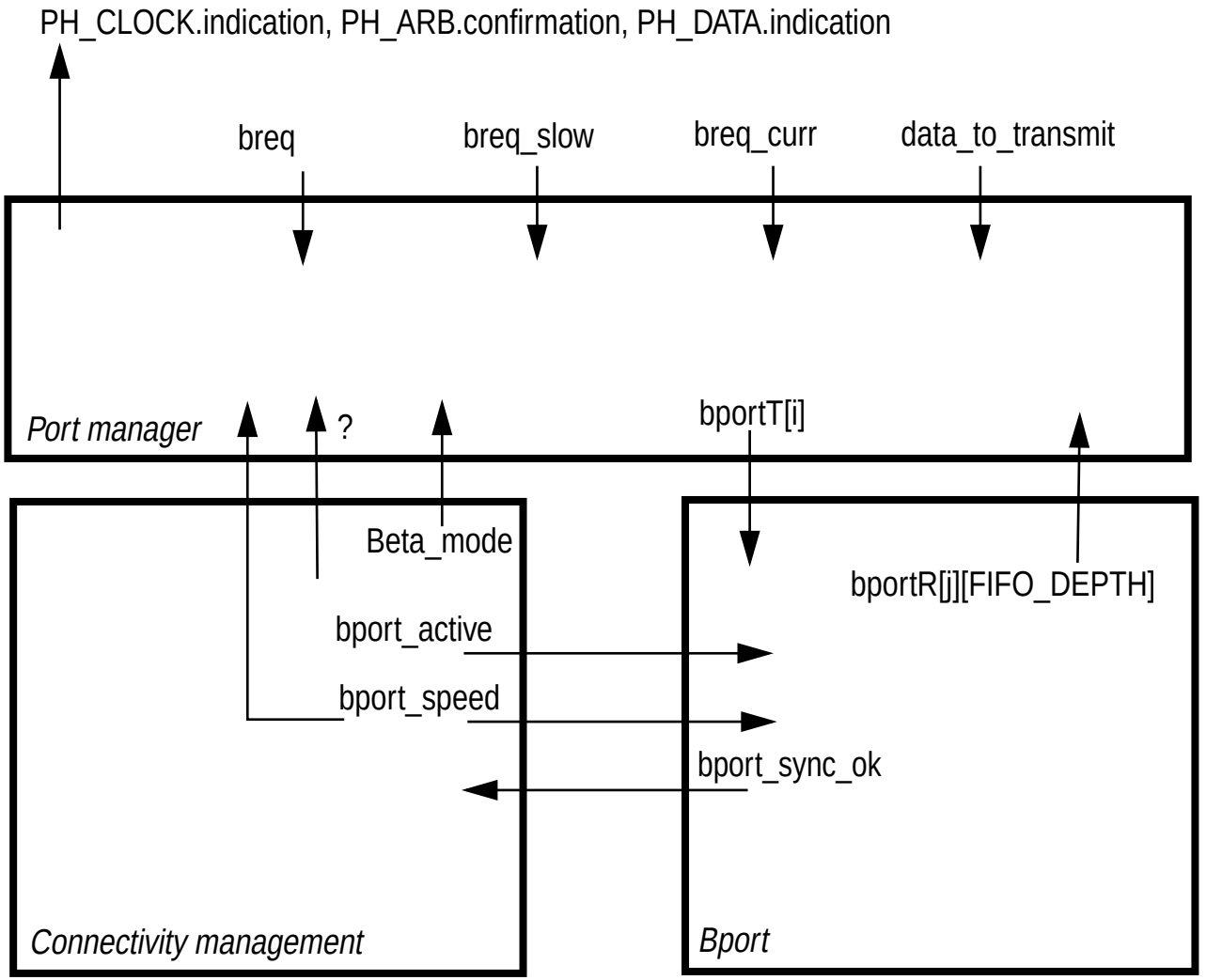
Example: Fast isoch request for next cycle and slow asynch request for current cycle:

HGFEDCBA = 0xx11100

Note: 1xx11abc are unused for all a, b, c

axxbc000 are unused apart from a=b=c=0

Link / PHY / bport signals



portR

- In port c code, portR is now treated as a FIFO:
  portSymbol portR[i][FIFO_DEPTH]

```
speedCode{S100,S200,S400,S800,S1600,S3200,NULL};
betaCtrl{DATA_PREFIX,DATA_END,DATA_END_ERR,
RESET,ARBRST_GRANT,ARBRST,GRANT};
betaReqType{NONE,NEXT_SLOW,NEXT_FAST,CURR_SLOW,
CURR_FAST,LEGACY,CYCLE_START};
portTag{DATA,CTRL,SPEED,
REQUEST,LEGACY_REQUEST};
legacyReqType{REQGNT,CHILD_NOTIFY,PARENT_NOTIFY,
DISABLE_NOTIFY,SUSPEND,IDLE,TRAINING,OPERATION};
```

```
portSymbol { tag; value} portT, portR;
```

- During packet reception (i.e. all payload between speed signal and ARBRST/GRANT/ARBRST_GRANT), all payload is placed in portR[i][wr_ptr] and wr_ptr is incremented.
- During request/idle, all request info is placed in portR[i][wr_ptr] and wr_ptr is frozen.