PER PORT AND LINK SPEED MAPPING

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PHY REGISTER MAP

Address	0	1	2	3	4	5	6	7
0000 2	Physical_ID						R	PS
0001 2	RHB	IBR	Gap_count					
0010 2	Extended(7)			Total_ports				
0011 2	Max_speed			Token	M_speed	Link_speed		
0100 2	L	C	Rsrvd			Pwr		
0101 2	Sleep	ISBR	Loop	Pwr_fail	Timeout	Bias_cha	Enab_acc	Enab_mul
0110 2	Rsrvd							
0111 2	Page_select			Port_select				
1000 2	Register0 page_select							
⋮								⋮
1111 2	Register7 page_select							

Link_speed:

000_2	S100	98.304Mb/s
001_2	S200	196.608Mb/s
010_2	S400	393.216Mb/s
011_2	S800	786.432Mb/s
100_2	S1600	1,572.864Mb/s
111_2	S3200	3,145.728Mb/s

Max_speed (Read only) = the maximum signaling speed of the slowest port in the PHY

M_speed (Read/Write) = 1, Multiple speed ports in the PHY
0, Homogenous speed ports.

Link_speed (Read/Write) = the maximum speed of the Link

During the power up, the default values of M_speed and Link_speed are 0.

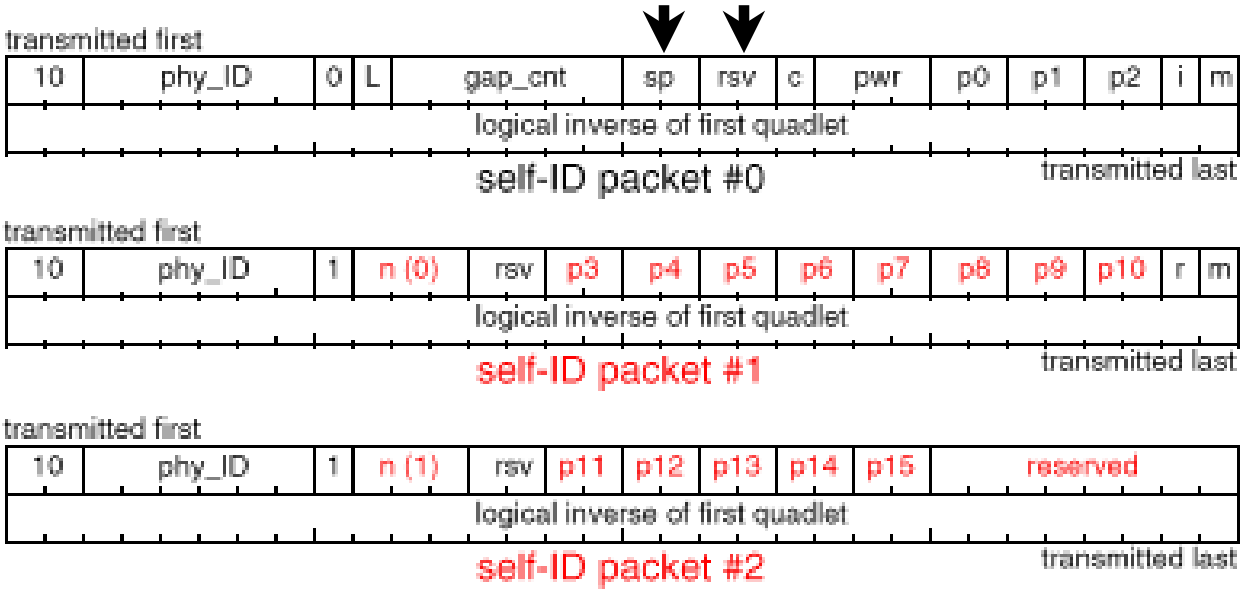
PORT REGISTER MAP

Address	0	1	2	3	4	5	6	7
(1)000 $_2$	Astat		Bstat		Ch	Con	Bias	Disabled
(1)001 $_2$	Negotiated_speed			Rsrvd		Per_port_speed		
(1)010 $_2$	Chg_int_en	Initiate Suspend	Initiate Disable	Enab_token (optional)	Fault Set		Rsrvd	
(1)011 $_2$	Chg_int_en	Initiate Resume	Initiate Enable	Enab_token (optional)	Fault Clear		Rsrvd	
(1)100 $_2$	Rsrvd							
(1)101 $_2$	Rsrvd							
(1)110 $_2$	Rsrvd							
(1)111 $_2$	Rsrvd							

Per_port_speed: (= the maximum signaling speed of the specific port of the PHY)

000_2	S100	98.304Mb/s
001_2	S200	196.608Mb/s
010_2	S400	393.216Mb/s
011_2	S800	786.432Mb/s
100_2	S1600	1,572.864Mb/s
111_2	S3200	3,145.728Mb/s

MODIFIED SELF_ID PACKET



- **sp = the maximum signaling speed of the slowest port in the PHY. If that speed is more than 400Mb/s, then sp=11.**
- **Normally the rsv bits are 0, if the PHY has the multiple speed ports or slower link, then one of the two rsv bits is set to 1. Or rsv=01 indicates .a compliant PHY.**

SOLUTIONS: THE MODIFIED SELF_ID PACKET & BM'S SPEED MAP

1. sp = real_speed and rsv = 01 indicate .a compliant PHY. For the old BM S/W, the sp will be used to build up the speed map. For the new BM S/W, rsv=01 indicates the PHY is a .a compliant PHY and it knows to read PHY reg3 to check the M_speed and the Link_speed. If M_speed=1, the BM S/W will read the port register to get the per port speed information and build up the speed map. If the Link_speed is slower than PHY, the Link_speed will be used to build up the speed map.

(Potential Problem: Some old S/W may check Del = 00?)

SOLUTIONS: THE MODIFIED SELF_ID PACKET & BM'S SPEED MAP (Cont.)

2. sp = real_speed and rsv = 00. For the old BM S/W, the sp will be used to build up the speed map. For the new BM S/W, it will always read PHY reg3 to check the M_speed and the Link_speed. If M_speed=1, the new BM S/W will read the port register to get the per port speed information and build up the speed map. If the Link_speed is slower than PHY, the Link_speed will be used to build up the speed map.
3. sp = real_speed and rsv = 01 indicate that either the slower link or the multiple speed ports. The new BM S/W will check it out by reading the PHY reg3.

(Potential Problem: Some old S/W may check Del = 00?)

SOLUTIONS: THE MODIFIED SELF_ID PACKET & BM'S SPEED MAP (Cont.)

4. sp = real_speed or 11, rsv = 00. (if Link_speed is not equal to phy_speed or multiple speed ports, sp = 11). The new BM S/W will sort it out whether the Link_speed is slower or the multiple speed ports when sp = 11. The old BM S/W might have problem when sp = 11 because of the slower Link_speed.