Towards consistent organization of LPI Functions, State Variables and State Diagrams.

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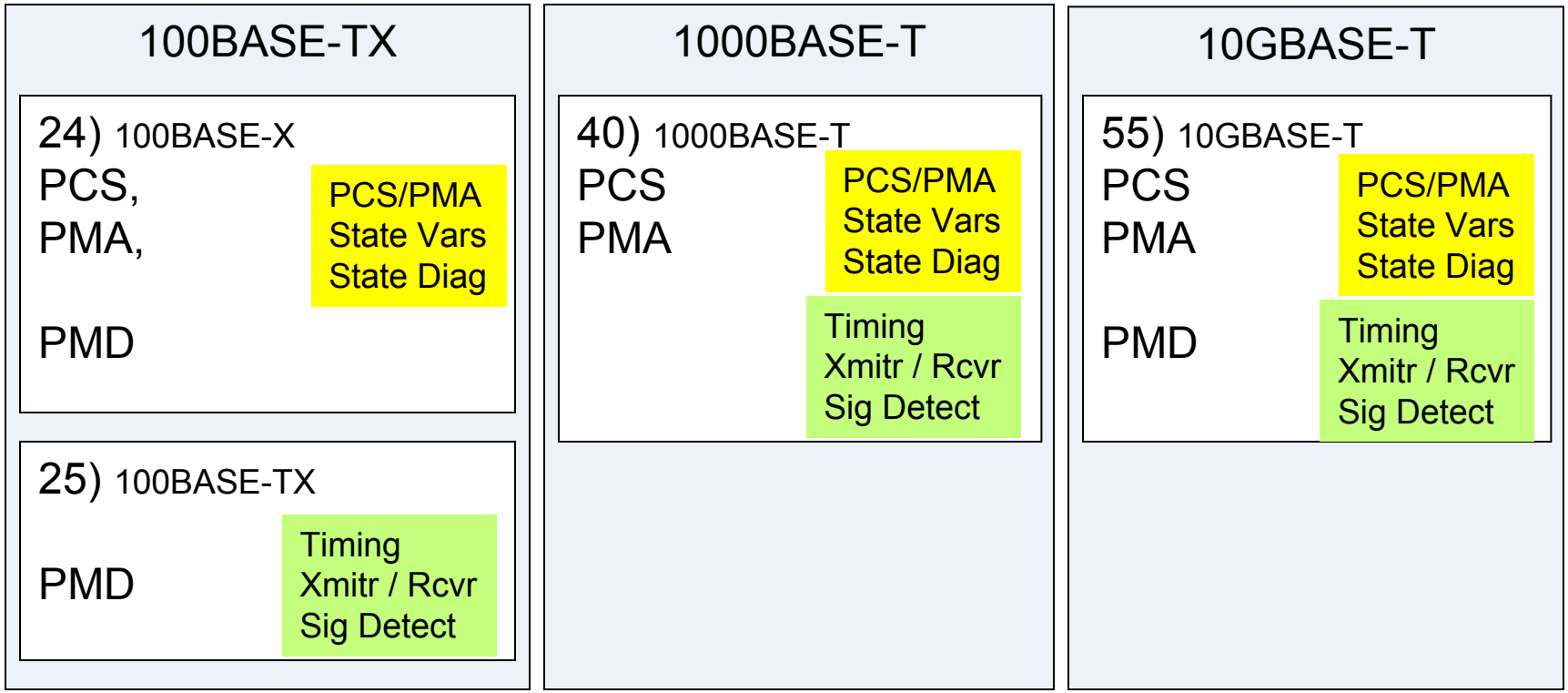
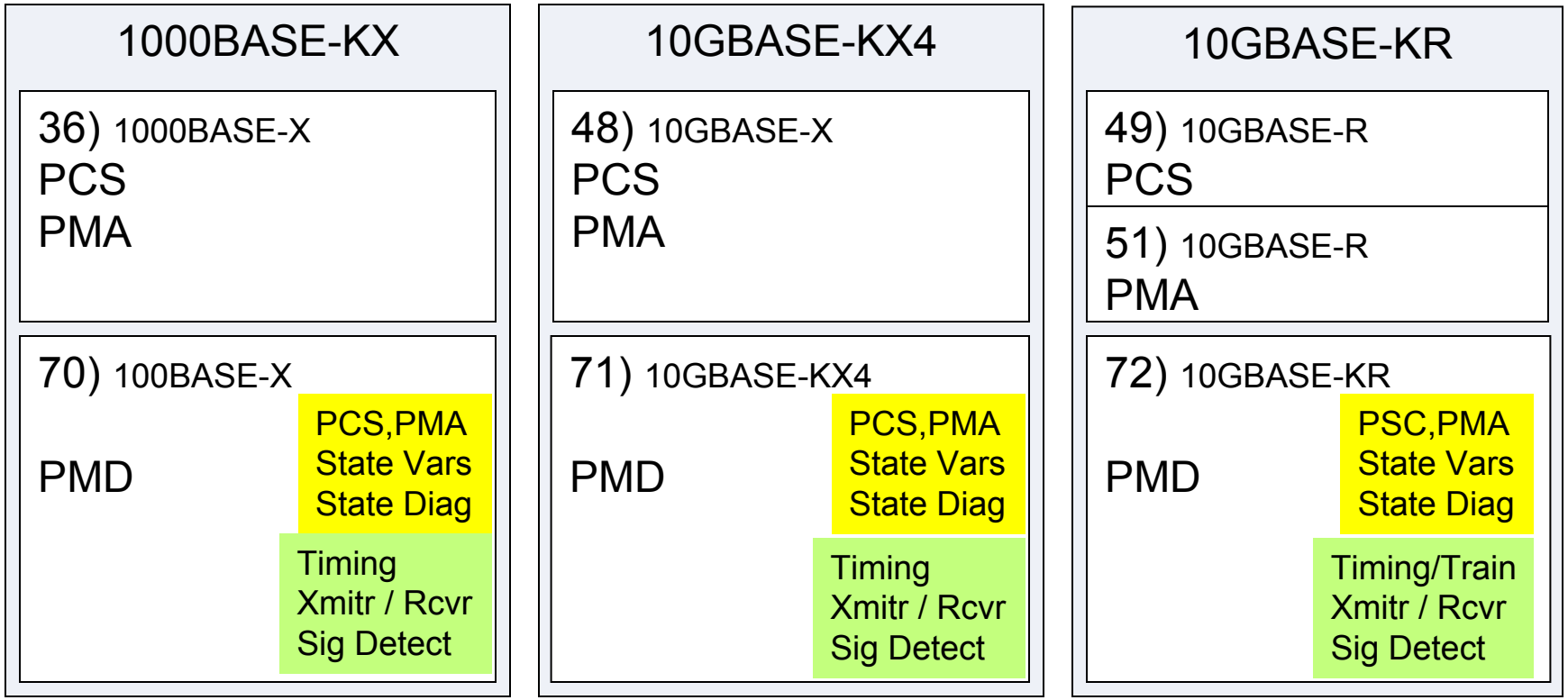
LPI State Variables & State Diagrams

- BASE-T PHYs:
  - have state variables and diagrams in PCS/PMA sections.
  - Are rather self contained clauses
- Backplane PHYs:
  - Only describe PMD
  - Not integrated with PCS/PMA
  - Difficult to create new service interfaces for LPI signals
- Want 1000BASE-X, 10GBASE-X and 10GBASE-R generic for possible use with Fiber or 40/100G

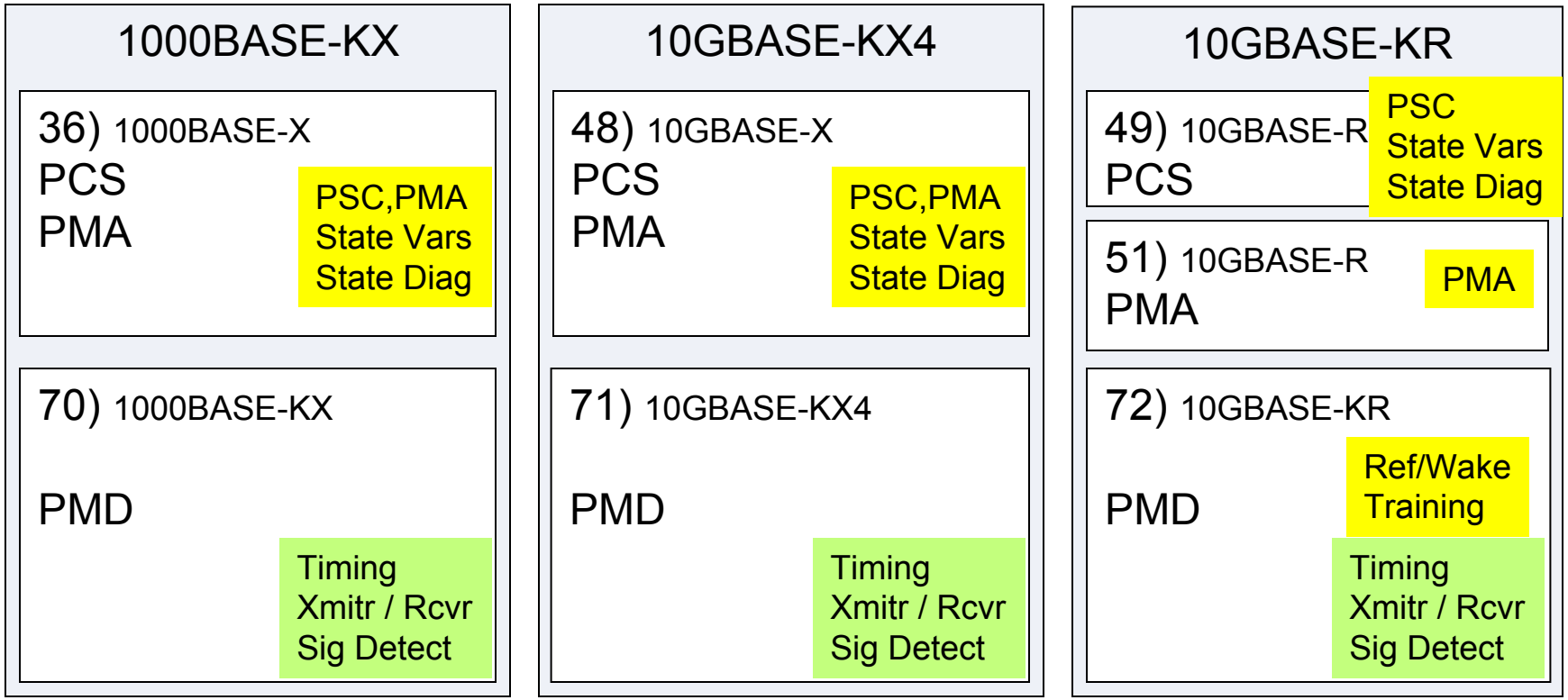
Base-T PHYs


100BASE-TX
24) 100BASE-X
PCS,
PMA,
PMD
PCS/PMA
State Vars
State Diag
25) 100BASE-TX
PMD
Timing
Xmitr / Rcvr
Sig Detect
1000BASE-T
40) 1000BASE-T
PCS
PMA
PCS/PMA
State Vars
State Diag
Timing
Xmitr / Rcvr
Sig Detect
10GBASE-T
55) 10GBASE-T
PCS
PMA
PMD
PCS/PMA
State Vars
State Diag
Timing
Xmitr / Rcvr
Sig Detect

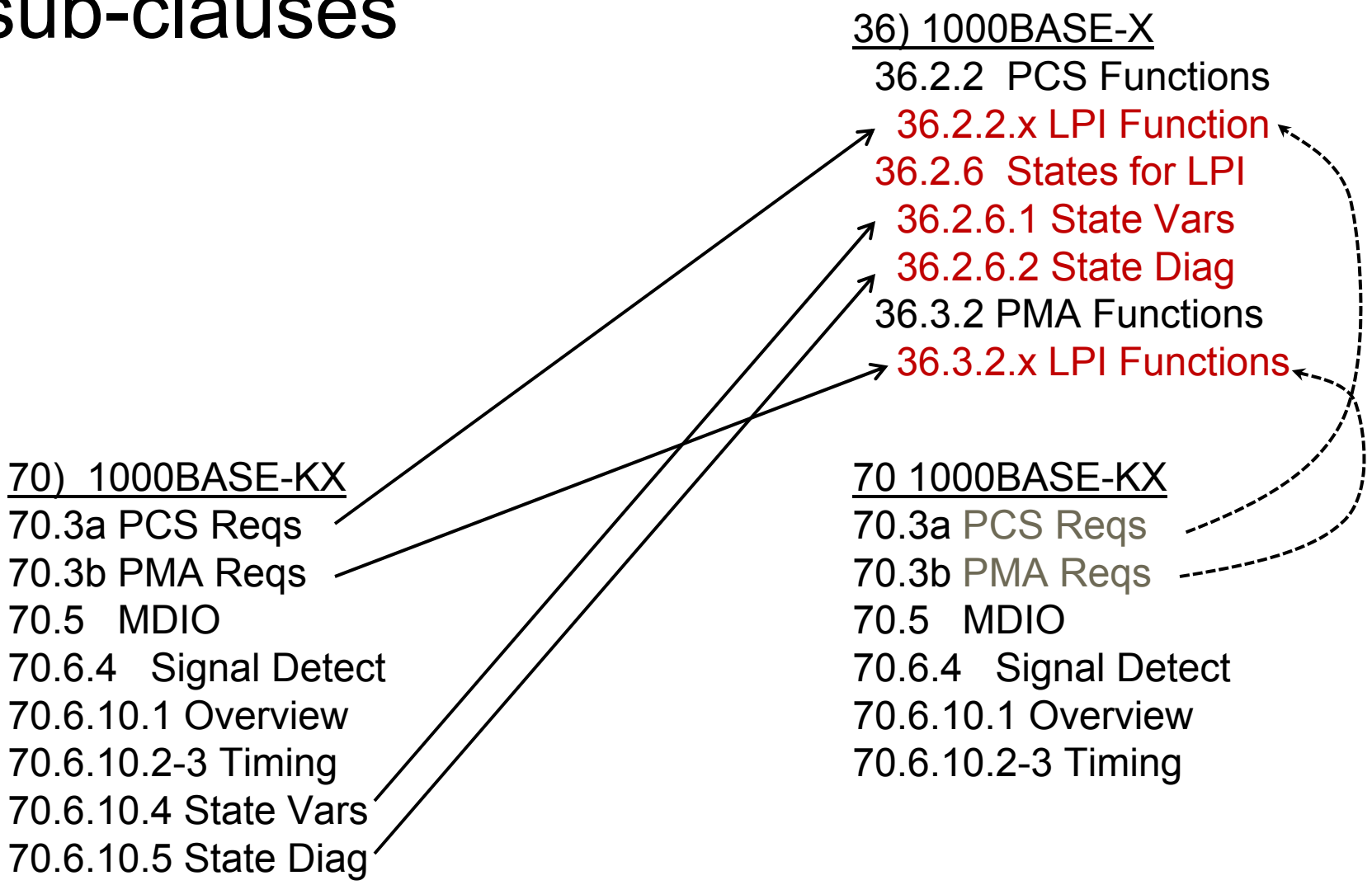
Current BP PHYs



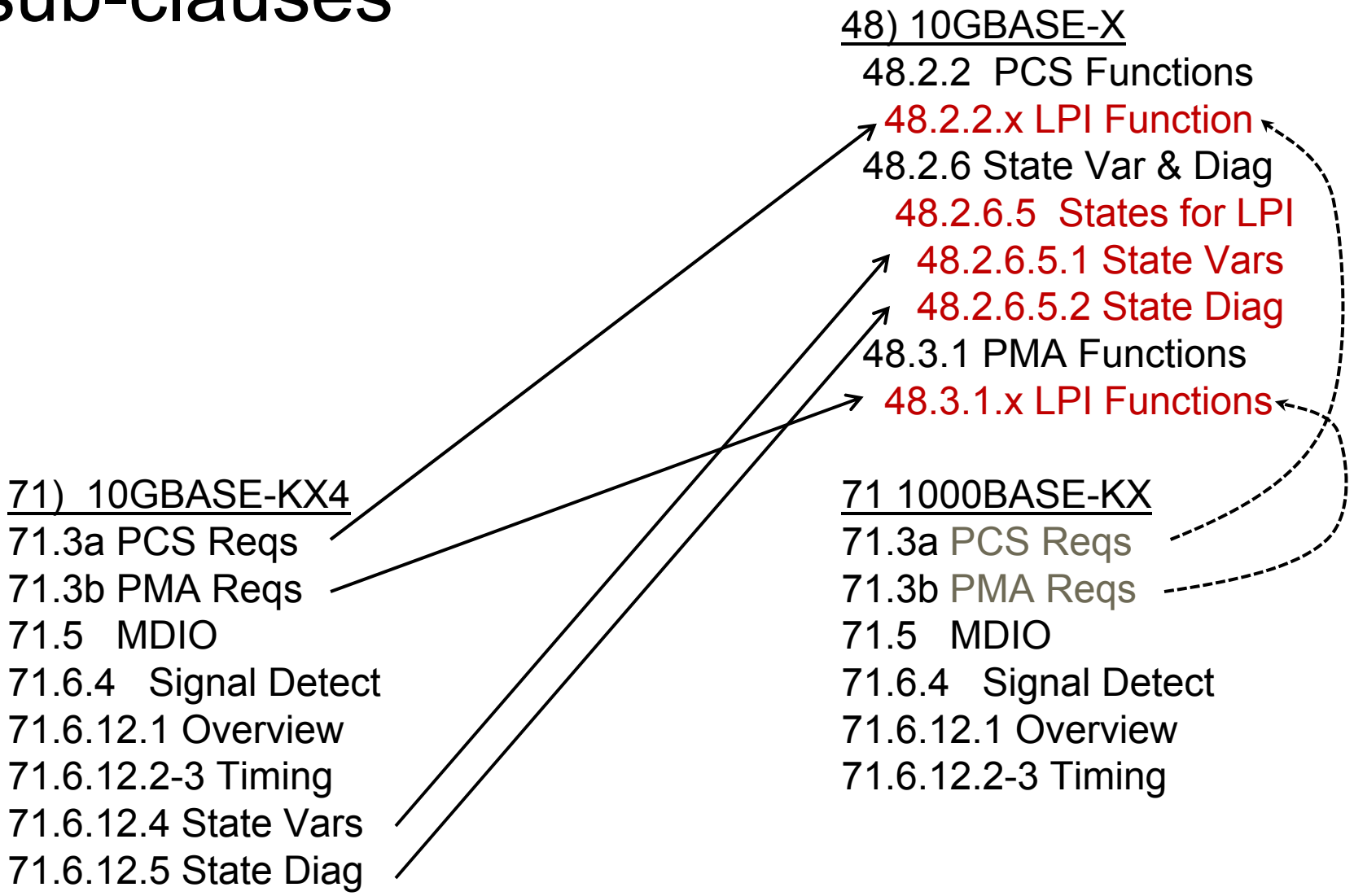
Recommended LPI Text Location



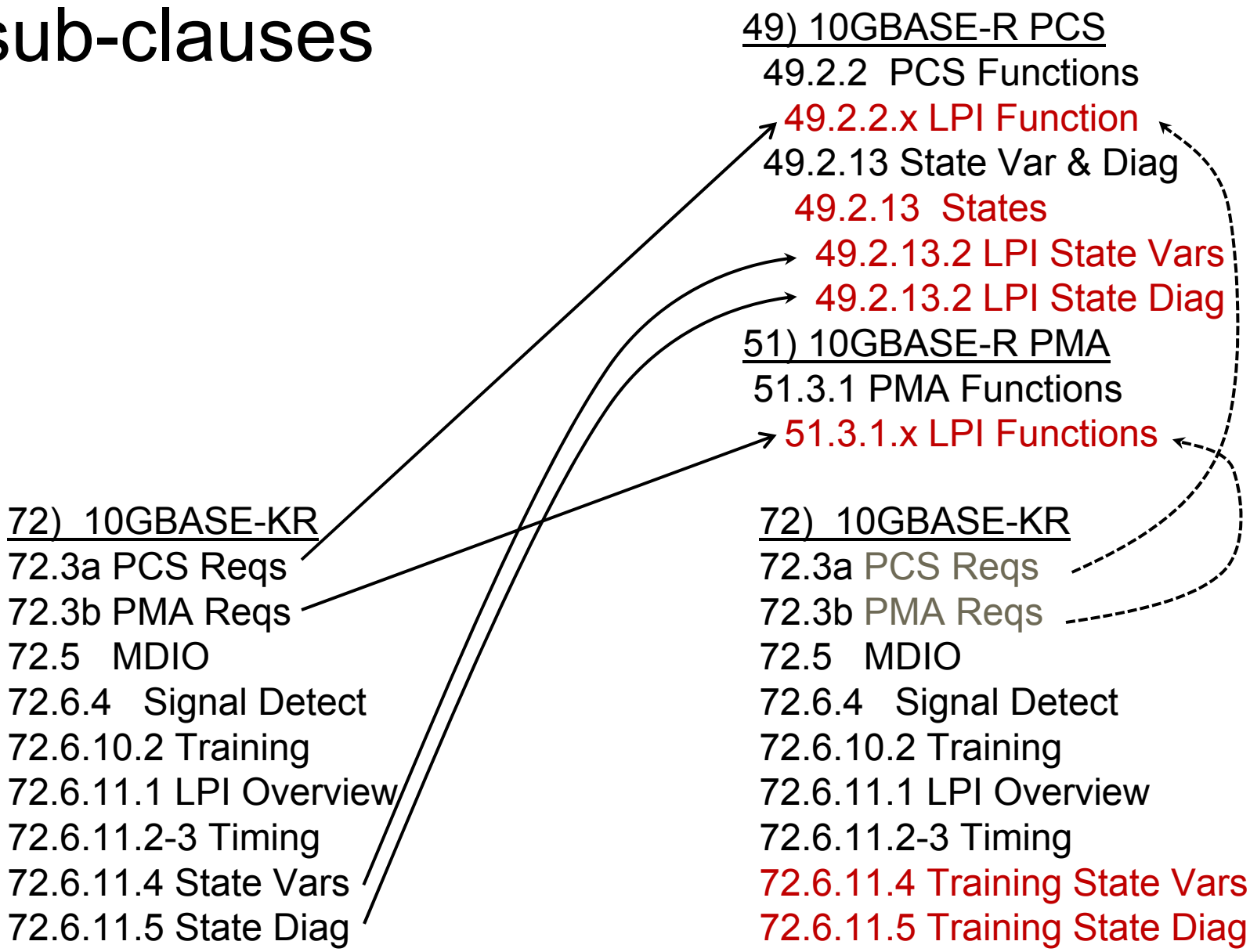
Specific changes for 1000BASE-KX sub-clauses



Specific changes for 10GBASE-KX4 sub-clauses



Specific changes for 10GBASE-KR sub-clauses



Summary

- Recommend moving PCS & PMA functions from BP PMD clauses and into the appropriate PCS/PMA clauses.
- Ensure that PCS & PMA are generic to support other PMDs like: SX, LX, CX4, LR, SR.. etc..
- Split KR state diagram(s) in two. One generic state diagram for clause 49 for common case and fiber, and one specific to KR-PMD specific training version of refresh & wake.