Q3.

PML - Accepting messages from the MPI layer, fragmenting and scheduling messages throughout the available PTL modules, and controlling request progression are all responsibilities of the PML, the top layer of the point-to-point communications system. On the receive side, it is also the layer where messages are reassembled. This layer implements MPI semantics, with the MPI layer just offering optional argument checking as functionality. As a result, the interface functions supplied by the PML to the MPI layer are quite similar to the point-to-point API given by MPI.

Whereas,

BML - This component provides benefits to find and manage the set of BTLs that may be utilized for point-to-point communications between a particular pair of end-points during job initiation and dynamic process generation.

It also functions as a thin multiplexing layer, allowing BTLs to be shared between various top levels. The BML coordinates the discovery of peer resources and caches them for many BTL users. Upper levels bypass the BML layer after resource discovery for performance reasons.

While Comparing both frameworks,

where the PML is on the upper layer which ultimately goes through BML. Many of the PML interfaces is passed via BML and where both uses the peer-resource discovery. In short the PML is the next gen. of BML which has ability to carry out the collectives.