The RapidIO specification was developed to allow different, in some cases competing, vendors to develop RapidIO technology that can be integrated into an efficient, robust, high-performance system. The RapidIO specification uses specific terms for the behaviors required to reach and maintain that objective:

- "Compliant": A correct implementation of the implemented features of the RapidIO specification.
- "Required": Behavior that must be present for a device to be compliant to the RapidIO specification.
- "Optional": An implementation may or may not implement optional functionality. If the optional functionality is implemented, it shall be implemented per specification.
- "Shall", "Must": Occur in definitions of requirements.
- "Shall not", "must not": Occur in definitions of requirements phrased such that conditions or behaviors never occur.
- "Should", "should not": Occur in definitions of recommended behavior that maintains the quality of the ecosystem.
- "May" : Defines an allowable, possibly optional, behavior. Compliant devices must handle all allowable behaviors.
- "Reserved": Generally applies to bits within packet formats and registers. Compliant implementations shall transmit reserved bits as 0. Reserved bits shall not affect compliant implementations behavior. Reserved bits may be defined in future versions of the RapidIO specification.
- "Implementation Specific bit(s)/value(s)": The bit(s)/values may be used in an implementation specific manner by a vendor. Other vendors must treat these values as "Reserved". System integrators shall not assume that these bits/values control the same functionality on different devices. Transmitting and receiving implementation specific bits/values shall be disabled after reset.
- "Implementation specific behavior" : Members agree that the behavior does not affect the quality of the ecosystem, and so there are no requirements for this behavior.