

## 知 Is It Necessary to Set Forced Duplex and Rate upon Interconnection of Electrical Ports or Optical Ports

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Electrical ports have good auto-negotiation capability and usually can conduct self negotiation successfully, so it is unnecessary to set forced duplex or rate. As the optical ports do not have as good auto-negotiation capability as electrical ports and some optical ports even cannot auto-negotiate, most optical port are set forced duplex and rate.

Set forced duplex and rate arbitrarily after no analyzation may hide some problems. For example, some users complain that the network speed of optical ports is too low. After the R&D logs on remotely, they find there are many inbound error packets and the ports are set forced duplex and rate because the auto-negotiation is not successful before. R&D doubts that it may cause by too large optical damping and proved by light power test instruments, replace the optical fibers, and the problem is solved.

The negotiation mechanism of electrical ports or optical ports may follow the two rules below:

1. Both sides adopt auto-negotiation except with special reasons.
2. Both sides must have the same mode. That is, if one side adopts the auto-negotiation mode, the other side must adopt that mode as well. Or, if one side sets forced duplex and rate, the other side must make the same setting too. It is not allowed that one side adopts the auto-negotiation mode while the other side sets forced duplex and rate. In addition, the duplex mode and the rate must be set at the same time.