In order to meet the emerging demand for Internet applications and growing data transmission needs, data centers size and transmission standards are increasing rapidly, especially for cloud computing data centers and operators of IDC. The rapid growth of the industry in terms of size and scale has increased the demand for Racks, as well as requiring higher standards for design, implementation, post-operation and maintenance.

At present, there are three main ways of routing for data centers, MoR (Middle Of Raw), EoR (End Of Raw) and ToR (Top Of Rack).

MoR (Middle Of Raw)

MoR means that each server cabinet/multiple server cabinets share the patch panel. All the server ports in the server cabinet are connected to the patch panel by a jumper, and then extended to the network cabinet by copper extension on the patch panel to the access switch(Located in the middle of a cabinet) in the network cabinet.

With the MoR approach a relatively less amount of cable used, but is not easy to maintain and manage, often suitable for small and medium size data centers

EoR (End of Raw)

The EoR approach is similar to the MoR mode, as it also functions by connecting trough the configuration patch panel, the server port and the access switch via jumper and cable. The difference is that the EoR network cabinet is located at the end/front end of a cabinet.

The amount of cable used with the EoR approach is larger than that of MoR, however, due to the network cabinets are located in an accessible position which is much convenient for maintenance and management, generally used only for small server rooms.

ToR (Top Of Rack)

ToR mode is different from the first two methods, refers to each server cabinet/multiple server cabinets with the access switch in the top of a server rack. The jumper is connected directly inside the cabinet (Direct connect) way to connect to the switch, not through the patch panel. Connected to the core switch via fiber.

ToR's approach turns the cabling into a point-to-point wiring, greatly reducing the amount of copper cabling used in the horizontal wiring setting, increasing the proportion of cable, provides more cabling space, and simplifies the routing management. In addition, the management focuses on IDA/MDA, greatly reducing the complexity of operation and maintenance. Therefore, for large data centers, ToR is the most suitable cabling design