

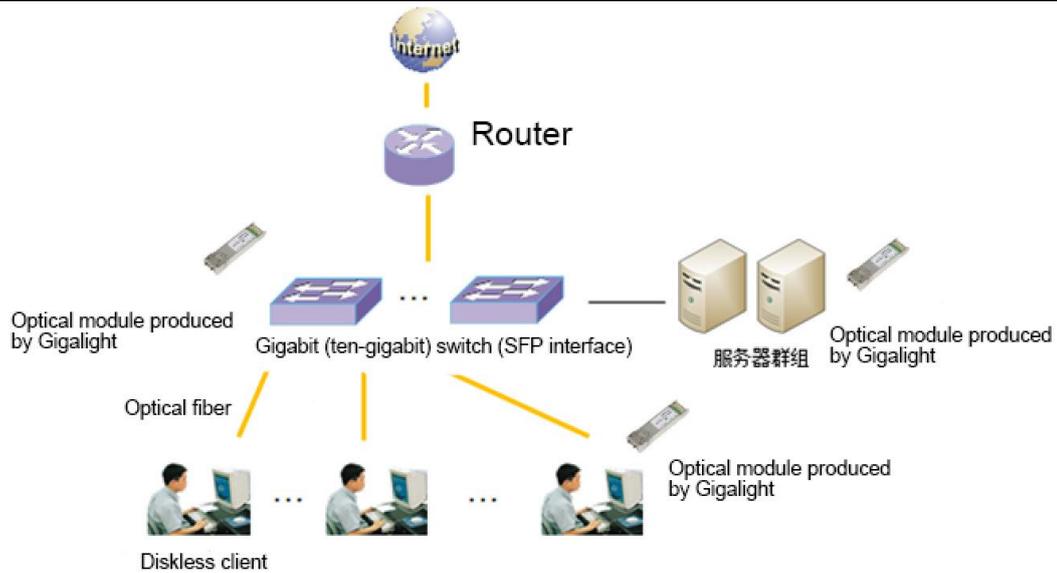
Optical Interconnection Solution for

Internet Bar

With many years' progress and development of technology, great changes have taken place in the network in Internet bar. The networking equipment HUB has been replaced by the gigabit switches, and the Internet access has been changed from telephone line modulator into 1000M optical fiber line, so the Internet access speed is raised from 10 MB to 100MB, and then to gigabit. The new technologies and solutions have greatly improved the network performance of Internet bars. Currently, the optical fiber network solutions for "diskless" Internet bars and optical fiber extender solution become gradually popular, which are briefly introduced as follows.

Optical fiber network solutions for "diskless" Internet bars:

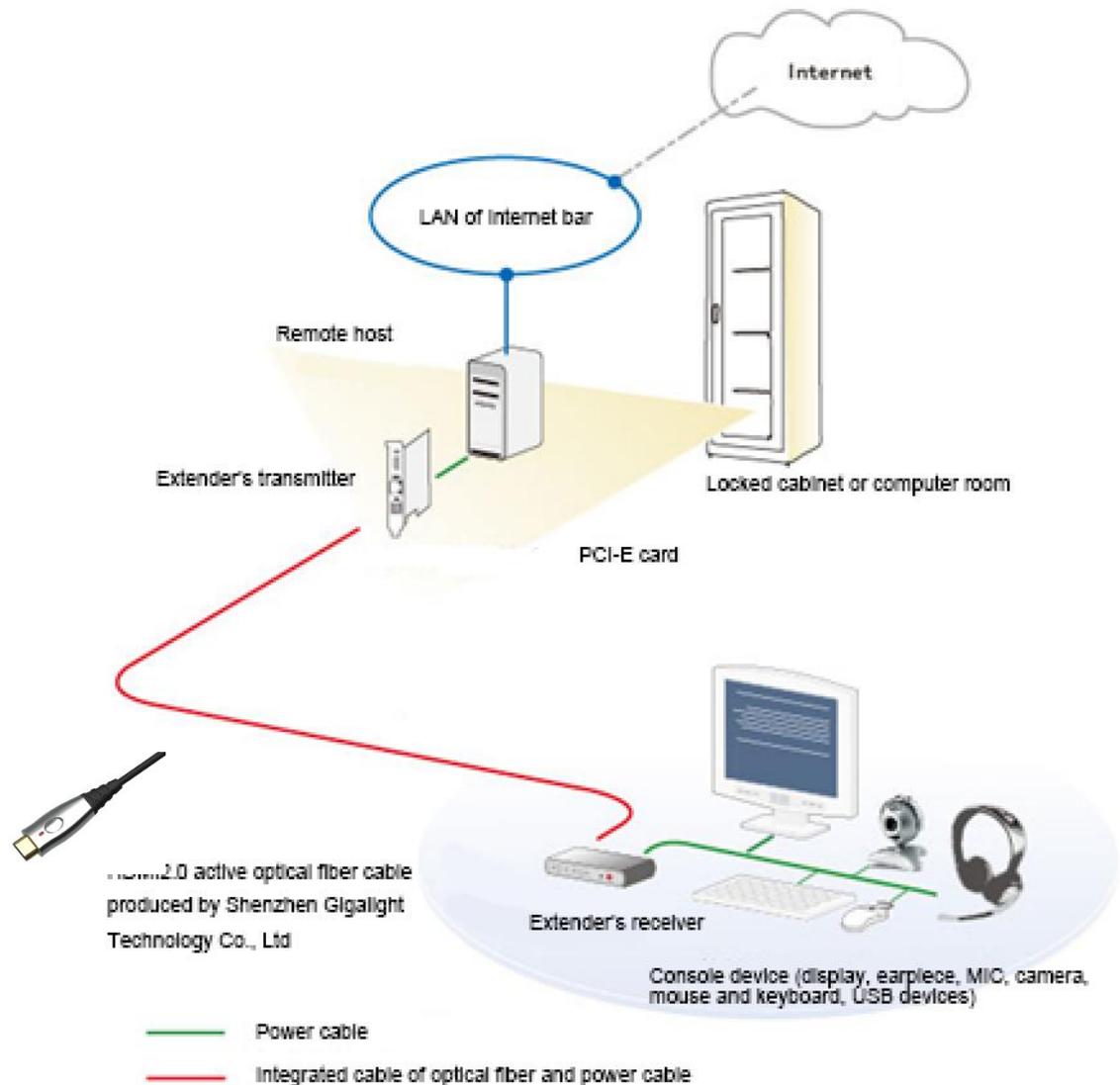
The so-called diskless Internet bars means that the Internet bars where the client does not need to install the hard disk with the advantage of saving the cost and facilitating maintenance. But the problem is that the diskless client need to transfer a large amount of data at startup, which creates pressure to LAN of Internet bars, so the diskless technology imposes great challenge to the network transmission speed and stability. In the existing solutions, the gigabit (ten-gigabit) optical network in the diskless Internet bars are first composed of gigabit (ten-gigabit) fiber optic adapter and gigabit (ten-gigabit) switch (supporting optical module) on the diskless host. After years of development of market, the prices of high-quality ten-gigabit optical module and gigabit optical module produced and provided by Shenzhen Gigalight Technology Co., Ltd. become competitive and completely in line with the budgets of large high-grade Internet bars. The advantages of the scheme include high bandwidth, low latency and high access speed. After using full gigabit (ten-gigabit) in the convergent-distributed network, the network data flow becomes unimpeded. What's more attractive is the ten-gigabit network accessed through the desktop. The processing speed of ten-gigabit clients can meet the demands for game operation and latency in large high-grade Internet bars. The disadvantage is that there still is a host by the side of user, which is installed with high-performance CPU cooling fans, so the noise and internal cooling efficiency shall be aware of in the Internet bar.



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The optical fiber extender solution is to remove the high-performance computer hosts from around the users, which are in the computer room of Internet bars for centralized management (as shown in the figure below). It has the following obvious advantages:

1. Change the layout of Internet bar; improve the operation efficiency of Internet bars; reduce wiring from the host to the switch.
2. Expand the usable area for users; significantly reduce the noise in Internet bars and improve the efficiency of indoor air conditioning in Internet bars.
3. The hosts are stored in a centralized way, which are easy to manage and protected against theft.
4. Improve the overall image of Internet bars, and improve the customer experience in Internet bars.



In the optical fiber extender solution in Internet bars, the high-definition video HDMI interface, USB2.0 interface, interface of analog output audio speaker and power control signal of switch on host are connected and transmitted through the extended optical fibers and cables up to 100 meters, which can meet the needs of the vast majority of high-grade large Internet bars. As for the HDMI1.4 (2.0) ultra HD 4 k video interface connected with extended optical fiber cables, the HDMI2.0 active optical fiber cables produced by Shenzhen Gigalight Technology Co., Ltd. is a desirable solution of high compatibility, low power consumption and low cost, using optical fiber to replace copper wire as the signal transmission medium, which can realize lossless transmission of 4k@ 60Hz high-definition images to 100m with great resistance to electromagnetic interference compared with the traditional copper wire, so they can fully meet the needs of customers. And the USB2.0 analog audio and host switch control signal are transmitted through the extended cables. As the computer hosts are taken away from the users, the



user can enjoy larger space. Because the computer hosts are centralized in the separate computer room, the noise and heating generated by the computers are lowered, which improves the image of Internet bars which was noisy and untidy, and enables the Internet bars to become more elegant, comfortable, quiet and spacious, greatly improving the customer experience and upgrade the Internet bars.