How to Avoid the Biggest Rip-Off in Networking

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Network transceivers make up 10% to 15% of enterprises' network capital spending, and most suppliers excessively overcharge. I&O leaders responsible for networking can use this research to help curtail wasteful spending and reallocate it to more strategic initiatives.

> **FOUNDATIONAL DOCUMENT**
> This research is reviewed periodically for accuracy. Last reviewed on **24 January 2019**.

Key Challenges

- Many enterprises are looking to limit capital spending, which is challenging given that most networking purchases are capital-intensive.

- Most enterprises negotiate a single discount level for all networking hardware on a given deal, which leads to overspending on certain components where deeper discounts are available.

- Network original equipment manufacturers (OEMs) and their channel partners often use aggressive sales tactics, as well as fear, uncertainty and doubt (FUD) to scare enterprises away from using third-party transceiver OEMs that offer lower prices.

Recommendations

I&O leaders seeking to optimize network infrastructure spending should:

- Reduce transceiver costs by demanding discounts of at least 75% off the list price.

- Don't allow OEMs to use FUD. Reduce your spending and gain leverage against OEMs by using non-OEM-branded transceivers.

Introduction

Cost optimization has become a critical and continuous discipline for many I&O leaders. This research identifies a powerful, simple yet widely unused mechanism to save money on networking capital purchases. Network transceivers are very common,[1] and are included in most network deals that we have observed.[2] Transceivers are typically small interface modules that provide physical transmit/receive capability.

Transceivers account for a surprisingly high percentage (10% to 15%) of network product spend across multiple network markets including data center networking, wired campus switching and network packet brokers.[3]

However, nearly all OEMs mark up transceivers much more than other hardware products.[4] Also, in the Asia/Pacific (APAC) region, we regularly observe system integrators substituting third-party transceivers in client deals, but charging higher prices affiliated with OEM-branded transceivers.

Thus, we observe enterprises overpaying for transceivers by 50% or more on a regular basis. For example, we commonly observe organizations purchasing 10G SFP+ short-reach transceivers for an average of $450. By following the guidance in this research, organizations can acquire this part for $100 to $250. Further, we estimate that this part costs the network OEM between $50 and $100. Thus, the enterprise is often purchasing the part at a markup of 350% or more.

Analysis

Demand Higher Discounts on Network Transceivers When Purchasing Equipment From Networking OEMs

Most Gartner clients negotiate the same level of product or hardware discount on an entire networking purchase. For example, the enterprise will commonly negotiate a discount off the list price, and apply it to all hardware components in the deal. Unless prodded by the enterprise, OEMs rarely offer higher discounts on transceivers in their initial offer (see Note 1). However, since the markup is as much as 350%, network OEMs can discount the transceivers at a much higher rate than other network hardware in the deal. Thus, we recommend that the enterprise push for a discount of at least 75% off the list price for transceivers from network OEMs. In addition to transceivers, this guidance applies to active optical cables and passive twinax cables, whereby cables with transceivers come preassembled as a single unit.

The example below shows typical savings in a sample deal. In this example, half of transceiver costs are saved because the enterprise negotiates a higher discount (75% off the list price) for transceivers. This shaves 5% or more off the total network product price and, while that may seem minor, it can be achieved with limited negotiation. Furthermore, there is no required change to network design, implementation or operation of the proposed solution. This is, in essence, "easy money." We believe this is a reasonable representation of the discount many Gartner clients will be able to obtain on transceivers.

Table 1. Sample Network Equipment Bill of Materials

	Typical Discounting			Improved Transceiver Discounting		
	List	Discount	Out-the-Door	List	Discount	Out-the-Door
Network Product	$400,000	50%	$200,000	$400,000	50%	$200,000
Transceivers	$50,000	50%	$25,000	$50,000	75%	$12,500
Maintenance	$36,000	20%	$28,800	$36,000	20%	$28,800
Total Deal Size	$486,000		$253,800			$241,300
Total Product	$450,000		$225,000			$212,500
Savings						$12,500
Product Savings (%)						5.6%

Source: Gartner (August 2017)

Use Non-OEM-Branded Transceivers to Reduce Your Spend and Gain Leverage Against OEMs

In some cases, renegotiating with existing vendors for a better discount will not suffice. Also, in a small percentage of cases, vendors won't discount transceivers into the 75% range. In these instances, an alternative option is to use non-OEM transceivers, also referred to as "third-party" transceivers. Most transceivers used within an enterprise are basic commodity 1G and 10G Ethernet interfaces with little opportunity for innovation.

Third-party transceivers are available from numerous companies, including secondary hardware providers (such as CXtec, Curvature, OSI Hardware and World Data Products). This creates further savings, as out-the-door prices are typically 80% to 90% lower than OEM list prices. The vast majority of transceivers that OEMs use are simply rebranded from manufacturers such as Finisar. Thus, if you buy a third-party transceiver, you're likely getting the same physical part, from the same OEM as if you were buying directly from your network OEM.

Debunking FUD

We've observed that network OEMs and their channels use aggressive sales tactics to scare enterprises away from third-party optics, claiming it is "illegal" to use them, or that it will "void the warranty." This is simply not true.

Network OEMs have different policies regarding support for third-party interfaces in their equipment. While most OEMs don't restrict third-party optics, they also do not officially support the

third-party transceiver. Several require that the enterprise make an (often-undocumented) switch port configuration setting.

When using third-party transceivers, it is possible that the OEM may ask the organization to physically remove the transceivers from a device during an active open support case, to eliminate them as a culprit. This rarely happens in practice, but should it occur, organizations can implement self-sparing of OEM-branded transceivers or apply an 80/20 or 90/10 ratio of non-OEM to OEM-branded transceivers.

Sample OEM Support Policies

The following is a sample of support policies of network OEM product portfolios:

- Cisco

- Juniper

- Extreme

- Cumulus

- Arista

- Gigamon

Questions to Ask a Third-Party Supplier

There are a large number of third-party transceiver suppliers, with similar marketing messages. It can be difficult to ascertain differences between suppliers, but asking the following questions of your prospective third-party supplier will help to determine if they are an appropriate fit:

- Are the transceivers tested to interoperate with my OEM, equipment models and the software releases that are running in my live network?

- What is your testing process to ensure compatibility with my OEM?

- What is your warranty policy (if limited lifetime warranty, provide details)?

- How many paying customers do you have using similar components in my geography?

- How many paying customers do you have using similar components in an enterprise and network of similar scale to mine? How many total transceivers have you sold in the last year?

- How do you verify that components are not counterfeit?

- Please list all the OEMs for whom you provide third-party compatible optics.

Scrutinize Network Equipment Proposals for Suboptimal Transceiver Choices

We recommend having a knowledgeable and independent party review the proposed cabling and transceiver bill of materials, as we have found many OEM proposals with a suboptimal transceiver

choice from a pricing perspective. We believe this is the result of one or a combination of the following:

- OEM channels being inexperienced in transceiver options and best practices.

- OEM channels being more focused and motivated to sell the network product than to sell transceivers and cabling.

- OEMs' desire to propose more expensive solutions, driving a higher sales volume.

For example, OEMs and their authorized channels fail to lead with passive twinax assemblies or active optical cable assemblies in proposals. These assemblies include cabling and transceivers as a single unit, and are often less expensive than ordering the components separately. When combined with the discounting strategies above, this can lead to savings of as much as 85%, compared to the original deal with independent components.

OEMs (and/or their channels) may lead with a more expensive transceiver option. For example, Cisco offers a class of S series SFP+ modules that are often less expensive than its non-S counterparts, but we regularly observe the Cisco channel lead with the more expensive alternative, even when the S series will suffice.

Apply Capital Savings From Transceivers Toward Products That Improve Agility Such as Automation, Analytics or Intent Tools

As identified above, savings of 5% to 10% on capital networking purchases can be achieved with very limited effort. Typically, savings of these types are returned to the budget or reallocated to other network infrastructure projects. We recommend reallocating savings toward advanced network automation and analytics tools, as they are wise choices to improve the operation and agility of the network. This is particularly important, since we commonly receive feedback from network operations teams that their network automation and management projects and initiatives are underfunded. Moreover, the investment required to get started with these tools is not massive, as many vendors offer low-cost acquisition models to lower the friction of getting started. Representative vendors for network automation and analytics include Anuta Networks, Red Hat and Corvil.

Shifting savings to automation, analytics and intent tools will help enterprise network teams address new demands on the network caused by increasingly complex application architectures, the IoT and software-defined methodologies that require modern network automation platforms (see "Market Guide for Network Automation") and network analytics platforms — in the form of network performance monitoring and diagnostics and algorithmic IT operations tools (see "Critical Capabilities for Network Performance Monitoring and Diagnostics" and "Innovation Insight for Algorithmic IT Operations Platforms"). This is detailed in "NetOps 2.0: Embrace Network Automation and Analytics to Stay Relevant in the Digital Business Era."

Gartner Recommended Reading

Some documents may not be available as part of your current Gartner subscription.

"Self-Sparing and Fixed Form Factor Switches Can Help You Get a New Data Center Network"

"Market Guide for Network Automation"

"Take These Six Steps to a Better Network"

Evidence

[1] Gartner analysts have conducted more than 8,500 inquiries with end-user clients on the topic of networking from 01 July 2016 through 01 July 2017.

[2] Gartner analysts have conducted more than 175 network OEM contract reviews with end-user clients since 2016.

[3] This is based on a random selection of over 40 networking contracts from May 2016 through June 2017, across multiple vendors (such as Cisco, Arista, Brocade, Juniper and Gigamon) and across multiple segments of the network (WAN, Campus, Data Center and NPB). The average percentage of network product spend on transceivers was approximately 11%.

[4] Gartner analysts have conducted more than 400 interactions with network OEMs from 01 July 2016 through 01 July 2017.

[5] We reviewed offerings from multiple non-OEMs of network equipment including CXtec, Curvature, FluxLight and OSI Hardware.

Note 1 Arista

Arista is a notable exception, as it commonly offers higher discounts on transceivers, based on contracts that Gartner reviews.

More on This Topic

This is part of an in-depth collection of research. See the collection:

- How to Optimize Your Network Spending and Save 20% to 50%

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