INTEROPTIC.COM
866 913 5252

InterOptic
By Advantage Optics

APPLICATION NOTES:

WHY RETAILERS SHOULD CARE ABOUT OPTICS

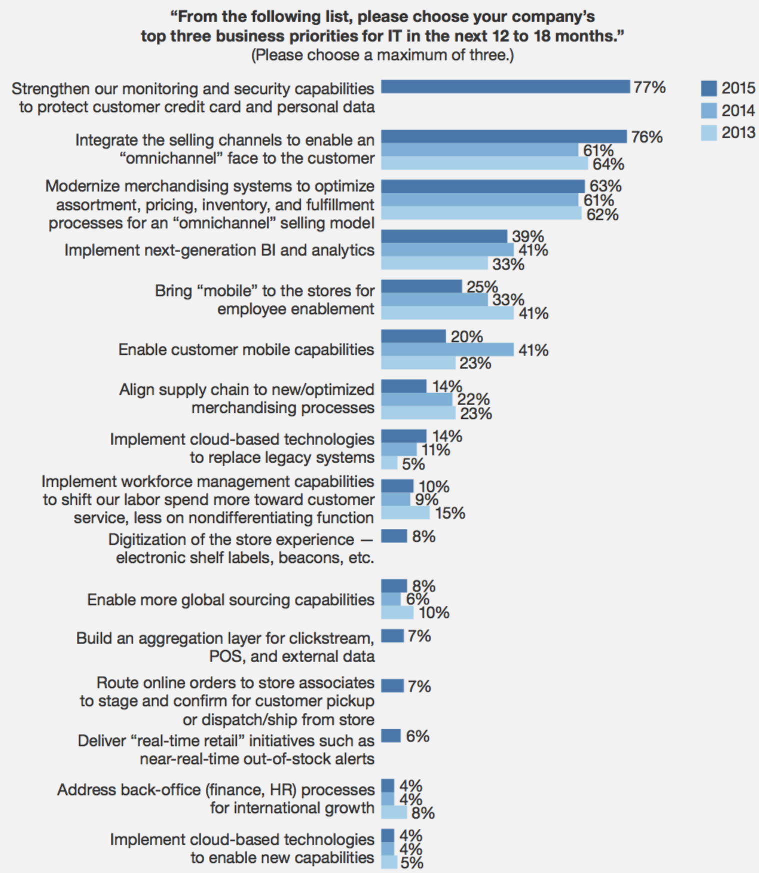
Shopping seems so simple. Have a need, search for a solution, examine and/or test the solution, then buy and satisfy the need. But from the Retailer's point of view, helping their customers travel down that path is extremely challenging, especially in today's world of random offers, short attention spans and infinite background noise. The modern Retailer faces some of the toughest Information Technology (IT) challenges of any industry due to the diversity of its audience, the length and complexity of buying cycles, and the need to maintain profitability in an ever-competitive world.

Often the primary burden rests on the CIO and his team to drive change by utilizing data analytics, applications, user-interfaces, performance measurements and other means to impact the business bottom line results. It is clear though that the Retail IT team must not only "move the needle" for the business, but also shore up the business foundation. Some of the primary issues that are critical to the Retailer are itemized below.

1. **Customer Experience.** Although there has been much discussion about multi- and omni-channel access to and by the consumer, this is really not the primary concern. Customers don't think in terms of channels. They form bonds and relationships. So the key is for the Retailer to put forth a means and mechanism to develop a relationship.

2. **Mobility.** Over the last decade the emergence of the smartphone and its impact on the way consumers live their lives. Much of smartphone interaction is personal, but due to the accessibility it allows for 24x7 engagement by business that have built the proper relationship with consumers.

DEMANDS ON THE RETAIL IT LEADER



Customers expect their favorite retailer to "know" them and their preferences and to respond with "one face," regardless of the medium or channel. They want to have access to the retailer where they are at the moment.

A New Era for Retail, Accenture

InterOptic
By Advantage Optics

3. **Big Data / Analytics.** Retailers have a bevy of information on their customers. In addition, they have the ability to monitor shopping behavior in stores and online. This can be cross-correlated with demographic data and help the retailer focus in on specific, timed promotional offerings. Of course the preceding is just the beginning of leverage a Retailer might achieve with smart data use.

4. **Security.** This issue has come to the fore of late with significant customer data being compromised at financial institutions, grocery store chains and department stores. Retailers are working with credit card companies to erect barriers to cyber-thieves, but a significant effort is required by the IT staff to "plug every possible leak."

5. **Cost Savings.** This can come in the form of outsourcing existing software applications through cloud providers. Also any hardware equipment deployed to support the four preceding items should be analyzed for their cost components and purchased from highest value sources.

Both Gartner and Forrester Research mirrored these opinions. Forrester provided a great summary graph that highlights the diverse issues that Retail CIO's contend with in their Retail CEO Agenda 2015.

Looking at the list on the previous page, the demands on the Retail IT Leader come into clear focus. Combine that with item #5 above, cost savings, and you can see the quandary facing the industry.

InterOptic (IO) would like to help relieve some of the pressures Retail CIO's and Heads of IT are facing by exposing a significant cost component in your network that you many not be aware of, namely, the transceiver. There are thousands of transceivers in your network today and there will be many thousands more in the future. That is because it is the transceiver, whether electrical or optical, that is used to get data in and out of your compute, storage or networking platforms so they can communicate with one another. An analogy… If the data platforms in your network were bricks, the transceivers are the mortar, i.e., the strong interconnecting pieces that hold your network together.

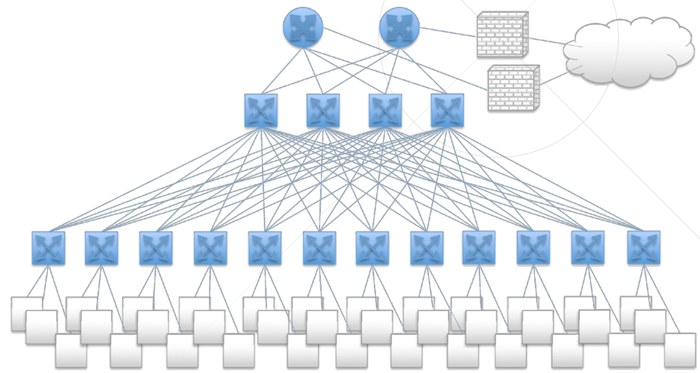
Even worse, beyond the fact that there are large numbers of transceivers in your network, you are more than likely paying too much for these devices. The reason for this stems back decades to the time when telecom and datacom vendors were vying for dominance. Advances by telecom vendors in forcing the industry to build low-cost, plug-n-play optics were overshadowed by the greater and greater demands for data. In the end the datacom vendors won the battle, but the data consumer lost the war as the advances in technology and pricing for these plug-n-play optics was lost in the shuffle. Data vendors continue to charge high prices for the millions of optical interfaces they ship to pad their profits. InterOptic, founded from a team of 20-year veterans in optics was founded a decade ago to break this unfair stranglehold data vendors have on their customers. IO has leveraged their optical heritage to bring to market the broadest range of transceivers that meet or exceed the quality and performance of comparable OEM product.

InterOptic
By Advantage Optics

INTEROPTIC.COM
866 913 5252

Lets look at an example of a modern access-aggregation network that may be typical of a twelve store metro hubbing back and interconnecting those metros to your large regional or national data centers.

In the diagram to the right we are looking at just the blue highlighted elements. Notice that this includes not only the switch and router platforms, but the interconnects between these devices, i.e., the cable and transceivers on both ends. We will ignore the cable cost in our model and focus in on the active elements in the network. When we look at the cost elements in the OEM example below, we see that the transceivers account for more than 70% of the equipment costs! Savvy CIO's immediately see why this cost element should be carved out and looked at as a separate expense "bucket."



Now compare this to the same network utilizing InterOptic' Tier 1 transceiver line. More than 20% of the cost is driven out of the network. The nice thing about this solution is that savings can begin immediately as IO transceivers are OEM brand-equivalent they can sit side-by-side and end-to-end with OEM transceivers—now need to wait until the next big network initiative to accrue this 30% savings with EVERY Gigabit of bandwidth deployed from now on!

At the beginning of the article we examined five issues facing IT Heads in Retailing today. The complexity of the problems you are facing is clear, and although we can't help in many areas, IO wants to be your partner in providing simple optical solutions and to unlock budget dollars and, in turn, bring critical optical networking expertise to your technical team. We look forward to working with you to drive progress toward your business goals!

ITEMS	COUNT	PRICE	EXTENDED
N6004EF w/2 40Gb Line Cards	4	$49,000	$196,000
N6001 1U Frame	12	$28,000	$336,000
40Gb LR4L	96	$3,117	$299,232
10Gb LR-S	576	$988	$569,088
10Gb SR-S	576	$338	$194,688
		TOTAL:	**$1,595,008**
OEM Transceiver Cost Percentage: 66.6%			

ITEMS	COUNT	PRICE	EXTENDED
N6004EF w/2 40Gb Line Cards	4	$49,000	$196,000
N6001 1U Frame	12	$28,000	$336,000
AO 40Gb LR4L	96	$2,150	$206,400
AO 10Gb LR-S	576	$690	$397,440
AO 10Gb SR-S	576	$230	$132,480
		TOTAL:	**$1,268,320**
IO Transceiver Savings: 30.7%			
Overall Data Center Savings: 20.5%			

[1] On average, for 10Gbs interconnect, the cost of the data interconnect component is 50% to 70% of the overall data equipment cost.

1555 BOND STREET
NAPERVILLE, IL 60563

SALES@INTEROPTIC.COM

P. 866 913 5252
F. 630 548 9873