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◆ **APPLICATION NOTES:**

HOW TRANSCEIVERS HELP HEALTHCARE PROVIDERS

Federal policy that has been developed during the last decade has put more pressure on healthcare provider organizations (HPO) to conform to the government's view of medical data and supposed efficiencies. Compliance enforced via financial incentives to comply with Electronic Medical Record (EMR) and Health Information Exchange (HIE) initiatives have for the most part been accomplished. The problem is that for a complete Information Technology (IT) solution in which the HPO can drive business real improvement, more components must be addressed. According to Dale Sanders of research organization Health Catalyst, the HPO must fully implement Activity Based Costing (ABC), Patient Reported Outcomes (PRO) and an Enterprise Data Warehouse (EDW).

Needless to say, the financial outlay to address these needed IT areas can be taxing. Not only are there critical software components, the compute, storage and networking hardware needed to support these initiatives in many cases surpasses the sum total of the embedded hardware already deployed. This has caused many healthcare organizations to reassess their current methodology and status quo in selecting data equipment vendors.

Progressive CIO's and IT Heads have seen the need to unbundle their vendor's offerings and drive line-item analysis of each major cost element in their network. In doing so, many have been surprised to discover that the largest cost component is, not the compute, storage or networking devices, but instead the interconnecting paths between these devices. This path of course consists of the optical fiber or copper wiring, but more importantly the transceiver devices on each end terminating into the equipment. On average, for 10Gbs interconnect, the cost of the data interconnect component is 50% to 60% of the overall data equipment cost.

THE 5 CRITICAL INFORMATION SYSTEMS

◆ **An Electronic Medical Record** (EMR) used in a consistent and meaningful way across the accountable care enterprise to document patients' healthcare status and treatment and support safe, evidence based care.

◆ **A Health Information Exchange** (HIE) to enable the sharing of patients' clinical data across disparate EMRs in the accountable care enterprise.

◆ **An Activity Based Costing** (ABC) system to enable detailed, patient-specific collection of cost data that in turn enables the accountable care organization to precisely understand cost of production and revenue margins in capitated payment models.

◆ **A Patient Reported Outcomes** (PRO) system to enable the complete understanding of clinical outcomes and quality, from the patient's perspective. This is not a patient satisfaction system—it is a clinical outcomes assessment system, tailored to the patient and their protocols of treatment.

◆ **An Enterprise Data Warehouse** (EDW), which is central to enabling the analysis of data collected in the information systems described above—and more. Without the EDW, the data collection systems described above are relegated to small or non-existent ROI. It is the exposure and integration of the data in the EDW that liberates the ROI from those systems. It is common for EDWs to realize an ROI as high as 450% in two years.

Accountable Care Organization Software: 5 Critical Information Systems – Dale Sanders
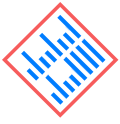
Given this large cost component, many organizations are now bypassing the standard OEM transceiver offerings and seeking a bona fide alternative that can:

1. Perform as good or better than the OEM product
2. Achieve support levels and expertise that surpass the OEM.
3. Drive substantial savings so those dollars can be redeployed to fund critical progress in the other areas, including the five we discussed earlier.

InterOptic (IO) offers a broad range of OEM brand-equivalent transceivers, which are specified, tested, assembled and programmed to performing better than the OEM offerings. In addition, IO's optical heritage and expertise has become a critical value component for many of its customers since optics is becoming the de facto interconnect for all their networking needs. Whereas data equipment OEM vendors do not emphasize or specialize in optics, IO has a different view—optics is our only business. Finally, IO has designed a high performance organization that is leverages outside consulting and contracted functions which reduce our overhead to the minimum and allows us to deliver the highest quality and performing product at the value price—this combination make us the premier Tier 1 supplier of optical transceivers. As an example of savings, note the typical spine-leaf architecture with optical interconnect and compare the OEM costs to a deployment that leverages IO's Tier 1 optical transceivers.

An example of the overall value that can be achieve from utilizing IO brand-equivalent transceivers is shown in the access-aggregation network to the right. This may be typical of a large metro campus where services are being delivered and data is being shared across sites.

Comparing the cost of the standard OEM deployment versus the improvement provided by utilizing IO transceivers more than 20% of the overall equipment cost can be saved and redeployed for higher priority budget items.
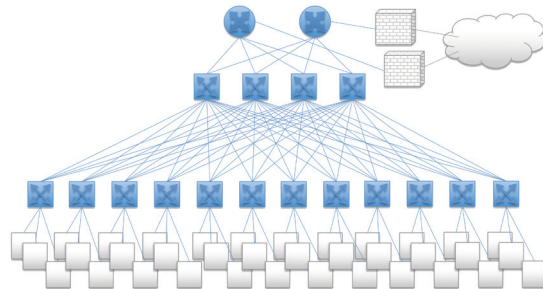
This comparison to the right is done versus the latest, lowest price OEM offerings. The savings even becomes better when you consider that IO can source all your transceiver needs, including those parts that the OEM has discontinued. Now you can keep your network equipment in service longer because you are not coerced to upgrade installed and working equipment just because of lack of transceiver availability. The bottom line is that InterOptic wants to help solve all your transceiver needs without any sacrifice in performance and quality. InterOptic is ready to be the optical expert on your supplier team!

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%			