

## **A Business Case for Competitive Local Exchange Carriers**

*Delivering High Speed Data Services with Net to Net Technologies' Digital Subscriber Line Technology*

### **Overview**

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Digital Subscriber Line technology allows Competitive Local Exchange Carriers (CLECs) to earn substantial profits by offering high-speed data service to businesses, telecommuters, and home users. Net to Net Technologies Digital Subscriber Line (DSL) hardware accelerates this process, **allowing CLECs to see significant returns after just 7 months of operation.** This business case examines both the costs and associated revenues of delivering bundled DSL and Internet services using Net to Net Technologies' IP DSLAM within a single metropolitan area. The results of this business case show that with even a modest penetration into the market, a CLEC can achieve payback for capital investment within 3 quarters, and can achieve substantial profitability within the first year of operation.

### **Business Model**

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The model chosen for this business case is for both DSL and Internet service delivery into a single metropolitan area, and specifically into 20 Central Offices within the metro area. These 20 Central Offices (COs) have been qualified as having the most potential to reach the majority of businesses within the metropolitan area, as businesses are by far the best target market for DSL technology. Over the two years of operation used for this study, the CLEC expects to turn up 200 DSL customers per CO, a modest amount for metropolitan areas, as COs typically serve from 50,000 to 60,000 people. Net to Net Technologies' IP DSLAM will be used to deliver high-speed SDSL, IDSL, and ADSL data services, ranging in speeds from 128 Kbps up to 2.3 Mbps. The CLEC will charge an average of \$150 per IDSL line and \$400 per SDSL line for bundled Internet and DSL service. Installation fees are \$250 for both the SDSL and IDSL lines. Both the installation fee and the per month subscription charges are conservative estimates based on today's market numbers.

An important note in this model is that **the CLEC will be providing the Customer Premise Equipment to the customer**; most other implementations require the customer to make this purchase out-of-pocket (typically a \$300-\$700 cost). Additionally, most other cost models do not count the cost of CPE equipment into their figures. It should be noted that CLECs or Service Providers who are able to bundle the CPE with the service are at a competitive advantage, as many customers do not wish to purchase additional hardware for their new service.

This model does not address additional revenue the CLEC/Service Provider may receive for additional services such as web hosting, network outsourcing services, or resale of DSL lines to additional Service Providers.

## Assumptions

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This case study does not include the overhead costs for a company to obtain CLEC status. This model assumes the company is an existing CLEC looking to provide data and Internet services using DSL technology. Additionally, some costs are prorated. For example, the cost of the CLEC Data Center has been prorated, as a single Data Center may be used to support operations for multiple Metropolitan areas. Most Central Office costs are based on Bell Atlantic charges for collocation and interconnect tariffs. Cost and Revenue assumptions are noted within the following tables.

Please note that this study does not include the added revenue potential of supplying both voice and data on the same copper pair. While Net to Net products support VoDSL, this business case is built on a data-only service, for the sake of simplicity. By adding VoDSL capabilities the per-port costs increase only slightly, without additional per-line costs (such as loop unbundling, maintenance, and tariffs). At the same time, added voice service increase the per-line revenue, increasing profitability even further.

## Costs

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Cost figures have been divided into three basic categories: Data Center, Central Office/CPE, and operating costs. Operating costs are further divided into recurring and non-recurring subcategories. Many costs will vary from territory to territory and ILEC to ILEC, and other costs are prorated for accuracy.

### Data Center

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A data center is required for the CLEC to maintain the DSL network. This cost is only a prorated portion of the total cost, as this single data center may be used to support multiple metro regions. This number **indicates a savings of approximately \$35,000 over competitive data center requirements**, due to infrastructure savings resulting in Net to Net's IPacket™ architecture (i.e., No ATM, no DS3 router interfaces, etc.). This value is amortized over a period of 3 years, at a nominal interest rate.

Cost	Amount	Summary
Data Center Startup	\$690,000	Estimated amount for data center preparation, equipment, support systems, etc.

### Central Offices

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The costs listed below represent the costs incurred by the CLEC for each telco Central Office. The DSL and IP switching hardware costs are gradually added as subscribers are added. We have assumed a 2:1:1 SDSL to IDSL to ADSL rollout ratio. All Net to Net equipment costs are based upon List pricing in optimal configurations (DSLAM equipment, management software, uplinks, DSL ports, and Customer Premise modems). Discounts may apply for quantity sales, further strengthening the Business Case.

<b>Cost</b>	<b>Amount</b>	<b>Summary</b>
SCOPE Collocation Fee	\$7,500	Based on Secured Collocation Open Physical Environment (SCOPE) specifications.
Backbone connection	\$750	One-time fee for DS-3 connection to the Data Center
SDSL line	\$915/line	Cost for SDSL DSLAM ports and SDSL CPE (i.e., one complete SDSL line).
IDSL line	\$890/line	Cost for IDSL DSLAM ports and IDSL CPE (i.e., one complete IDSL line)
ADSL line	\$916/line	Cost for ADSL DSLAM ports and ADSL CPE (i.e., one complete ADSL line)

### **Operating Costs**

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Operating costs are broken down into recurring and non-recurring categories.

#### ***Non-recurring Operating Costs***

<b>Cost</b>	<b>Amount</b>	<b>Summary</b>
Copper Loop	\$125	Paid to the Incumbent Local Exchange Carrier for preparation of the local loop, including cross connects and line conditioning.
Provisioning	\$125	Cost the CLEC incurs to set up the customer for service. This does not include a truck-roll to the customer site, as the plug 'n' play capability of the Net to Net Technologies DSL Network Extenders allows even the non-technical customer easy setup.
Marketing, Sales, etc.	\$150	CLEC takes on this cost to attract customers as well as additional ISPs. This is a per-line expense.

### **Recurring Operating Costs**

<b>Cost</b>	<b>Amount</b>	<b>Summary</b>
Collocation cage	\$500 per CO per month	Based on SCOPE specifications.
Backbone connection	\$950	DS-3 interconnection tariff.
Copper Loop	\$30/loop	Paid to ILEC. Varies slightly per territory.
Maintenance	3%of capital/year	Maintenance of hardware and systems in both Data Center and Central Offices.
Support	\$5/DSL line	Estimated cost per DSL line for customer technical support.
General Overhead	10% annual revenue	

### **Revenue**

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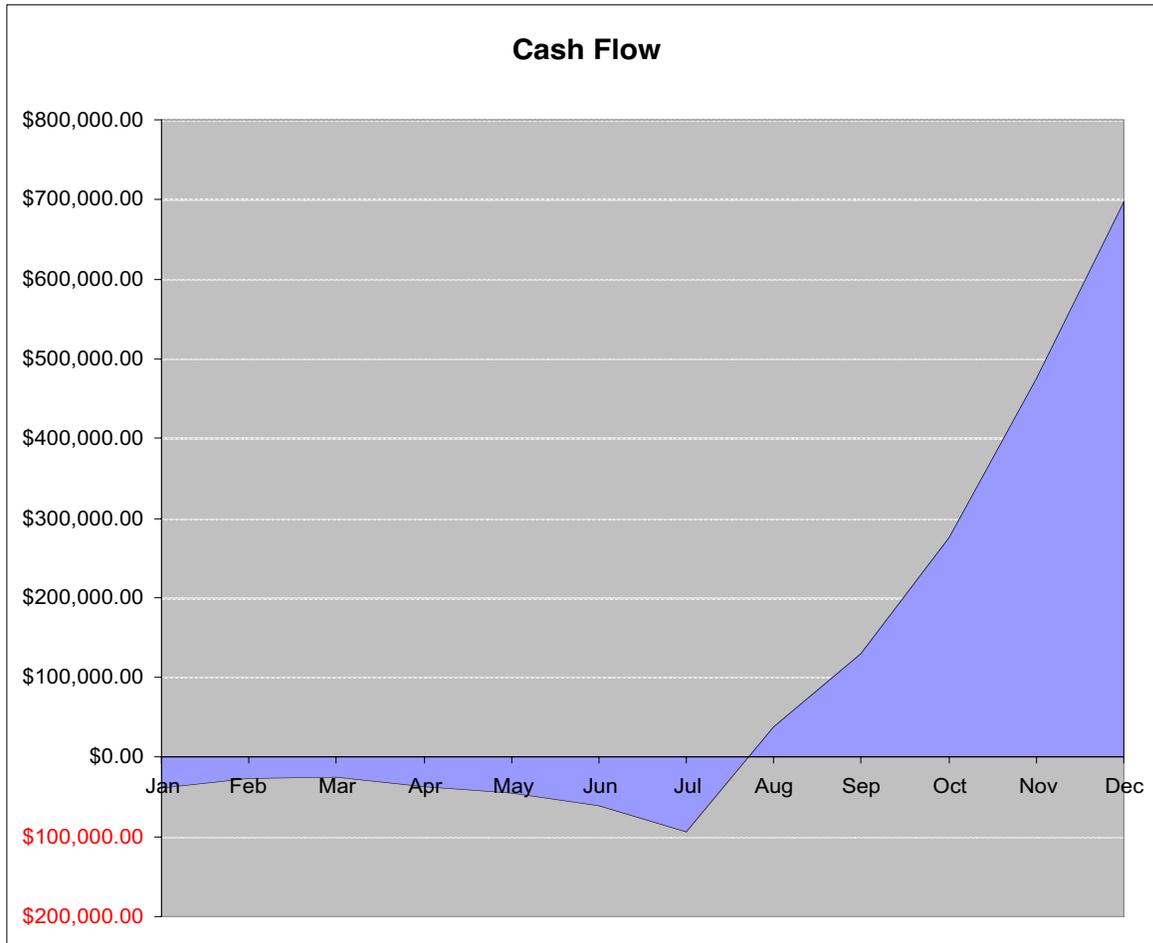
Revenue is also divided into recurring and non-recurring categories.

#### **Recurring Revenue**

<b>Revenue Item</b>	<b>Amount</b>	<b>Summary</b>
SDSL Subscription	\$400	Average monthly charge for SDSL service (line + Internet) with access speeds ranging from 272 Kbps through 2.3 Mbps.
IDSL Subscription	\$150	Average monthly charge for IDSL service (line + Internet) with access speeds ranging from 128 Kbps 144 Kbps.
ADSL Subscription	\$100	Average monthly charge for ADSL service (data/phone line + Internet) with access speeds ranging from 272 Kbps through 8 Mbps.

#### **Non-recurring Revenue**

<b>Revenue Item</b>	<b>Amount</b>	<b>Summary</b>
DSL Installation Fee	\$250	One time installation fee (per customer) for SDSL service.



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### Churn

This business case assumes a 20% annual churn rate. This is a slightly high estimate for churn, however, with the rapidly changing and extremely competitive Internet access market, we feel this is a safe assumption. Certainly, CLECs who focus on customer service will be able to lower this number.

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### Reducing Cost of Ownership

Net to Net Technologies reduces the cost of ownership in additional ways, not represented in this analysis. This cost reduction, due to the simplicity of implementation and the reliability of the total solution, may realize further savings in the areas of recurring support, maintenance, and operational expenses (detailed later in this document). However, because this savings is difficult to quantify, industry estimates for these costs have been used in the analysis.

Net to Net Technologies' Network Extender solution provides a simple installation, reducing the total number of ports requiring configuration from up to 5 ports per DSL line, to only 1 – 2 ports per DSL line. This represents a significant reduction in CO installation time, as well as a reduction in related maintenance and support.

***“...[Net to Net Technologies' DSL Network Extender] is so easy to install, it's almost impossible to mess it up...”***

- Installation technician  
Vitts Networks (CLEC)

By eliminating the need for training, costs not directly related to the DSL service are deferred. For example, the cost of the training itself, the cost of flying staff offsite for training, the costs of temporary staffing to accommodate their absence, etc. Again, because this type of cost savings is difficult to quantify, they have not been included as a part of this analysis.

### **Summary**

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The final numbers indicate positive cash flow (cumulative) after just 5 quarters of operation (15 months) and profit of \$8.5 million at the end of the 24-month time period. It should be noted that these numbers are for the finite two-year period; revenue numbers have not been extended to reflect the typical lifetime of the networking hardware. Other figures, such as the Data Center start-up, are taken as one-time charges at the beginning of the two-year period, rather than spread out over time.

Combined with the less tangible cost benefits that Net to Net Technologies' offers with the DSL Network Extender solution – such as reduction of operational, support, and training costs – this rapid profitability uniquely positions Net to Net Technologies' solution as a leading investment possibility for CLECs.